The Frontiers of State Practice in Britain and France Pioneering High Speed Railway Technology and Infrastructure (1965-1993)

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ABSTRACT

The thesis examines British and French state action, that is to say both the characteristic practices of central governments and their underpinning, the working conceptions of public policy-making in technical, political and administrative circles. Taken together, practices and conceptions make up a `referential framework' of public action with distinctive, deep-seated and enduring features in each country.

The British and French referential frameworks are deducted from two empirical, comparative case studies of passenger rail transport policy in Britain and France in the years 1965-1993. Use is made of published, archival and interview material, comprising both quantitative and qualitative data, relating to the British and French experiences in the research and development of high speed rolling stock technology (APT and TGV trains) and the planning of new high speed rail infrastructure (Paris-Lyon TGV line and Channel Tunnel Rail Link schemes). The case studies thus constitute windows into the realities of the British and French policy processes.

The empirical findings of the case studies point to highly contrasted British and French referential frameworks, of which traditional models of state action cannot adequately take account. For instance, the dominance of often contradictory political and financial imperatives in the British case studies cannot be explained solely in terms of limited government intervention, whilst the prevailing technico-economic rationale in the French case studies does not fully accord with received ideas about the propensity of the French State to intervene in economic life.

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CHAPTER I: INTRODUCTION

Everywhere the idea of the state is in crisis. The question for political reformers, as for revolutionaries, is no longer how to take state power, but how to administer it.[1] From Mexico to Italy, the United States and China, and since 1989 in the former communist states of the old Soviet bloc; closer at home in Great Britain and France, we are witnessing a crisis of confidence in existing forms of the state. The 1980s saw an attempt to 'roll back' the state in the UK while in France even traditional supporters of a powerful state were visited by doubts about the French model and wondered whether it had become obsolete. Since the early 1970s, political scientists of all tendencies have strongly criticised (often for totally unrelated reasons) the ways in which modern states are organised. The demise of the nation-state has even been proclaimed in some quarters, and with it the end of state organisation as we know it, to be superseded by supranational organisations, be they political institutions or transnational corporations, or by sub-national governance.

Yet state machineries live on and continue to require a large proportion of national resources for their upkeep; in spite of reforms, at times drastic (as in the UK with the `Next Steps' initiative, and in France with the *modernisation de l'Etat* launched in 1989), continuities are, more often than not, more in evidence than radical changes of direction. Even where change is taking place, as in France and Britain, the rationales for change may have been antithetical, and/or similar instruments used with diverging results.[2] This begs the question of why the French and British states should continue to develop along separate tracks even though they are both facing internal criticism, undergoing comparable external strains and working increasingly closely within the European Union, to the extent that some commentators have argued that the national systems were converging.

Existing forms of the state and modes of public action in Britain and France are both the butt of internal disapproval and felt to be under threat from the outside. The issue of national sovereignty has re-surfaced in recent times, first in Britain, under the premiership of Margaret Thatcher, then in France after the signing of the Maastricht Treaty. Within the process of European integration, issues centred around the institutional dimension and eventual shape of the Community regularly threaten to become the main bone of contention between the governments of some member states, in particular Britain and France. Such antagonism at the policy-making level can partly be traced back to (seemingly) clashing conceptions and uses of public power among French

[1] See Robin Murray in `The State after Henry', *Marxism Today*, special issue on the public sector (May 1991): p. 22. H M Enzensberger argues that `The traditional conception of the state is facing a paradigm collapse, such as classical physics underwent long ago' (in `Walking without grace', *The New Statesman/Society*, 21/09/1990).

[2] Cf. the growing centralisation of power in the UK throughout the 1980s, taking place while the reverse movement was sweeping France, beginning with the Decentralisation Law of 1982.

and British political and administrative elites. The European Community / Union has at times provided a new setting for age-old Anglo-French rivalry, a situation which can only delay and render more difficult the solving of problems within the competence of the EU, the expansion of Union activity into new fields, and the development of institutional arrangements.

1. The British and French models of public action

It seems pertinent therefore to examine one of the issues that stand in the way of better Franco-British mutual understanding, namely conceptions of public action, of the state and its functions. Such ideas are important for more than purely academic reasons; as Kenneth Dyson has shown, ideas of the state affect the character of institutional arrangements, the attitudes of elites and political opposition, and the modes of interest accommodation.[3] In spite of the inherent difficulties of pinning down something as elusive as conceptions of the state in two given countries, it seems vital to acquire some understanding of this field for a second reason: the term `state' itself is used as a political weapon by members of the ruling elites, both in the domestic and in the European public debates. Naturally, such uses of the term are made partly with reference to what these elites regard as popular conceptions of the state, which may vary widely from conceptions held by elite groups themselves. But even so, there is some degree of correlation between popular and elite views, if only at a superficial level. For instance, the 1980s in France resounded with the clamour for `less state' (*moins d'Etat*); Mrs Thatcher's phrase: `roll back the frontiers of the state',[4] as used in one of her speeches had an almost evangelical ring to it, while the word `super-state' was clearly meant by her as a derogatory one. French opponents to a feared loss of national sovereignty have also argued against the `*Super-Etat*' more recently.

The main objective of this thesis is to illuminate some of the similarities and differences between the political systems of the two countries, but why this particular pair? As mentioned above, there is a history of Anglo-French antagonism and of mutual misconceptions which - as it were - are crying out to be dispelled and this in itself is an incentive to research. But beyond this, the two countries have become typecast by political scientists as representatives of wider trends, France being the main influence over `continental' western Europe since the 1789 Revolution at least, and Britain the founder member of the `Anglo-Saxon' world, which includes countries such as Australia, Canada, New Zealand and the United States. Whether such typecasting is accurate or not is not our concern here but it is surely useful to compare these two particular `models' of public action in some depth in one well-defined sector and on an empirical basis. A parallel study of two countries is also worthwhile in that it can bring out salient features which may be taken for granted

[3] See Kenneth H.F. Dyson, *The State Tradition in Western Europe* (Oxford: Robertson, 1980).

[4] `We have not successfully rolled back the frontiers of the state in Britain, only to see them reimposed at a European level, with a European super-state exercising a new dominance from Brussels.' (*Text of a speech given by the Prime Minister the Rt Hon. Margaret Thatcher MP on Europe, in Bruges, Belgium on Tuesday 20 September 1988.*)

when looking at one country in isolation. Needless to say, there is no universal yardstick by which state action may be appraised and an iterative process of mutual comparison has to be followed. Too often, comparative studies focus on one country, which is then compared to caricatures of one or several others; this study will studiously seek to maintain a balance, and it is hoped will be even-handed throughout.

Another, related rationale for the choice of countries, is to be found in the fact that both countries are members of the same organisation, the European Union. The problems which Britain has encountered with membership, both before and since joining, have been analysed at length and it is now taken for granted that Britain occupies a peculiar position in the development of the Community / Union. It was the French government which vetoed British entry into the Community on two occasions, and EC institutions were modelled on French practices in many respects. Moreover, the twenty one years which Britain spent outside the Community meant that it did not participate in the all-important process of building up a corpus of policy, law and a general European `philosophy'. Small wonder then that British officials might feel less at home in the Community than their French counterparts. Part of their unease can be ascribed to the assumptions that they make about the nature and uses of public power. As Lord Cockfield has pointed out,[5] the original Six set up the EC as a *customs union*, that is an arrangement which involved `positive' action by the member states inasmuch as something which did not exist had to be created. The UK on the other hand viewed Europe as a potential *free trade area*, something which involved the removal of existing arrangements (such as import duties) and an increase in the play of private forces. It is therefore of some interest to examine the prevailing conceptions and uses of public power in two of the key members of the EU, even if of necessity this excludes those found in other member states, which are no less significant.[6]

The semantic difficulties of cross-national comparison

Interestingly enough, theories of the state have been mainly dealt with by political philosophers from the Continent while empirical policy analysis has been the preserve of `Anglo-Saxon'[7] thinkers. As Dyson puts it, the concept of the state permeates continental European thought

[5] Lecture delivered at the London School of Economics (16/03/1993). Lord Cockfield has been closely involved in European matters, in particular as Commissioner in charge of the internal market and as Vice-President of the Commission.

[6] The different views of public action found in Britain and France partly explain why the two countries often find it so difficult to work together, as witnessed by joint projects such as Concorde, the project for a tunnel under the Channel (which took the best part of the postwar era to come into existence) etc. One might retort that what is a source of difficulty is not Franco-British cooperation but cooperation between governments of divergent or opposed political views. I will argue however that state practice tends to cross party boundaries.

[7] The French have a habit of grouping the English-speaking world (meaning Britain and America) under the general banner of `Anglo-Saxon', as opposed to the Romanised continent.

but has little cultural resonance in Britain.[8] This academic division of labour reflects a linguistic divide with important political ramifications. We find semantic issues at several levels: firstly the naming of organisations, for instance State / central government; or *services publics*, which can be translated as `public utilities', rather than `public services'. Secondly the nature of the relationship between different policy actors; for instance, `regulation' is more properly translated as *réglementation*, whilst *régulation* is akin to `control'.[9] I would like to dwell on the first level for a moment: whereas in France the term `state' (*l'Etat*, always spelt with a capital `e') easily rolls off the tongue of politicians, civil servants, journalists and public alike, in the UK, any mention of the word outside academic circles is unusual. The nearest equivalent in constitutional terms, `the Crown', is hardly used, and only in a narrower sense than `state',[10] while the preferred term, `government', has a much wider referential field than its French translation, *`gouvernement*', which only denotes the set of incumbent ministers. For `Whereas individuals die, government continues. In English, the word *government* confuses what is permanent with what is transient. By contrast, in most European countries there is a clear distinction between the durable commitments of the state, as against the views of the government of the day, consisting of the party and politicians victorious at the last election. The state is a permanent body ... In British constitutional usage, the state is usually represented by the Crown'.[11] The authors of the above quotation wished to distinguish between two functions, the permanent and the transient, and resorted to `government' for the former and `administration' for the latter. I have opted to differentiate between the two countries regarding the permanent function by using *State* for France, *central government* for Britain.

We are faced with a translation problem that in itself reveals a great deal about conceptions of public power in the two countries. For instance, as a rule *l'Etat* is used in a very wide variety of contexts, a use which creates the overall impression of a single, unified actor, also a somewhat abstract, superior entity. In contrast, `government' suggests recognisable, elected public figures. It is used in a majority of contexts, but competes as it were with other terms, such as `the Crown-in-Parliament', `public power' and `public authority'; the resulting impression is one of a nebula, something difficult to define and to name, with no clear identity. The lack of a common usage word in English for the permanent business of government denotes institutionalised short-termism. On the other hand, much reference to `government' alludes to a great deal more than the government of the day. Perhaps this mismatch between theorising about the state and the actual exercise of public power is proof of the elusive and ambivalent nature of British conceptions of public power.

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[8] Dyson (1980).

[9] Claude Martinand, `Quels outils de régulation?', in Bauby et Boual, *Pour une citoyenneté européenne: quels services publics?* (Paris: Editions de l'Atelier/Editions Ouvrières, 1994): p. 136.

[10] Dyson (1980).

[11] Richard Rose and Phillip L. Davies, *Inheritance in Public Policy: Change without Choice in Britain* (New Haven: Yale University Press, 1994), p. 9.

The fact that the term `State' will be used throughout to refer to the French State poses no particular problem since both academic and practitioners in France use the same term. In Britain, there is no such common ground between political science and political practice, and I have opted for `central government' as a shorthand term. In primary material, I have seldom come across the term `state'; its uses are very context-specific. Claude Martinand (a French Ministry of Transport official) has pointed out that `These semantic difficulties cover different conceptual approaches, political and economic cultures, and work in favour of misunderstandings and often sterile ideological debates'.[12] They therefore make international, not to mention supranational, policy work more difficult.

Although in the final analysis, actual state activities - as opposed to talk about the state - in Britain and France are often of a comparable nature, and are exercised in the same sectors (albeit to a different extent), both the practice and the justification of public power are often distinctive. This is because all action carries subjective meaning, and there are as a result some essential differences in (subjective) perception which explain why - as I have shown above - different terms are felt to be needed. Differences in perception, and the resulting semantic puzzle, in turn have considerable influence on expectations regarding state behaviour, on state behaviour itself and on responses to it. The ambition of this study is to highlight the nature of the differences in terms of *meanings*,[13] and the consequences that flow from them, while drawing attention to the numerous, sometimes surprising, similarities.

It is taken as read that the state is not to be viewed, in anthropomorphic terms, as a unitary actor with something resembling a purposeful will, but rather as a system of power relationships. It is however extremely laborious to avoid using anthropocentrist vocabulary in all circumstances; the reader is therefore requested to make allowances for occasional lapses. Neither is the state to be viewed solely as an arena for action in which numerous factions vie for supremacy. Rather it will be portrayed as the repository of public power, both under pressure from society and economic actors to use its power in certain ways, and driven to act through an internal (politico-administrative) momentum, with the ever-present possibility of alliances between sections of the state apparatus and sectional interests `outside' it. Inverted commas are required here for it will become increasingly clear throughout the thesis that the state cannot be viewed as a well-defined entity, even in France where unlike in Britain it actually has a legal personality. To speak of `frontiers' of the state in a *literal* sense is therefore meaningless: state, society and the economy are not divided by a clear, unequivocal boundary, all the more so in Britain where a number of terms

[12] Martinand (1994): p. 136.

[13] I agree with Dobbin that `the role of meaning has been underemphasized in policy studies' (Frank Dobbin, *Forging industrial policy: the United States, Britain, and France in the railway age* (Cambridge: CUP, 1994), p. 26). Too much emphasis is placed either on the mechanics of decision-making, or on the power games played out by conflicting interests.

compete to label the sphere of state activity.[14]

No single overarching theory of the state - be it corporatist, Marxist, pluralist or public choice - appears to fit entirely the political realities of either country, both of which on the surface share the same characteristics (e.g. mixed economies; social welfare systems; liberal democratic ideologies); these theories operate at a level of abstraction which does not account for the rather untidy realities of public policy-making. Each of the two countries seems to have evolved its own peculiar brand of `state'.[15] I therefore aim to present a less comprehensive, but more concrete picture and to evaluate what happens `on the ground'. The findings will not support or reject any one theory of the state, but rather induce some caution towards the applicability of universal theories to contexts which are always particular.

2. Methodology

The analysis in this study rests on a detailed examination of specific public policies. The focus is not however sectoral policy (here, high speed passenger railway services), neither is it the policy-making process. Rather it is the framework within which policy-making is set which is to be examined: by framework is meant both the conceptual environment and the dense mesh of working practices and habits which have to be understood if one wishes to fully comprehend what makes British and French political cultures so distinct from one another.

To this end, I draw on Muller's definition of a `normative referential framework' (*un référentiel normatif*): every sectoral policy undertaken by the public authorities involves `the representation that one has of the sector involved, as well as of its place and role in society.'[16] Thus it is impossible to understand education policy at any given time without referring to the prevalent conception of education at that time (a conception which needless to say may change with time). I argue that it is impossible to understand the background to *any* public policy without examining what I will call the `referential framework of public action': namely the set of characteristic state `practices', together with their underpinning, `conceptions' of public action, of the state's place and role in society and the economy. Together, `practices' and `conceptions' form a referential framework which although invisible, is nonetheless omnipresent.

I do not mean to examine political rhetoric about the state, or the innumerable theoretical discussions of the British and French states, but the processes and working assumptions in actual policy-making `on the ground'. The ambition of this work is therefore to analyse the `tacit dimension' of policy-making, that is the `propositions and opinions shared by a group and so

[14] I have borrowed the term `frontiers' from Mrs Thatcher and used it in the title to refer to the *perceived* limits of legitimate public action and state extension into civil society and the economy.

[15] This is what Dobbin calls the `unfortunate disjuncture between theory and empirical findings in comparative studies of policy' (1994, p. 1).

[16] Pierre Muller, `Un schéma d'analyse des politiques sectorielles', *RFSP*, Vol. 35, No 2 (Paris: April 1985): p. 170. Concept further developed in P Muller and B Jobert, *L'Etat en action* (Paris: PUF, 1987).

obvious to it that they are never fully or systematically articulated'.[17]

Why focus on something as elusive as `referential frameworks'? Beyond the mechanics of decision-making, there are two levels of analysis which the author felt had not been sufficiently explored. Firstly, decisional procedures carry meanings, which need to be unpacked. For instance, the duration, format and place of a public inquiry within the decision-making process are far from being indiferent matters. Secondly, the substantive content of policy decisions rests on unarticulated assumptions, which require careful scrutiny, if we are to make complete sense of national public policies. For example, the way in which different transport modes are viewed in relation to each other has far-reaching implications for transport policy. The `cultural' dimension of policy-making is something we can no longer afford to ignore.[18]

Within the frameworks themselves, there is a constant interaction between conceptions and practices, a continuous process of redefining one another which is extremely broad and largely dependent on the historical legacy. We may indeed speak of a symbiotic relationship in which there is no question of `which came first'. I therefore present both in parallel throughout the main chapters.

In order to define the British and French referential frameworks of public action, I undertake a comparison of prevalent practices and conceptions in senior technical, political and administrative circles which were involved in two double case studies in the field of high speed railway policy. The case studies, which form the bulk of the thesis, are the following:

(1) British and French experiences in the research and development of high speed rolling stock technology, namely APT (Advanced Passenger Train 1965-1985) and TGV (Train à Grande Vitesse 1965-1981). Both these new trains represented a new departure for the railways concerned, British Rail (BR) in Britain and *Société Nationale des Chemins de Fer* (SNCF) in France.

(2) The Channel Tunnel Rail Link between London and the Channel Tunnel (CTRL1 1970-1975; CTRL2 1987-1993); the first TGV high speed rail link, between Paris and Lyon (LGV 1966-1983). These schemes have been selected because they were the first plans for new main line rail infrastructure in the postwar era in Britain and France.

In these case studies, the focus of attention is both on public action itself and on conceptions of public action in technical, political and administrative circles. The appropriateness of policy objectives, the efficiency with which they are pursued, and actual policy outcomes are *not* under scrutiny. This work does *not* attempt to provide an explanatory framework for two very divergent national, sectoral policies, but on the contrary uses empirical evidence gathered for the case studies to deduct more general features of the British and French referential frameworks of public action.

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[17] See Albert O. Hirschman, *The Passions and the Interests: Political Arguments for Capitalism before its Triumph* (Princeton: Princeton University Press, 1977).

[18] For pioneering work in this field, see Jeremy Richardson, *Policy Styles in Western Europe* (London: Allen & Unwin, 1982).

To speak of state practice and conceptions of public power brings up the question of method: how is one to handle a concept of this nature? For this task, two levels of analysis seem appropriate, the first one being policy-making (in our field, high speed passenger rail transport); at this first level, the focus is on characteristic state practices and on institutions in the narrow sense (the `objective' reality). The second level of analysis is elite attitudes towards public power that underpin state practice in our sector (the `subjective' reality). The first of the two layers of analysis is mainly descriptive and narrative (chronological study of state `behaviour'), while the second is more explanatory and interpretative (attitudes accompanying behaviour). The first level may be called the organizational dimension of the state, and examines functioning institutions and procedures; the second level, the cultural dimension, explores `cultural accounts' of public action.[19] These are explanations of social reality by means of the favoured shared opinions of a group; they are collective abstractions which purport to describe how the world actually works (whereas ideologies deal with how it *should* work), endow it with meanings which become so entrenched that they are taken for granted and become the unspoken assumptions of a given political culture.

What makes logics of state action so enduring is the fact that they are subjectively associated with national prosperity: `Wherever nations could call their economies successful, they linked that success to peculiar characteristics of their political orders.'[20] In this sense, one may speak of national `myths' of state action. Also the `new institutional' approach[21] argues that national policy strategies persist over time because of more objective reasons such as the inherent inertia of state organisation, and institutional capacity; that is a given state has the resources to do particular things rather than other things which a neighbouring state might do; existing organisational resources favour the adoption of new policies that are analogous to existing policies, and obstruct policies that are fundamentally different. It is not simply a matter of the amount of available resources but of their nature. Thus this study includes a relatively large amount of historical material because features of the present British and French transport systems (such as the modal split) are to a very large extent the product of administrative, engineering and political decisions taken over several decades, and because basic options have often been chosen unconsciously, are never evaluated because taken for granted and tend to be reproduced by successive generations of decision-makers.

Sources

The sources to be used for the case studies are manifold and varied so as to increase the

[19] See Dobbin (1994).

[20] Dobbin (1994), p. 20.

[21] See Sven Steinmo, Kathleen Ann Telen, and Frank Hoover Longstreth, *Structuring politics: historical institutionalism in comparative analysis* (Cambridge: CUP, 1992).

value of the findings. They include, in both countries: the national press; government statements, reports and policy documents; parliamentary reports and proceedings; ministerial archives; political party policy documents; think-tank reports; professional transport literature; speeches, statements, articles, autobiographies, etc by politicians, civil servants, and railway officers involved in the case studies. Written sources are supplemented by oral evidence gained through a set of semi-structured interviews of decision-makers closely involved in the case studies. Respondents were divided up into three occupational groups: politicians, senior civil servants, and leading members of the railway industry. The technique used was in-depth loosely structured interviewing. There were three sets of questions - related to each other but approaching the same issues from different angles - for the three segments of the elite. The thesis is based on written and oral evidence which is mainly of a qualitative nature.

A number of hypotheses had to be formulated as guidelines for the research and the interviews. It was presupposed that:

(1) statutes and formal agreements could not be taken to represent the whole picture, that they might even be misleading at times, and that the greatest interest should be accorded to more subjective factors such as personalities and traditions. It was equally important to assess the *actual* influence of government officials and of politicians in office over the running of the railway, as opposed to their *formal* controlling powers.

(2) The objective was to define the dominant attitudinal dispositions in the diverse policy actors. The emphasis was therefore on prevailing views; divergent, minority opinions are not dealt with.

The study rests to a large extent on information gathered through interviews, an approach which is not without its difficulties. But it also makes it possible to gain a view from within that cannot otherwise be captured, when evidence connected with recent events is not officially available. It was essential to get accounts from all parties involved, not just one actor or one side. To this end, the main policy actors were identified in the course of documentary research: either they appeared as the authors of reports or members of committees, or they were identified through their positions either in the railways or within central administrations. Although it was obviously not possible to interview all those involved in the case studies at senior level, the use of `comprehensive sampling' meant that I met people from all the divisions involved.

By its very nature, such evidence can only shed light on *elite*, as opposed to *popular*, conceptions of the state. The present work is not a history of popular assumptions about the state. `Elite' is to be taken as a working assumption rather than as an illustration of any single elite theory.

Methodological limits

The significance of my findings is to some extent circumscribed by a number of methodological imperfections, which do not however invalidate it.

1) The thesis is to a large extent based on what people were willing to tell me within the framework of interviews. The common danger with this type of evidence is that respondents may not be in full possession of the facts, or may not all be equally candid; answers may be -

consciously or not - biased. This is particularly to be expected in the case of policy failures, which may have left bad feelings on all sides. But the biases of one person, or one group, can be contrasted with those of others and with facts which are either in the public domain, or well-established. Cross-checking crucial items with other respondents and with known facts therefore constituted a sizeable part of the fieldwork in both countries. Also I was looking for assumptions, ideas and feelings rather than dry facts, and biases can tell us something of interest about the attitude of the respondent, about self-presentation or about their subjective feelings regarding the power relationships they were involved in. The interviews were not designed to constitute a quantitative survey, but to help build a qualitative picture. I was not looking for witnesses to truth and the best one could hope for was to get close to a realistic picture.

2) Although every attempt was made to interview a representative sample of respondents, there are bound to be some omissions on the `horizontal' level of decision-making, as the three main groups (civil servants, railway managers and board members, and politicians) add up to a sizeable number. As far as the vertical level is concerned, many local authorities and grassroots organisations have been involved in the policy debate surrounding new rail links but it was beyond the ability of a single researcher to include these groups. Furthermore the timespan involved means that the evidence gained through interviews can only be incomplete. Even when correlated with established facts, it leads to conclusions which at times are tentative.

3) Historical and geographical factors have played important roles in the sector under scrutiny, hence it is necessary to disentangle them from political factors proper; but in any case, one cannot simply reduce national differences to history and geography: natural settings and historical legacies can be turned to advantage - or not - through the exercise of public power. Moreover, historical and geographical factors actually become absorbed in the political system, giving it shape and a distinctive national `flavour'. Conceptions of public action, like any other shared conceptions, are to a great extent a product of their time and place.

4) There are *formal* channels of influence which are easily defined but much state control is exercised through *informal* processes, which cannot be documented and must remain as unconfirmed hypotheses.

5) It will be argued that the conclusions of a sectoral study, however well-researched, cannot be generalised and this no doubt is true. The findings have no claim to universal relevance, but patterns do emerge: there are typical and atypical sectors. It is in the nature of specialised research that it can only illuminate a small area in a vast field and that it only acquires its full significance when put side by side with other equally narrow pieces of research in later years, when enough pieces of the puzzle have been assembled. I can only hope to arrive at findings which will be true of the sector under scrutiny and thus make a small contribution to the long and extremely extensive debate about the state.

The `narrative method'

The objectives of the present research are ambitious inasmuch as a comparative study

inevitably involves handling and presenting large amounts of material and because the material is mainly of a qualitative nature, though gained from a sector shot through with extremely concrete issues. These objectives therefore required a methodology which would allow the presentation of evidence in a gradual yet meaningful fashion, and which would facilitate the `jump' from concrete data to qualitative analysis. The method which I have elected to use is the result both of my own experimentation and of the work carried out in the field of qualitative research by others, in particular Abell's `narrative method', based on the following definition: `Narratives give a portrayal of how outcomes are brought about by human actions and interactions.'[22]

The case studies in my work are based on Abell's premise that `narratives or accounts can legitimately be assembled by, amongst others, the social analyst to account for real occurrences in the social world, but as such they should be deemed to be complex entities always open to revision.'[23] Indeed `the totality of a complex narrative will not normally fall within the discursive rationality of the actors involved, but local regions will; it is this fact that enables the narrativist to begin to piece things together as a structure of intersecting substructures each of which are locally meaningful though which may add up to something which entirely escapes the grasp of those concerned.'[24] Herein lies the contribution of the social scientist, who can assemble the multifarious dimensions of a given action and thereby arrive at something greater than the sum of its parts.

I propose to assemble two sets of two complex public policy narratives as a basis for analysis, using the narrative method which in practice involves `copious materials', namely oral evidence (interviews) and all manners of documentary evidence. My case studies possess the features listed by Abell as characteristic of complex, `rich historically based' case studies: `First, they ... involve many actors (units of analysis) the actions of which are parametrically or strategically interdependent; second, these actors/units, may be at different levels of aggregation, e.g. individuals and collectivities of one sort or another; third, the aggregation may change in the course of the narrative, e.g. the creation of an effective collectivity; fourth, there may be complex patterns of parallel processing ...; fifth, the time signature of parallel sequences might be on a different scale; sixth, the narrative may describe a micro-macro link eventuating in a collective outcome.'[25]

The narrative method is part of a set of approaches with the

> ambition to see social phenomena as more or less complex sequences of connected events. These events and their connections are theoretically described and it is to

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[22] Peter Abell, `Some Aspects of Narrative Method', *Journal of Mathematical Sociology*, Vol. 18, Nos 2-3 (1993): p. 99.

[23] Abell (1993a): p. 103.

[24] P Abell, `Narrative Method: A Reply', *Journal of Mathematical Sociology*, Vol. 18, Nos 2-3 (1993): p. 256.

[25] Abell (1993b): pp. 259-60.

> `ethno theories' and locally meaningful connections which we often resort to enable us to string them together in an intelligible manner (`what theories'). The sequences in turn show `how' their end states or outcomes are generated (i.e. they portray the inherent kinematics involved) these then acquire the status of the facts inviting a generative theory (`why theories'). This is where real theorising begins.[26]

At the last stage, the purpose of the narrative method is fulfilled, which is to compare analyses of narratives `in order to detect whether or not they possess any inherent generalisations when suitably abstracted.'[27]

In my case studies, I have broadly followed the three stages listed above. The first section of each study provides a brief, chronological, factual sketch of *what* happened. The second and third sections provide an account of *how* it happened. Owing to the complexity of the material, the second sections have been divided up into constituent parts which present the actions from several slightly different angles, whilst the third sections follow through the kinematics of the action from beginning to end. Once the case studies have been presented in this way (`what' and `how') separately, comparative analysis proper begins to address the question *why*. This is achieved through delineating strongly connected themes that recur throughout the case studies.

The narrative method involves comparing narratives in two ways: *semantic* and *syntactic*. Semantic comparison revolves around the `situated meanings' of the actions being compared, whilst syntactic comparison focuses on `the structure or connectivity of the actions in their respective narratives'.[28] Past public policy research has tended to focus either on decision-making processes, or on ideas, but all too often the meaning behind the processes has been ignored. As Heise has pointed out, generalisations must include the `serious consideration of semantics ... Formal descriptions of narratives must be as disciplined semantically as they are temporarily and causally.'[29] In my study, syntactic comparison will centre on the mechanics of decision-making, whilst semantic comparison will focus both on conceptions of public action and on the meaning of actual practices.

I have therefore divided the comparative parts of the case study chapters into syntactic and semantic sections: the former correspond to decision-making processes and the configuration of actors; whilst the latter deal with the philosophies of public policy-making which underpin decisions. The two levels are indissolubly linked and interact with each other; they are presented in parallel in order to gain a thorough understanding of the referential frameworks of public action in the two countries. It is within the semantic situations that national rationalities will be most clearly

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[26] Ibid.: p. 266.

[27] Abell (1993a): p. 107.

[28] See Abell (1993a): p. 94.

[29] D R Heise, `Narratives Without Meaning?', *Journal of Mathematical Sociology*, Vol. 18, Nos 2-3 (1993): p. 185.

contrasted.

Heise also argues that `an action is constructed within a cultural context; the culture of the actors defines the reality that constrains actions and makes them connected'; the challenge is that in order to develop models that make sense, `we need to work with event descriptions that are meaningful in the culture that generated actions'; in other words, though the analysis may (indeed should) go beyond `what is known in the indigenous culture', it must be based on descriptions which remain true to that culture, using language more or less in the way it would be used by its indigenous members; only then can `the analysis of culturally-variable meaning' begin.[30] I would like to briefly address this point: as pointed out earlier, I have chosen to use the word `State' in the French case studies and the phrase `central government' - very occasionnally `state' - in the British ones. Similarly some French designations simply cannot be translated satisfactorily and it was felt to be far more meaningful to keep some words in the native language (e.g. *équipement*, *cabinet*). Ideally a French practitioner should immediately recognise what is being talked about in the French case studies, whilst a British practitioner should feel at home reading the British case studies. The real comparative work can only take place in the final part of each chapter and in the concluding chapter, using a metalanguage as far as is practicable in order to step back from the particular (case studies) and raise issues of general significance.

3. States and railways: a template of public action

Why concentrate on a single sector, why elect the railways as that sector, and within it, high speed rail passenger transport? State activity in the twentieth century has become increasingly multifarious, so much so that one could not possibly hope to encompass all the spheres in which the state plays a part in a study of this nature. In order to assess practices of, and attitudes towards, public power, it was necessary to use a single policy sector of manageable size, one in which the state was fairly active, so that this sector could provide the setting in which state activity and the responses to it could be observed. Why, within the transport sector, choose a nationalised industry as the context for the case study? Because as has been argued by David Coombes,[31] it is tantamount to studying the process of government, given that the state is directly involved in the running of public enterprises.

The approach followed was not that of an economist but that of a political scientist. The appropriateness, in purely economic terms or otherwise, for the state to run industrial firms is not our concern here. We are interested in the meaning of state action, not in its effectiveness. Thus the chosen sector, rail passenger transport, is not studied for its own sake. Our concern here is not the railways as such (although a fascinating subject in their own right) but the state: why state action took the course it did, rather than another, why state power was used, or not used when it could

[30] Ibid.: p. 188.

[31] David Coombes, *State Enterprise. Business or Politics?* (London: Allen & Unwin, 1971), p. 15.

have been, for which purpose and in what manner (e.g. coercive or conciliatory). The objective is not to account for differences in the features of the two railway systems, or in outcomes of railway policy-making, by means of an explanation centred on the referential frameworks. Although it could be argued that state action - or inaction as the case may be - is to a large extent responsible for the divergent paths followed by railway development in the two countries, it is by no means the sole, or even the main, explanatory factor. The present study examines only one strand of the `railway story'. Other strands such as the historical, geographical, managerial, engineering legacies may have been just as crucial in determining the outcome of the `railway story' but cannot be dealt with here - although passing reference will be made to them inasmuch as they had some connection with public action.

The policy sector chosen as a setting for the case studies will act as a prism through which diverse components of the British and French referential frameworks can be separated and examined, in deductive fashion. The contribution this study hopes to make to the debate about the state is as follows: to present empirical evidence of public action, so that several main features of the British and French referential frameworks may be analysed.

It does not follow however that the choice of sector is indifferent. The field of railway transport is an ideal one in many ways. Firstly, `The contribution of transport to the gross national product is far from insignificant', and the railways actually are a major component of national transport systems.[32] Rail transport infrastructure has played a crucial role in economic life since the Industrial Revolution.

Secondly, railways were the first major industry to elicit modern industrial strategies on the part of nation-states; Dobbin argues that state industrial strategies, at first developed in relation to railways, were later applied - on the whole, unchanged - to other sectors of economic life, because as a rule `national industrial strategies are reproduced when nations tackle new problems.'[33] What is true of state action in the rail sector therefore stands a greater than average chance of being true in a number of other sectors as well. Some of the conclusions will be worth applying to other sectors, beyond the scope of this thesis, although it is self-evident that they will fall far short of having a universal value.

Thirdly, the status of public undertakings such as SNCF and BR raises interesting questions. Both are quasi-governmental agencies and may be viewed as an arm of the state in many respects. As such, they constitute an interesting facet of the apparatus of public power, even though in their dealings with central government agencies they view themselves as separate entities. In spite of the fact that the railways are state-owned in both countries, different attitudes regarding state control of these public assets have prevailed: as a result, the relationships between the two parties are contrasted, a situation which tells us something about the state, as it does indeed tell us

[32] B. de Fontgalland, *The world railway system* (Cambridge: CUP, 1984), p. 114.

[33] Dobbin (1994), p. 3.

much about French and British political cultures in general.

Fourthly, the clear differences in services provided in the two countries, as well as in the issues that are debated (e.g. privatisation) point to differences in approach in the two countries. Some of these differences can be explained in terms of geographical features (the UK having a much smaller landmass with long distances only along a North-South axis) or historical circumstances (railway development started somewhat later in France). Economic reasons may also be invoked; the relative decline of the British economy may have resulted in a reduced availability of funds for public corporations. But beyond these factors, there is one overriding reality, which is that in both countries, the railway undertakings eventually came to rely on public funds for their financing and have laboured under state-imposed constraints as regards other sources (internal and external) of financing. In an industry where the availability of capital constitutes a paramount issue, such financial dependence provided the state with a prominent role. Furthermore, a high level of state involvement both in France and the UK has been justified on the same grounds in at least one instance: that of safety.

Besides, comparative research in political science may be well established but much ground remains to be covered. The French and British railway sectors have either been examined in isolation in their respective countries, or have been included in Europe-wide comparative studies of a technical nature, which yield extremely valuable data but do not address more qualitative issues.

Just as it was felt that the railway sector was very suitable for a study of this type, there are some compelling reasons behind the choice of case studies. Firstly, in a study of a comparative nature such as this, one has to compare like with like as far as that is ever possible. British Rail and SNCF provide good case study material since throughout the twentieth century their status has been roughly equivalent; both have been state-owned for a similar length of time: BR wholly since 1947, while the SNCF was mainly State-owned between 1937, when it was nationalised, and 1983, when the French State acquired the 49% of the shares it had not previously owned. Moreover, the high speed TGV and APT trains were developed in the same period (from 1965, when the plans were first mooted) and entered passenger service for the first time within just over one year of each other (TGV on 28 September 1980, APT on 7 December 1981).

Secondly, state intervention in the railway sector has been well-established in both countries since the nineteenth century, particularly in the fields of safety regulation and national defence, but has been more controversial in others, such as financial and commercial policies, upon which R&D processes hinge: the case studies are exemplary in this respect. They raise all manner of issues about the functions of the modern state and illustrate the way it is organised.

Lastly, the case studies are very tangible ones, with a strong, factual basis relatively easy to verify, on which analysis of more elusive concepts relating to the referential frameworks of public action can be firmly grounded. This point needs stressing: too often, studies of the state have been conducted at a very high level of abstraction and have tended to overlook realities on the ground. This has been all the more easy as `state' is a term which has so far escaped a precise, authoritative, universal definition, and a concept which lends itself to philosophical speculation. On the other

hand, public policy-making analysis has yielded extremely valuable information on the actual workings of the state apparatus but has often failed to link its detailed findings with more general theories of the state. The gap between these two approaches clearly needs to be bridged in order to `reintegrate the analysis of policies into a wider conception of the State-society relationship'.[34]

Clear differences between British and French policies towards the railways have always existed. It would be tempting to ascribe these to party political reasons: thus left-wing governments would be expected to favour public transport systems while conservative ones would be less than generous towards them. But this does not hold up to closer scrutiny; cross-national differences cannot be explained solely in terms of political battles between rival parties, as within each country policy decisions have often been remarkably similar regardless of which party was in office. Given the relatively favoured condition of French railways, one would have presumed that they had flourished under Socialist administrations, but this was not the case until 1981. Conversely, British Rail's ambitious and expensive Modernisation Plan was approved by a Conservative Cabinet in 1955, and the railway's decline was not arrested by eleven years of Labour rule between the early 1960s and the late 1970s. It follows that state action cannot be viewed simply as the implementation of partisan policies: it is also determined by prevailing conceptions and practices of public power which, to a large extent, cut across party lines. The extent to which such conceptions are national and normative, rather than partisan, is one of the main issues which this thesis addresses.

An interesting account of the origins of the differences between the two systems is proposed by Dobbin in his comparative study of how industrial policy was forged in the early railway era. He argues that `Because they were developed to explain policy choices within nations, existing approaches to public policy are seldom well suited to explaining broad differences between national policy styles.'[35] So for instance, rather than asking why a new Railway Act was passed in Britain in 1968, the type of question one needs to answer is why was the British government so anxious to create an arm's length relationship with nationalised industries in general, whilst the French government spontaneously institutionalised State control of public enterprises. Different logics prevailed in the two countries, but such logics have by and large not been theorised by public policy analysts `because the idea that national economies follow different cultural patterns is at odds with the modern worldview, in which economics, like physics, is governed by a single set of laws under one general theory.'[36]

In order to explain different logics, we need to follow the lead offered by ethnographers, who `know for certain that the meanings represented by premodern institutions are local fictions' and begin to view `the institutionalized meanings found in modern society as products of local,

[34] Muller (April 1985): p. 165.

[35] Dobbin (1994), p. 10.

[36] Ibid., p. 11.

social processes'; ultimately `differences in rationalized meaning systems explain broad cross-national policy differences, and ... rationality is essentially cultural'; although both Britain and France are part of the industrialised, capitalist world, within that world ostensibly ruled by the same economic laws, they display different cultural forms of policy-making.[37]

Present cultural forms of public policy-making can be traced back to the formative process that by the beginning of the nineteenth century had produced distinct British and French political cultures. Political stability had been achieved in France through military force and the imposition of strong central control. In Britain, it had been achieved `by maximising the autonomy of local elites who would further the public good by pursuing their own interests'; thus by 1825, Dobbin argues, the French view was that `State sovereignty was the source of political order', and accordingly `political philosophies ... made centralization integral to both monarchy and democracy'; whilst the British conception was that `Individual sovereignty was the source of political order', and the `King-in-Parliament model of government in which every lord reigned over his own turf' was exalted by political philosophers `as the instantiation of a minimalist theory of government and the foundation of political order and liberty;' these views, once well-established, were able to reproduce themselves as new issues arose, not only in their sphere of origin, the constitutional realm, but in more mundane sectors as well, and in this instance in industrial matters, most particularly railways; both Britain and France `developed cultural constructions of industrial rationality that were isomorphic with their constructions of political order.'[38]

My own approach bears strong affinities with Dobbin's, inasmuch as I also `aim ... to conceptualize the national traditions that shape policy-making', on the premise that `History has produced distinct ideas about order and rationality in different nations, and modern industrial policies are organized around those ideas.'[39] The national industrial rationalities permeated not only the state apparatus, but also public undertakings: for instance, SNCF was set up as a highly centralised, hierarchical organisation, and soon sought to impose homogeneous technical standards over the whole network, whilst the nationalised British railways retained their regional autonomy and character to a far higher degree, and tolerated the continued existence of technical standards as incompatible as the `third rail' on electrified lines of the Southern Region (still in operation to this day). In the field of high speed rail development, similar patterns can be found, as the case studies will demonstrate.

[37] Ibid., pp. 11-12, 14.

[38] Ibid., pp. 21, 23.

[39] Ibid., p. 2.

Broad summary

The general argument of the thesis is that within the context of the case studies, the British referential framework of public action was essentially politico/financial, whereas the French one was primarily technico-economic. As a result, the French decision-making apparatus was relatively well-equipped with regard to decisions concerning technological innovation and infrastructure planning, whilst the British system had difficulty in coping with the inherent demands of projects of this type.

Chapter II presents the background to the case studies: the relationships between sponsoring state agencies and public railway undertakings, and the professional dimensions of public action. It shows that the statuses of SNCF and BR were roughly similar, and that indirect control of the railways, respectively by the British Treasury and French Ministry of Finance, played a crucial role in both countries, but that relations between the railway undertakings and their sponsoring departments were conducted on an entirely different basis. The relation State-SNCF may be described as a symbiotic one, whereas the relation between BR and British central government was characterised by conflict. Chapter III - the first case study - examines the R&D processes in the field of high speed rail technology in the two countries; it illustrates the way in which engineeering concerns dominated policy in France, whilst scientists had a strong input in Britain. Chapter IV - the second case study - deals with planning new rail infrastructure; the exercise of state power was dependent on the notions of `general interest' in France and of democratic consultation in Britain.

The terms of the transport debate that took place around the rail projects examined in the case studies differed in at least two respects: the type of problems that were perceived, and the type of solutions that were conceived. The case studies illustrate two distinct approaches to policy-making: procedural and substantivist, both of which raise issues familiar to political scientists.

CHAPTER II
UNDERSTANDING RAILWAY POLICY-MAKING IN BRITAIN AND FRANCE

Introduction

A public undertaking is one `over which the public authorities may exercise directly or indirectly a dominant influence by virtue of their ownership of it, their financial participation therein, or the rules which govern it.'[1] This chapter analyses the diverse ways in which such influence can be brought to bear on the railways and what this tells us about the British and French referential frameworks of public action. It is understood that influence can be exercised both through the official channels provided by the formal framework within which government-enterprise relations take place, and through informal transactions which, for self-evident reasons, are far more difficult to trace but are nonetheless essential to acknowledge.

Three categories of public undertakings may be distinguished:[2] firstly, `Enterprises directly managed by a government department or a similar public authority', whose finances and accounts are at least partly integrated with those of the government; secondly, public enterprises `with a special legal status, subject to a public authority but possessing also a measure of managerial autonomy', which correspond to the `public corporation' in the UK, and to the `EPIC' (*Entreprise Publique Industrielle et Commerciale*) in France. Lastly, some public enterprises are `Companies with the same legal status as those in the private sector and enjoying a substantial degree of managerial autonomy'; the amount of shares sufficient to ensure control is owned by the state; the company is constituted under the national company law. The two organisations observed in this thesis, British Rail and SNCF, both belong to the second category, although SNCF only became a `public enterprise' in 1983, having until then been a `public company'.

This chapter presents the framework in which rail policy was made between 1965-1993 in Britain: legal and institutional aspects, financial arrangements that prevailed during the period examined, and lastly, the professional dimension of central government - railway relations. I then turn to French rail policy-making, following the same approach. Finally, a comparative section highlights the main differences and begins to outline the two referential frameworks.

1. RELATIONS BETWEEN CENTRAL GOVERNMENT AND THE RAILWAYS IN BRITAIN

[1] `Commission Directive of 25 June 1980 on the transparency of financial relations between member states and public undertakings', *Official Journal of the European Communities* (29/07/1980).

[2] Parris *et al*, *Public Enterprises in Western Europe* (London: Acton Society Trust, 1987), p. 23.

The method chosen to develop railways in Britain was `the method of private action, of *laissez-faire* ... government and Parliament ... declined to assume the direction of the railway system at its critical formative stage in the authoritarian manner of the Continent.'[3] But there were areas in which public control was exercised, such as prices and safety, so that on the whole, `The British railways' freedom from state control was ... not absolute. If the government did not run or manage them it supervised their working and, in one field of policy after another, it unobtrusively exercised a strong influence over them.'[4] This influence increased with nationalisation.

A. Legal and institutional relationship

On nationalisation in 1947, the `British Railways', though under common state ownership and under the responsibility of the specially set up British Transport Commission (BTC), were not run as a single unit: six regions were created, three of them closely matching the previous private companies territories.[5] Control over the railways was divided: financial responsibility lay with the BTC itself, whilst day-to-day running was carried out by the Railway Executive. This arrangement proved unsatisfactory and was ended when the British Railways Board (BRB) was set up under the Transport Act, 1962, with responsibility both for finance and management. Statutory powers of Transport Ministers are listed in the Nationalisation Act, 1947, and in over 70 subsequent statutory provisions.[6]

(1) Forms and actors of central government control

Four main types of controls are of interest to us: politico-administrative, parliamentary, technical and financial. The latter is possibly the most salient, and certainly the most complex and the most disputed; as such, it will be examined separately in the second section.

(a) Politico-administrative control

During our case studies, this first type of control was exercised by the Ministry

[3] Jack Simmons, *The Railways of Britain* (London: Macmillan, 1986), p. 22. For a very thorough comparative analysis of British and French railway policies in the early railway era, using a cultural approach, see Frank Dobbin, *Forging industrial policy: the United States, Britain, and France in the railway age* (Cambridge: CUP, 1994).

[4] Simmons (1986), p. 26.

[5] See Simmons (1986), p. 52.

[6] DoT memorandum, quoted in Transport Committee *Report 1986-87*, HC 383-II, p. 16.

(subsequently Department) of Transport (MoT/DoT).[7] Several divisions of DoT made up the Railways Directorate, responsible for all railway matters and headed by an Under Secretary.

British Rail had a form characteristic of public enterprises in Britain, namely that of a public corporation. The Chairman of the BR Board (BRB) was appointed by the sponsoring minister by statute (who also fixed the salary level, published as a matter for Parliament, with prime ministerial approval), and could be dismissed. The minister was also `responsible for the hiring of the board' but `Paradoxically, he does not have any power to fire the board, although few people are aware of this', a power which was deliberately withheld by Herbert Morrison under the original statutes.[8] The government's powers of appointment and dismissal were the main controlling powers in the conception of public enterprise favoured by Morrison in the 1940s, but in practice its hands were tied for there was no glut of candidates for this type of appointment and, according to one former BRB Chairman, `frequently ... nationalized industries have to be staffed at the top by the person the Minister can afford rather than his first choice.'[9] Ministerial power of dismissal was exercised on 26 October 1967 when Barbara Castle `transfered' Stanley Raymond once a suitable replacement had been agreed with Harold Wilson, the Prime Minister.[10] Towards the end of Richard Marsh's contract with BR, Harold Wilson demanded his removal from the chairmanship.[11]

How much of a role did partisan considerations have? `Politics enter into appointments in the sense that any government will seek to appoint people who will carry out its policies. But there is very little evidence of political favouritism in the party sense.'[12] For instance, Sir Peter Parker (who had once stood as a Labour candidate), appointed by the Labour Government in 1976, was re-appointed by Mrs Thatcher in 1982.

The Minister was able to coerce BR quite lawfully as regards industrial strategy: `Ministers are empowered to issue explicit directives if they require the industries to take a course

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[7] The sponsor department was the *Ministry* of Transport until 1970, when it was merged into the Department of the Environment. In 1974, the *Department* of Transport was separated from the Department of Environment.

[8] Richard Marsh, *Off the Rails: An Autobiography* (London: Weidenfeld and Nicolson, 1978), p. 164.

[9] Marsh (1978), p. 84. This occurred on the departure of Stanley Raymond, when the Minister's first choice, Peter Parker, was not offered a salary commensurate with the responsibilities and turned down the offer. Marsh provides another example: when he was Transport Minister, his formal offer of the position of National Freight Corporation Chairman to T. Dan Smith, `a very popular figure in the Labour Party', was turned down `on the grounds that he did not really want to be a bureaucrat, and that in any case the salary was totally inadequate.' (Ibid. p. 130.)

[10] Barbara Castle, *The Castle Diaries 1964-70* (London: Weidenfeld& Nicolson, 1984).

[11] Marsh (1978), p. 3.

[12] Parris (1987), p. 54.

of action they would not otherwise adopt.'[13] As for day-to-day management, this `must in practice, be left to those responsible for managing and running these industries without the intervention of Ministers or Parliament.'[14] But it was difficult to assess the precise degree of actual government involvement in the running of BR, as relations between the railways and government were highly politicised and concealed behind several thick layers of secrecy.[15]

(b) Parliamentary control

Although the central government / railway relationship was mainly conducted through MoT/DoT, it also involved parliamentary scrutiny, since

> Parliament exercises control over public enterprises through legislation ... If an enterprise has been established by statute, Parliament has determined its structure, defined its duties, and conferred the necessary powers. Once the enterprise has been set up in this way, further recourse to Parliament is necessary to change its structure, vary its duties, amend its powers, or terminate its existence.[16]

Direct scrutiny was also carried out by the Select Committee on Nationalised Industries, set up in 1956; this was abolished in 1979, with the inception of the new Select Committee system, within which BR was overseen by a Transport Committee and the Treasury and Civil Service Committee.

Parliament also possessed some degree of `purse power', since `When expenditure is to be met out of taxation, Parliament has the right to vote or withhold the money which the government needs to implement its policies', something which applied to BR's operating subsidies.[17] The 1974 Railways Act set `a statutory limit to the cumulative amount of grant which the Secretary of State could pay to BR without seeking parliamentary approval [of] £900m., extendable to a total of £1,500m, by Order in Council.'[18] BR Supplementary Estimates had to be approved by Parliament, a second layer of constraints, beyond the more habitual constraints placed by DoT over the Railways Board. But on the whole, parliamentary scrutiny was weak and no match for executive-administrative control.

(c) Technical control

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[13] Anthony Harrison, `The Framework of Control' in Christine Whitehead (ed.), *Reshaping the nationalised industries* (Oxford: Policy Journals, 1988): pp. 22-23.

[14] WP, *The Nationalised Industries* (March 1978, Cmnd. 7131), p. 11.

[15] Evidence from interviews with former Secretary to the BRB and former BR Chairman.

[16] Parris (1987), p. 97. Thus the privatisation of BR required a Parliamentary Bill. In the mind of Railtrack's Chairman, Parliament was the originator of the change: `Parliament [had] given the railways a new structure ... [had] opened a new era' (Bob Horton, Railway Studies Association lecture, London School of Economics, 16/03/1994).

[17] Parris (1987), p. 98.

[18] HC 383-I, ix.

Technical control deals, amongst other things, with safety issues. In the early railway days, Parliament played a small role in technical matters,[19] but technical supervision passed on to the central administration, whose powers were weak. The first railway inspecting officers were responsible to the Board of Trade, which could make recommendations regarding technical systems though it could not automatically impose them. It was not until a grave accident at Armagh in 1889 that government intervened forcefully, ending the `old happy-go-lucky days of railway working': it `led immediately to the passing of the Regulation of Railways Act, 1889. This made both continuous automatic brakes and absolute block-working compulsory on all lines throughout the country.'[20] Similarly with the system of automatic train control pioneered by the Great Western company from 1906: `The Great Western steadily spread the installation over the larger part of its network, but remained unique for many years among British railways in adopting it, in spite of the comments of the railway inspectors that accident after accident on other lines might have been prevented by its use'; it was only the Modernisation Plan of 1955 which `allocated £20 million to the installation of an automatic warning system ... throughout the country.'[21]

The Board of Trade's inspectors were succeeded by Inspecting Officers of the Ministry of Transport; the Railways Inspectorate's role was to enforce BR's statutory safety obligations. The Officers were generally retired Army officers who had trained in railway operations for military purposes but were independent from BR. One of their chief duties was to report on all serious railway accidents, in the name of public accountability. Other technical matters were supervised by the Railways Directorate but it had no technical expertise as such and did not intervene in detailed safety issues on a continuous basis.

(2) The formal relationship

(a) Sponsorship

The public corporation model enacted in 1945 by the Labour government had been meant to shield corporations from political `interference':

> The Morrisonian concept is traditionally associated with an `arm's length' relationship of corporation and government. Government was seen as performing comparatively limited interventionist functions in the national interest. It was assumed that the board's policies would embody the public interest and that conflict with government on the interpretation of national interest would be exceptional.[22]

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[19] Simmons (1986), p. 26.

[20] L T C Rolt, *Red for Danger* (1955), quoted in Simmons (1986), p. 196.

[21] Simmons (1986), p. 200. History appears to repeat itself: in 1995, the government scrapped plans for a £750m rail safety system, Automatic Train Protection (ATP), which had been endorsed by BR and government officials, and strongly recommended by the official inquiry following the Clapham railway accident in 1988 (ECIS *Newsletter*, May 1995, p. 6).

[22] NEDO Report, *A Study of Nationalised Industries* (1976), Appendix C, p. 81.

Thus there would be a minimal need for control by central government. Sponsorship, the term used to define the relationship between government departments and nationalised industries in general, and between DoT and BR in particular,[23] implied a relationship between equals, a point reinforced in the 1978 White Paper, whose language `was largely in terms of agreement, not direction.'[24] It is remarkable that a party committed to public ownership left so much discretion to public corporations and viewed ministerial guidance as `interference'.

But equal footing and arm's length distance did not necessarily entail harmonious relations. According to the National Economic Development Office (NEDO), `The internal structure and staffing of sponsor departments and Treasury are not designed for the prime purposes of overseeing and developing relevant policy frameworks for massive public enterprises' and `Civil servants and Ministers are transferred too frequently to obtain adequate understanding of the nature of the industries and their problems'. Overall, the experience was not perceived as positive on the railway side either:

> Suddenly after nationalisation the relationship became more of an arm's length one. All railway contacts with the Ministry had to be channelled through the British Transport Commission ... And this distancing of the railways from the Government, this attitude that, although the railways belong to the State, the State has no direct responsibility for them ... has persisted to this day ... the Ministry stands back as an observer and critic of the performance of the railways which it owns.[25]

As a result of this perceived lack of commitment, the relationship between BR and its sponsor department was largely of a conflictual nature, a situation which was `in a sense embedded in the arm's length philosophy, implicit in the nationalisation statutes and subsequent White Papers, which encourages the boards of nationalised industries to be autonomous except to the extent that government chooses to constrain them. Many of the participants involved in relationships in the UK recognise the need for a different and more cooperative approach.'[26] By the late 1970s, `The industries themselves, far from feeling they were able to get their own way, complained of too much ad hoc interference.'[27] Governments were accused of `manipulating nationalised industries'[28] even though powers delegated to individual ministers by statutes were deliberately limited in order

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[23] `The Department of Transport is responsible for land, sea and air transport including the sponsorship of the rail and bus industries' (*The Civil Service Yearbook 1990*, c. 667).

[24] Christine Whitehead, `Introduction' in Whitehead (ed.) (1988): p. 15.

[25] M. Bonavia (former BR senior manager), *The Twilight of British Rail?* (Newton Abbot: David & Charles, 1985), p. 116.

[26] NEDO (1976), p. 40.

[27] Whitehead, `Introduction', in Whitehead (ed.) (1988): p. 1.

[28] Flegmann, `Parliamentary accountability' in Whitehead (ed.) (1988): p. 214.

to provide for managerial autonomy. The balance between accountability to central government and management freedom was found to be elusive.

The `long-term deterioration in the relationships of government and nationalised industries' deplored by the 1976 NEDO Report was also ascribed to a large extent to `the inherent uncertainty about the respective roles and responsibilities of government and boards of nationalised industries.'[29] The NEDO report called for a radical change in relations, but its recommendations were not heeded; instead the Labour government produced a White Paper in 1978 (*The Nationalised Industries*) which built on existing controls and further extended the powers of Ministers. Previously, the Secretary of State for Transport had only been able `to give directions to the Board imposing on them obligations of a general nature';[30] from then on, `specific' directions could also be issued. The new statutory instruments were retained under the following government, and `Through these instruments [it] took an altogether tighter grip of the nationalised industry sector.'[31]

The `arm's length relationship' philosophy itself had deeper roots in a political culture which could be defined as the culture of adversarial relations rather than cooperation; relations between the Board and the Minister were highly politicised; there was an almost constant struggle for power over policy,[32] a great deal of `game-playing' and `point-scoring'.

Adversarial practices were not confined to BR-MoT/DoT relations; `adversary politics' also affected the transport policy debate as a whole.[33] As in many other sectors of political life, Finer's definition of adversary politics as `a stand-up fight between two adversaries for the favours of the lookers-on' could be applied to railway policy. The `"Adversary politics" process in transport policy-making'[34] prevented a `rational', continuous transport policy from emerging. The competing policies of political parties and of political factions within parties were imposed on civil servants and on BR: investment programmes were sometimes curtailed once they had got under way,[35]

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[29] NEDO (1976), p. 40.

[30] *Railways Act 1974*, s.3 (i).

[31] Harrison, `The Framework of Control' in Whitehead (ed.) (1988): p. 23.

[32] One Chairman thought that `the best hope for good management in the public sector is a strong Minister who can hold his or her own in Cabinet and a strong board which can hold its own against the Minister' (Parker, 1989, pp. 129-30).

[33] See S E Finer on the general workings of the British political system, *Adversary Politics and Political Reform* (1975).

[34] Patrick Dunleavy and Kenneth Duncan, *Understanding the Politics of Transport* (London: LSE unpublished paper), p. 1.

[35] The most striking example of that being the abrupt end of the 1955 Modernisation Plan in 1961, before it had yielded tangible results.

targets modified, institutional arrangements disrupted.[36] As a result, long-term planning by the railway was well nigh impossible and it found its hands literally tied by the vagaries of public policy. The result was often immobilism and inertia.

(b) The British case: the White Paper tradition

The publication of Government White Papers and the issuing of directions by the Secretary of State was done on an irregular basis; there was no formal temporal framework, with fixed deadlines: the Board was merely asked to `act on lines settled from time to time with the approval of the Secretary of State' as regards capital expenditure and general policy.[37] Thus no firm, formal, predictable basis was provided.[38] In 1976, a BRB document commenting on a Government Consultation Document asserted the need for `a more positive involvement by the Department of the Environment in the Board's Corporate Planning process.'[39] Since 1979 annual letters to the Chairman sent by the Secretary of State are said to have `provided a more formal, secure and public framework'[40] but in practice, dissatisfaction with the ups and downs of government policy has continued to run high.

Non-financial objectives set by DoT were found to be totally inadequate as policy guidelines for transport managers. Chairman Marsh `had long argued that there is nothing wrong with a Government requiring a nationalized industry to pursue social, non-commercial objectives, but what it must do is to quantify them, rather than to talk in generalities ... Managers can only manage against numerate objectives.'[41] For instance the BRB wanted `vaguely expressed pleas' (e.g. `help energy conservation') to be replaced by `quantified objectives'.[42]

(c) Policy coordination and planning

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[36] E.g. the organisation of the railway enacted in 1947 by Labour was radically modified by the Conservatives in 1953, and again in 1962. H Abromeit argues that `the typical result of adversary politics is an extreme short-term orientation which renders the formulation and implementation of consistent and necessarily long-term programmes for real (structural) innovation impossible, prompting a mere change of institutions instead' (*British Steel: an industry between the state and private sector*, Leamington Spa: Berg, 1986, p. 96.)

[37] *Railways Act 1974*, s. 4 (1), (2).

[38] BR was no isolated case: in the public sector as a whole, `the participants do not generally operate within agreed policies and decisions can be overruled or "called in" at any level'; public enterprises had to put up with `the twists and turns of interventions' (NEDO, 1976, p. 40).

[39] BRB, *Transport Policy* (July 1976), p. 20.

[40] Chris Nash, `British Rail and the Administration of Subsidies' in Whitehead (ed.) (1988): p. 91.

[41] Marsh (1978), pp. 108-9.

[42] BRB, *Transport Policy* (July 1976), p. 23.

The approach to railway policy-making in Britain tended to be incremental and modal, short-term and reactive.[43] Harold Wilson appointed Barbara Castle in December 1965 in order to produce an integrated transport policy (promised in the election manifesto), which was outlined in the 1966 White Paper,[44] but this was a short-lived experiment. Partly this was to do with departmental conceptions of planning: for instance on 27 January 1967, Castle met with the chairpersons of regional councils to discuss the integration of local transport services: `When we were drawing up the press statement afterwards, one of my officials tried to alter the word "integrated" transport to "co-ordinated" and I snapped back, "The word is integration and this Ministry had better get used to it here and now"'; Castle was told subsequently that `the Department were very nervous about this development.'[45]

BR was acutely aware of the need for a more pro-active policy; in a 1976 document, the BRB asserted that since 1972, it had `consistently pressed for the formulation of a national transport policy.'[46] Having `failed to persuade Government officials to take the initiative' in 1973, the BRB produced its own comprehensive strategic study.[47] In 1976 the Board asked for `a transport policy that realistically anticipates the likely changes to come', by means of `a professionally-conducted forecast of long-term transport demand' (i.e. fifteen years at least) so as not to take `today's market situation as a base'.[48] An often-heard complaint was that `no Government has ever been able to provide a long-term consistent policy which would enable Government and the nationalized industries to work together to achieve sensible long-term policies. Without consistent policies it is impossible for large industrial organizations to work efficiently.'[49] In 1992, the Chairman stated that signals given to the industry change with little predictability (one study per year on average was carried out), and that government policy shifts on average every six years, whilst the railway need `clarity', `stability' and `long-term horizons'.[50]

One BR Chairman called for `a more rational approach to the whole question of the distribution of Government expenditure and the introduction of new methods of decision making at

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[43] It seems that transport policy on the whole was viewed as a tough task; speaking of MoT in late 1963, Tony Benn described it as `a most difficult job, posing problems that no Labour Government can actually solve within five years' (*Out of the wilderness: Diaries, 1963-67*, London: Hutchinson, 1987, p. 82).

[44] WP, *Transport Policy* (1966, Cmnd. 3057).

[45] Castle (1984), entry of 27/01/1967.

[46] BRB, *Transport Policy* (July 1976), p. 7.

[47] Ibid., p. 11; Appendix A, p. 71.

[48] Ibid., pp. 7, 10.

[49] Marsh (1978), p. 185.

[50] Sir Bob Reid, *The Permanent Way*, Stamp Memorial Lecture, Senate House, London (18/11/1992).

the strategic or policy level' which would provide `an antidote to the emotions of lobby politics' and stressed the `need for bi-partisan stability in a national policy towards railways'.[51] It is no accident that the 1960s programme of line closures (Beeching Plan) took place under a Conservative government and was halted under Labour. Equally, it was under a Labour Prime Minister that the integration of transport policy was pursued; Barbara Castle recalled Wilson telling her on 21 December 1965: `we have *got* to have an integrated transport policy: I can't hold the Party otherwise. And the Party is the key to everything.'[52] But rail policy was not wholly as partisan as the above might imply. The section on finances shows that when it came to actual investment policy, there were much fewer partisan differences than one might have expected.

By the early 1990s, transport congestion had become a high profile political issue: `The country has drifted into this situation because of the lack of proper advance planning by the Transport Department, which has no overall national plan for transport provision and is woefully inadequate in the modal planning it does attempt.'[53] Potter argues that `Generally, transport planning in Britain today is very *ad hoc* and is little influenced by integrated systems approaches.'[54]

This situation arose partly because of a marked preference for symbols of individual choice. In the British referential framework we find a prevalent notion of consumer choice through *competition* between different means of transport. What mattered most was that the consumer should be able to exercise his/her choice freely. As a result, public policy openly favouring one mode of transport over another was not deemed to be acceptable. The emphasis on competition justified a *laissez-faire* approach by DoT and explains why no integrated transport planning was put into practice. In 1976, the BRB asked for the terms of competition to be changed: `The competitive framework should be the servant of policy, not its master.'[55] From the late 1970s, the rationale behind the phasing out of support for InterCity services was DoT's belief that InterCity competed in a transport `free market' with air, coach and car travel. At a conference in 1983, the Under-Secretary for Transport declared: `Our philosophy is that the pattern of transport should be decided by customer choice with competition providing the options.'[56] Market economy principles were applied to the transport sphere even more rigourously under Mrs Thatcher than previously.

Conclusion

[51] Sir Peter Parker, *A Way to Run a Railway*, 41st Haldane Memorial Lecture (23/02/1978), pp. 17, 19.

[52] Castle (1984), p. 80.

[53] *FT* (23/08/1989): p. 17.

[54] Stephen Potter, *On the Right Lines?* (London: Pinter, 1987), p. 20.

[55] BRB, *Transport Policy* (July 1976), p. 8.

[56] David Mitchell, *Financial Times* Conference (15/11/1983).

The Morrisonian public corporation aimed to combine managerial autonomy and public accountability, and therefore was reliant upon the government setting clear and comprehensive objectives. But in practice the reverse was achieved: as far as policies were concerned, there was a comprehensive lack of guidance, owing to vague, general statutes, and no day-to-day autonomy as government interference through `backstairs pressure' was a common occurence.[57] The absence of a clear hierarchy between the policy actors led to an almost continuous power struggle.

The problems experienced by the railway were not sector-specific but were connected to the fact that `public ownership had an unhappy political and economic history in Britain.'[58] There was a structural problem in the British referential framework as regards the role of central government towards public industry. The Government was failing to provide a sufficient direct policy input. Central government guidance was tentative yet control fairly authoritarian. The following section will show that it was exercised as a brake (on spending) rather than as a spur to new, targeted investment and the improvement of services.

B. Financial relationship

A number of officials within the Treasury specialised in public enterprise work, along sectoral lines: one Under-Secretary and one Assistant-Secretary were in charge of financial matters relating to BR. Furthermore, the White Papers which, in 1961, 1967 and 1978, had sought to provide a framework of control over the public sector more focused upon financial matters, had all been moulded by the Treasury. The extent of Treasury control over transport policy is difficult to ascertain given that much of it was exercised in informal ways, but it is beyond doubt that Treasury-imposed constraints were keenly felt by MoT/DoT, who in turn would restrain railway industry ambitions.

(1) Instruments

All railway funding instruments in Britain were part of the Annual Budget until 1976. Direct payments to BR were made by the Secretary of State for Transport, who may `determine the manner of calculating, and the conditions applicable to, those payments.'[59] BR received several types of grant from the Government: the general grant requirement (which comprised both

[57] Abromeit reaches similar conclusions concerning nationalised industries in general (Abromeit, 1986, p. 66).

[58] J J Richardson, `The politics and practice of privatization in Britain', V Wright (ed.), *Privatization in Western Europe* (London: Pinter, 1994). Shonfield's claim that by the late 1970s `British public enterprise [had become] less like private enterprise, because of powerful ministerial control, *inhibiting entrepreneurship*', applied to BR (A Shonfield, *The Use of Public Power*, Oxford: OUP, 1982, p. 111).

[59] Railways Act, 1974, s.3 (2).

operating subsidies and deficiency payments); payments for socially necessary lines (`grant aid' from 1968), later for the Public Service Obligation (PSO, from 1974), but `The PSO target only acts as a cash limit which should not be exceeded. It is not a firm offer of grant. The actual grant to be paid still has to be negotiated in the light of current circumstances and thus the department has been able to take advantage of new developments to reduce the grant below the original target.'[60] There were research grants, which between 1975-1985 averaged £3m a year;[61] grants for capital improvement were made available under the 1968 Transport Act (Section 56) and minor investment grants were also made by the Government. Government loans were occasionally made.

Large parts of the debts of BR were written off, e.g. by the Transport Act, 1962 (relieving BR of the payment of interest on £1,175 million of accumulated debt).[62] In 1969, another capital reconstruction took place, and in 1974, the Railways Act reduced the Railways Board debt liability to £250m by cancelling £450m of capital debt.[63] The writing off of accumulated deficits involved fresh legislation from Parliament.[64]

(2) Prevailing factors of decision

In the treatment of rail passenger transport, a number of critical factors were taken into account, some of which were mutually exclusive. The choice between competing factors of decision was a political one and was itself guided either by practical considerations or by more ideological ones.

(a) Macro-economic factors

During the immediate postwar period, `it was the role of the railways in the economy as a whole that was the criterion for state investment, not the economic performance of the railways alone.'[65] In the early 1970s, the railway system was still considered as `a service to the nation', parts of which ought to be subsidised. Conservative governments, most notably Heath's, took macro-economic factors into account in their treatment of the railway, as a matter of fact if not of rhetoric.

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[60] HC 383 I, p. xxi.

[61] DoT Memorandum, in HC 383-II, p. 10.

[62] Simmons (1986), p. 56.

[63] *FT* (7/03/1983): p. 14.

[64] With the `two capital reconstructions of the Board's liabilities' since nationalisation, `In total £1,451 million of outstanding liabilities have been written off ... The capital liabilities at present in the balance sheet are the result of additional long-term borrowing since 1974' (DoT Memorandum, HC 383-II, p. 15).

[65] Potter (1987), pp. 19-20.

But by the late 1970s, government policy had shifted considerably: rail transport was to compete with other means of transport, state subsidies provided an unfair advantage to BR and were to be phased out in the commercial parts of the network. Finally, the Conservative government led by John Major became committed to the privatisation of the railways, thus rejecting the very idea that they could constitute an instrument of macro-economic policy.

(b) Social factors

The railways of Britain were originally nationalised with the maximisation of social welfare in view. This social role meant keeping rural, unprofitable lines open, even though this ran against the commercial interests of the railway. By 1960 however, `the British Transport Commission had been acidly criticised by the government ... for taking account of social needs when its business should have been exclusively with balancing its books'.[66] The new business emphasis led to the Beeching experiment, an attempt to make railways break even by 1970, partly through massive secondary line closures.

As the social costs of such a policy became clear, and a Labour Government took power, it gave way in the late 1960s to an attempt by the Government to provide a `socially useful' network. Commercially viable passenger services should be clearly separated from those that were not, the `social railway', funded through special grants if BR could show that they met social needs. Payments under the new `grant aid' system were made on a service by service basis. The belief that central government ought to play a social role through its policy towards the railways was reiterated in 1973 during a Joint Policy Review carried out by the Conservative government, which concluded that a network of acceptable size would have to be subsidised.

Finally, as a result of European Community membership, the Railways Act, 1974, generalised payments made for particular lines, which had formally qualified as 'social railway'. Now the whole network was covered by a Public Service Obligation (PSO) through the incorporation of EC Directive 1191/69 into British law. PSO abolished the individual service-by-service aid and introduced a global PSO payment.[67]

The definition of PSO was fairly vague and it was interpreted loosely by the Government: the December 1974 DoT Direction requested the Board to operate a railway passenger system which would `provide a public service which is comparable generally with that provided by the Board at present'. The lack of specificity of this request has meant that there is `no absolutely fixed standard of service for the Board to attain and thus for the Government to fund. Instead the flexibility of the Direction has allowed the Government to set tough financial targets.'[68]

The vagueness of BR's social obligations was but one manifestation of a general state of

[66] Simmons (1986), p. 57.

[67] Parker (23/02/1978), p. 7.

[68] HC 383-I, ix.

affairs in which formally stated commitments and obligations were conspicuously absent. The commitment to a social railway was allowed to be diluted,[69] when financial considerations came to the fore. Furthermore, the fulfilment of social objectives was not integrated into the decision-making mechanism: social goals were implicitly part of BR's brief but were not `rationally' evaluated by the sponsoring Department, as the calculation of rates of return excluded non-financial costs and benefits, in particular social ones.

(c) Financial factors

These were prominent from the start: in 1947, BTC `was instructed that its services must pay for themselves'.[70] But the railways plunged into deficit from 1955. The Plowden Report on the control of public expenditure (1961, Cmnd. 1432) inaugurated an era when the Treasury re-asserted its power, after a period during which public spending had dramatically increased. The 1961 White Paper on Financial and Economic Obligations of the Nationalised Industries attempted to place financial control on an orderly and calculable basis. But financial controls were found to be ineffective. As a result, `formal criteria were introduced in the 1967 White Paper for both pricing and investment decisions'[71], a move which marked the intensification of the commercialisation process and was undertaken by a Labour government. Both White Papers, drafted under governments of opposite political complexions, stressed that the nationalised industries had to be treated as *commercial* concerns. The 1961 White Paper represented the first attempt to make British Rail break even over set periods, after years during which BR had simply been required to break even, taking one year with another. The Transport Act, 1962 made it `perfectly clear [that] the new Railways Board was to move as fast as possible into solvency, by concentrating its attention on the services it could provide with profit.'[72]

The Act began a new, commercial era for the railways; it simplified the procedure for closing down loss-making lines. Under the first Chairman of the Railways Board, Dr Beeching, a two-fold approach was pursued, embodied in two landmark reports: *The Reshaping of British Railways* (1963) sought to define the shape of a viable network whilst *The Development of the Major Railway Trunk Routes* (1965) planned the development of the most remunerative services. Railway operations acquired a more commercial edge in the mid-1960s with the improvement of service quality and the introduction of the term `Inter-City' in 1966. But commercialism was something of a mixed blessing in the eyes of BR managers: all network studies had `terms of reference [which] were strictly commercial' and `no wider view' was allowed, which would include

[69] Today, only Provincial and Network SouthEast receive PSO subsidies.

[70] Simmons (1986), p. 53.

[71] Whitehead (1988): p. 6.

[72] Simmons (1986), p. 57.

social and environmental factors for instance.[73]

By 1976, cost-cutting had become the prevailing factor of decision and dictated policy. Cash limits were introduced in 1976 by the Labour Government:[74] the External Finance Limit (EFL) comprised (central and local) government subsidies, government loans, and borrowing from external sources; the whole was included in the Public Sector Borrowing Requirement (PSBR); also the PSO grant was subjected to an annual cash ceiling, set in advance of BR's submission of its grant claim.[75] During the Thatcher premiership, the PSO ceiling was deliberately squeezed. In 1983, the Secretary of State, Nicholas Ridley, listed among his objectives the reduction of the PSO grant.[76]

In the 1970s, the fight against inflation overrode most other considerations, so that `The financial targets of most of the nationalised industries had to be abandoned'[77]. But in the second half of the 1970s, more stringent financial controls, mostly conflicting with corporate long-term imperatives, were forced upon BR: the 1974 Railways Act provided for `An extension of Government powers to approve the policies and plans of British Railways and to monitor grant expenditure';[78] the Labour Government's 1978 White Paper[79] reintroduced financial targets. In keeping with the attempt to make the railway more commercial, it stated that `The industries will let their sponsoring Department have performance indicators ... which will provide regular and systematic information as a contribution to discussing their success in controlling costs and efficiency.' Under the following Government, BR was requested by the Secretary of State in August 1984 to make InterCity services profitable: prior to losing all state support from 1988-89, InterCity was asked to achieve a 5% return. But this was not simply a matter of partisan politics; the history of this decision could be traced back to the 1977 White Paper, when the (Labour) government `saw the Inter-City services as operating commercially',[80] thus introducing the principle that InterCity services should no longer be subsidised. We should therefore not have a purely partisan understanding of the importance of financial factors in railway policy.

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[73] BRB, *Transport Policy* (July 1976), p. 10.

[74] WP, *Cash Limits on Public Expenditure* (1976, Cmnd. 6440).

[75] PSO was frozen at its 1975 level by the Labour government in real terms; in February 1977, it was even reduced for the year 1977/1978; by 1978 BR was `expected to meet objectives of the 1962 Act and break even on revenue account taking one year with another' (Parker, 23/02/1978, p. 7).

[76] HC 383-I, p. 20. It was `cut, on government orders, from nearly £1.1bn in 1983 to £605m [in 1989], and [was] forecast to fall to £477m by 1992 (all at current prices)' (*FT*, 8/03/1989: p. 20).

[77] WP, *The Nationalised Industries* (1978, Cmnd. 7131).

[78] Central Transport Consultative Committee for Great Britain, *Annual Report* (London: HMSO, 1974).

[79] WP, *The Nationalised Industries* (1978, Cmnd. 2131).

[80] Parker (23/02/1978), p. 9.

By the mid-1980s financial control was even more at the forefront than previously. Strategic considerations were not taken into account. From 1974 the bedrock of policy-making was the precisely defined amount of resources available, prior to any assessment of needs or objectives. Although successive British governments did not hesitate to impose financial targets on BR, they did not engage in negotiations about the *means* to reach the targets; this was left to BR management discretion. Central government action can thus be defined as `negative' (in the sense of `constrictive'), concerned with the minimisation of public expenditure but relatively careless about the effects of such a demand.

To sum up, macro-economic and social factors were not formalised in the way that financial ones were. Social factors were quite prominent from the mid-1960s to mid-1970s, but financial factors really came to the fore from about 1974 and tended to overshadow any other consideration.

(3) Raising revenue

BR could raise funds in two ways: through internal income derived mainly from the farebox and through external funds, which could only come from or through the Treasury.

Internal revenue

A major part of railway revenue was derived from fares. As a result, fare-setting was of paramount importance to railway management but they were severely limited in their freedom to raise them. It was not until the Transport Act, 1962, that complete pricing freedom was achieved.

British governments insisted that fares policy was BR's prerogative but the 1961 White Paper required BR to generate revenue which would cover asset depreciation at replacement cost, and the Board's fares policy from 1968 followed a recommendation in the Report of the National Board for Prices and Incomes: `Mileage Pricing' (in which the price was exactly proportionate to the distance travelled) gave way to `Market Pricing', which means that rather than basing fares on a `standard-rate-per-mile', BR could charge whatever each segment of the passenger market would bear.[81] As BR's tariffs were no longer nationally based, cross-subsidisation between regions could not take place. The principle of equity had been abandoned (an exceptional development in the public sector), as customers faced different charges for the same services.

Fare rises were substantial, but reduced fare schemes were introduced which mitigated the increase. When deciding on its fares structure, BR did not take into consideration social needs and fairness, as `British Rail is not part of the Social Services ... [some schemes] fulfill a social need, but they are in operation not for that reason but because British Rail sees them as an opportunity to attract additional customers, at off peak times, to fill empty seats.'[82] Thus by 1975, reduced fares

[81] See *National Board for Prices and Incomes Report No 72. Proposed Increases by British Railways Board in Certain Country-Wide Fares & Charges*, Cmnd. 3656 (London: HMSO, 1968).

[82] CTCC (Dec. 1977), paragraph 101.

accounted for 48.3% of all passenger journeys. Low fares targeted at specific groups, and high fares for all other passengers, had taken the place of socially-minded standard fares for everyone.

Under the Transport Act, 1968, fares were nominally to be freely determined by BR but informal influence was often used by ministers. Under the Conservative Heath government for instance, `anti-inflation policies took precedence, which meant keeping prices as low as possible rather than adjusting them to whatever was deemed to be the right level of costs.'[83] By 1976, it was `widely recognised that recurring price interventions resulted in unforeseen and damaging consequences in the medium term.'[84] The 1978 White Paper gave public enterprises more flexibility in their pricing but BR was still required to set prices at a level which would generate sufficient revenue and now had to meet government-imposed financial targets as well; the Board was therefore hamstrung as regards the general level, although it had complete freedom regarding specific prices. Given the financial impossibility to dramatically increase the number of passengers through significantly improved rail services, a high fares (`revenue-maximising') policy appeared to be the only option left.

Another source of internal revenue was provided by BR subsidiaries, which tended to be more profitable than the network itself. By 1979, DoT and BR were jointly examining the possibility of introducing private capital into BR subsidiaries. This led to the setting up of BRIL (British Rail Investments Ltd) in November 1980, a holding company to which the businesses of British Transport Hotels, Sealink UK, BR Hovercraft and some property assets were transferred. This policy of private capital involvement was soon turned into full-blown privatisation. Throughout the 1980s, most British public enterprises `were pressed to sell off peripheral businesses ... and more generally to dispose of land and property assets incidental to the main business',[85] and the BRB had to conform to government wishes. The Transport Act, 1981, privatised such BR subsidiaries as Sealink UK Limited, BR Hovercraft, British Transport Hotels and non-operational land owned by BR's Property Board. Proceeds of the sale went to the railway, but did not provide it with extra funds, over and above what was normally granted by central government, as the EFL was reduced by a corresponding amount for the following year. It merely reduced the amount of funds required by DoT from the Treasury. Moreover, BR was not allowed to decide when sales would take place; as a result, the full value of the property was not always realised.

External funding: borrowing restrictions

The BRB's borrowing powers were limited by Order of the Secretary of State,[86] a

[83] Harrison (1988): p. 24.

[84] NEDO (1976), p. 44.

[85] Whitehead (1988): p. 2.

[86] See section 42 (b) of Transport Act, 1968.

constraint originating with the Finance Act, 1956, which transferred public corporations' borrowing from the capital market to the Exchequer: from then on, such borrowing was included in the overall PSBR. Therefore BR had no independent access to financial markets. Although Transport officials felt `progressively more and more irritated by it really, and the way the Treasury clung on to this was regarded as very detrimental', there was a stubborn refusal at the Treasury to consider any changes.[87]

A second constraint came in the shape of EFL, also set by the Minister, introduced in January 1976 by the Labour government in order to reduce BR's share in the PSBR. The company must conform to the EFL even if it was lower than what the Corporate Plan required for a given year, as happened between 1985 and 1990, and the limits related to government borrowing policy, rather than to BR's investment needs. Public power was exerted at the expense of corporate autonomy.

Even before the introduction of EFL, meeting all the railways' needs through borrowing had been impossible because the Treasury kept such a tight control over loans. Even a Conservative Minister had to admit that `The other reason why I became converted to privatizing monopolies concerned capital for investment. Treasury control of the borrowings of the nationalised industries had led to insufficient investment ... In fact most of the nationalised monopolies were seriously underinvested' because `Capital allocations ... are rationed ... in the public sector by arbitrary Treasury judgements.'[88] In effect both the manner and the amount of borrowing were central government-controlled.

(4) Investment programmes

There has been much talk in Britain of chronic under-investment in the railway. As early as 1955, railway management felt that the railways were not working at full efficiency chiefly owing to `their past inability to attract enough capital investment to keep their physical equipment fully up to date'; they proposed a £1,200 million plan of `modernisation and re-equipment', aiming at `a transformation of virtually all the forms of services now offered by British Railways'.[89] The plan met with a favourable reception and the `Conservative government promptly undertook to guarantee the necessary loan.'[90] However, the plan was not evaluated in depth by MoT, its shortcomings soon became apparent and was the object of a critical inquiry. In 1961, the Transport

[87] Interview with former Principal Private Secretary to Minister of Transport (late 1960s). He complained of `the "dead hand" of the Treasury, you know...'

[88] Nicholas Ridley, *My Style of Government: the Thatcher Years* (London: Hutchinson, 1991), pp. 62-63.

[89] BTC, *Modernisation and Re-equipment of British Railways* (1955), pp. 5-7.

[90] Simmons (1986), p. 54.

Minister announced that it was to come to a halt. As a result of this costly misadventure,[91] subsequent investments came under much closer scrutiny.

Assessing investment programmes

The 1967 White Paper introduced uniform criteria for investment appraisal in nationalised industries, the Test Discount Rate (TDR). New investments had to earn a return at least equal to TDR. The (Labour) government set this minimum rate at the same level as that required in the private sector (4 to 8% depending on the type of project). The 1978 White Paper replaced TDR with the required rate of return (RRR).

The Board would submit a list of all investment projects above a certain size (e.g. £5m in 1986) to the Department, on an annual basis. The investment programme would then be considered as part of the Government review of nationalised industries and investment allocations be decided upon. This procedure gave the Government a large degree of direct control over BR's investment policy and the power to cancel sizeable programmes.

The methodology used in the assessment of investment needs is a good indicator of central government priorities. The criteria used were purely financial ones; this was also true as regards the prioritisation of investment programmes: BR had to choose major investments `by ranking them in order on the basis of greatest rate of return. Schemes paying for themselves in two years (i.e. 50% rate of return) generally precede others down to a minimum rate of 8% [in two years] - a rate which applies to all nationalised industries.'[92] In other words, financial costs were the only criteria accepted by the Department; rail projects in the commercial sector (such as InterCity) were not assessed in terms of cost-benefit analysis, where non-financial criteria apply (such as social and environmental). As a result, improvements to the network such as electrification and new track were often `non-starters ... because they cannot meet the internal profitability criteria that is demanded of them'.[93]

Financing investment programmes

According to the 1986-1987 House of Commons Transport Committee Report, imposition of EFL had `often resulted in a reduction in or an embargo on new investment schemes and partly explains BR's inability to fulfill its investment plans.'[94] The depression of 1980 had resulted in BR being unable, for the first time in five years, `to keep within the government's contract price for running the railway'; the Board was forced by government intransigeance to postpone important

[91] See Joy (1973).

[92] Paul Salveson, *British Rail: the radical alternative to privatisation* (Manchester: Centre for Local Economic Strategies, 1989), p. 33.

[93] Potter (1987), p. 23.

[94] HC 383-I, xii.

investment projects in order to stay within EFL.[95] In April 1992, BR was forced to drop four key schemes from its ongoing five-year spending plan for 1992-1997 because of a shortage of investment funds.[96]

Because `BR [financed] almost all its capital investment from internally generated funds'[97] and immediate financial objectives had the upper hand, investment was done in piecemeal and unpredictable fashion. In 1972, the Chairman lamented the fact that `most of the railway investment is to keep the system going' rather than to improve it.[98] In 1976, the Board called for `a more stable commitment by the Government to the industry's objectives' and for `more stable railway investment programmes'; they strongly recommended `a more evenly-phased, long-term commitment of funds for railway investment' which would put an end to the `Massive fluctuations in the railways' long-term investment profile'.[99] Nevertheless the first Thatcher government wanted to further reduce BR's dependence on the Treasury's National Loans Fund and the Serpell Report on Railway Finances in 1983 was perceived as lacking confidence in the place of investment as a way of enhancing transport infrastructure.[100] But the scarcity of financial support was already apparent under previous governments, as was the `stop-go' fashion in which it was approved. The 1955 Modernisation Programme for instance represented a massive investment commitment, following an investment famine. Similarly, a sudden upsurge began in 1991: a sharp increase in investment (nearly 60%) was announced by Cecil Parkinson in November 1990 and completely overran the Autumn Statement of November 1989. These changes often took place with an unchanged parliamentary majority.

Conclusion

The `evidence of widespread dissatisfaction with the practice of ministerial control' analysed by Abromeit[101] was equally present within the railway establishment. It was already detected by the Select Committee on Nationalised Industries in 1967-1968. Its recommendations, like those of the later NEDO Report (1976), which was equally critical, were not implemented, because the referential framework could not accommodate a different style of ministerial control. Time and time again, railway managers complained of the vagaries of government policy: `Unless

[95] Bagwell (1984), p. 20.

[96] *The Guardian* (29/04/1992).

[97] *FT* (8/03/1989): p. 20.

[98] Marsh in BRB, *Reports and Accounts 1972*, p. 1.

[99] BRB, *Transport Policy* (July 1976), p. 20.

[100] *FT* (21/01/1983).

[101] See Abromeit (1986), pp. 73-74.

we obtain a more rational and consistent policy for the railway, the taxpayer will be faced with even higher bills for a declining railway.'[102] In 1981, the BRB again requested that long term rail policy be spelt out and pressed the government to this end.[103] The same call was still being made sixteen years later by the Chairman, who expressed `concern over the continuity of the flow of investment' in view of government proposals of the time.[104]

One reason for the discontent stemmed from the following contradiction: the railway was required to behave like any other commercial concern, yet at the same time was subjected to constraints in most aspects of its business that no private firm experienced, and was not allowed to develop the means to act commercially.[105] A workable balance seemed to elude successive British governments, both of the Left and Right.

Another ground for discontent was government's almost exclusive reliance on financial control. From the 1976 Callaghan Government and particularly under the Thatcher governments, EFL (or `financial discipline') was dominant because of Treasury determination. But the Treasury's pre-eminent role and wish to retain as much control as possible over public spending was nothing new: it had become institutionalised in 1956 when the capital expenditure of public corporations like British Rail was included in the PSBR. Central government was a `cash dispenser' with a low upper limit. Although one BR Chairman liked to describe the PSO arrangement as a `contract' between the railway and the government, the trouble was `that this "Contract" is a constraint rather than an objective'.[106] Here we find in a nutshell the definition of the arm's length relationship in its financial dimension: the arm held back but did not direct.

In the 1980s financial rules were tightened further, at the expense of macro-economic and social benefits, but the one-sided imposition of financial constraints had begun long before 1979. In this regard, it is particularly significant that market pricing, cash limits and EFL were all introduced by *Labour* governments. Central government approach to railway policy was not crucially dependent on which of the political parties was in power and was characterised from 1961 by the almost continuous use of short term financial controls. Unsurprisingly, reliance on such blunt controls contributed to a conflictual relationship, as did the fact that the various policy actors

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[102] BRB, *Transport Policy* (July 1976), p. 5.

[103] Parker (1989), p. 273.

[104] Reid (18/11/1992). Railtrack's Chairman pointed out how in the late 1980s, BR enjoyed a `brief boom' resulting in the 1991-1992 investment level being double that of previous years (Bob Horton, Railways Studies Association lecture, London School of Economics, 16/03/1994).

[105] This predicament was not unique. The Post Office, a net contributor to Treasury funds from 1980 onwards, has demanded commercial freedom in order to compete internationally, but this is being refused by the Treasury, which argues that while the PO remains part of the public sector it will be treated as such. As a result PO chiefs have let it be known that they backed immediate privatisation (*The Guardian*, 4/03/1994).

[106] Parker (23/02/1978), p. 8.

belonged to a divided policy-making network, to which we now turn.

C. The professional dimension: engineers and civil servants

(1) A divided technical and administrative elite

One striking feature of the professional dimension was the dichotomy between generalist and specialist civil servants. Senior civil servants as a rule were `generalists'; if technical or specialist advice was required, it could be obtained from experts, who occupied a subordinate position in the hierarchical structure, even in the technical ministries. Specialists were thought to have interests limited to their own field and therefore to lack breadth of vision, whereas the generalist was aware of all political, social and administrative implications of a problem. The other side of the coin was down-played: namely, that generalist civil servants lacked a strong commitment to, and professional interest in, their field because their career was not tied to any specific policy sector. They were therefore relatively indifferent towards improvement, unlike say civil engineers, who were likely to want to make things work better, build better bridges, etc. They were also reluctant on the whole to provide leadership or take initiatives and to undertake development functions. The Fulton Report (1968, Cmnd. 3638) criticised the Civil Service for its cult of the `amateur' and the `gifted layman'; it called for the promotion of more specialists and the recruitment of graduates with relevant specialised qualifications. The Civil Service offered rigid career structures, with vertical movement only; the split between policy-making and management, that is between administrators and specialists reflected the doctrine that `experts should be on tap not on top'.

The second feature of the British central administration related to personnel mobility between the public and private spheres: `In the UK there is very little movement between public enterprises and the civil service'[107] and hardly any between the Civil Service and the private sector (except for *retired* civil servants). This judgement also applied to BR which had been run either by men predominantly with a business/industry background or by `career men' (i.e. who had risen through the ranks of their own industry). This was the case with many chairmen of the British Railways Board such as: Richard Beeching (1963-1965), Henry Johnson (1967-1971), Peter Parker (1976-1983), Robert (Sir Bob) Reid (since 1990). None of them had worked in the Civil Service; neither had Richard Marsh, who was briefly a Minister of Transport before chairing the BRB from 1971 to 1976, and Robert (Basil) Reid (1983-1990), whose entire career had been spent in the railways. We have to go back to Stanley Raymond (1965-1967) to find a head of BR who had been in the Civil Service (which he had joined in 1930).[108]

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[107] Parris (1987), p. 58.

[108] This trend was true of public undertakings as a whole. In her study (1986, pp. 104-105), Abromeit found that by the end of 1983, chairpersons of nationalised industries came mostly from the private sector (with career men coming second); board members were mostly `bred in their own industry' (typically

A third key feature was job rotation: specialists tend `to remain for most or all of their careers, in ... middle-level jobs within their specialism. Generalist administrators are moved from section to section, very often before they develop any specialist expertise'.[109] One commentator argued that administrators were moved from posting to posting too often to become really useful.[110] This general characteristic was perhaps less true of the railway sector. Several senior administrators interviewed in connection with the case studies had spent the majority of their careers at Transport and displayed a great deal of affection towards their sector.

In short, the technical and administrative elite was fragmented. I now turn to the engineers and civil servants working in the railway sector and argue that they belonged to estranged professions.

(2) The Transport officials

It was always extremely difficult for the railways divisions in central government to gain a thorough knowledge of BR's activities because the railway staff was very small. Although after 1947 the railway was by far the most important public asset (in terms of size, manpower and capital) under the responsibility of the Department, there were comparatively few civil servants dealing with BR (the bulk of the staff being in charge of the road programmes). In a reply to a parliamentary question in 1986, it was stated that 10,159 DoT civil servants worked on highways, licensing and taxation, 2,468 on roads and 76 on railway issues. Such a small number of officials could not possibly be expected to be fully conversant with all policy aspects of running a modern railway and could sometimes be overwhelmed by a strong case put forward by railway management, as happened with the 1955 Modernisation Plan.

On the other hand, MoT/DoT dedicated themselves to road-building, thanks to an unusual alliance between engineers and administrators within the Department, and the pressure of a group of strong commercial lobbies that has become known as the `road lobby', widely acknowledged as extremely powerful. The road lobby was traditionally associated with the Right, whereas the promotion of public transport was seen as the preserve of the Left. In 1972, the Chairman of the BRB stated that: `we find ourselves ... with an under-used railway ... In terms of capital investment for renewal, research, development and improvement, the railways' share has not been comparable with the millions poured into other forms of transport. New motorways and trunk roads ... between them represent a national investment every year more than five times greater than investment in BR, and even then most of the railway investment is to keep the system going.'[111] A common

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engineers and technicians) or came from the private sector. Civil servants were barely represented.

[109] Ian A Glover and Michael P Kelly, *Engineers in Britain: A Sociological Study of the Engineering Dimension* (London: Allen & Unwin, 1987), p. 153.

[110] T J Dixon, `The Civil Service syndrome', *Management Today* (May 1980).

[111] BRB, *Reports and Accounts: 1972*, p. 1.

complaint was that expenditure on railways was easily pinpointed whilst roads benefitted to a far larger extent from less visible, indirect subsidies.[112] The continued existence of a powerful road lobby partly reflected the stress laid in Conservative thinking on individual choice and mobility, a stress which to a large extent had also infiltrated Labour policies. Ward, Samways and Benton argue that even Labour was in thrall to road building and only paid `lip-service to an integrated transport policy.'[113] At the same time, Labour supported the expansion of public transport because it found electoral support among the `transport poor', who were dependent upon it. But it could not wholly get away from support for the private car.

The salient point here was the methodology deployed to assess new transport projects. Cost-benefit analysis (CBA) was the rule as regards road schemes, but was not used for rail schemes, where financial appraisals were preferred. This, it has been argued, put the railway at a disadvantage for financial appraisals only take into account higher revenues and lower costs, but ignore safety improvements, time savings, environmental and social benefits, as well as reduced accident costs. The levels of investment into the rail and road networks arguably suffered from distortion, a claim rejected by DoT but according to a House of Commons Report, `the Department should publish the information necessary to prove its claims that no distortion arises from the use of different investment appraisal methods for road and rail'.[114]

The relative success of road engineers in establishing themselves as a driving force in transport policy was an exceptional development in the British system for, as the next section demonstrates, engineers on the whole had little input into policy-making. It must be stressed however that even though road proposals were more successful than rail projects, the overall picture was still one of under-investment in the road system, in comparison with other European countries.

(3) The engineering `condition' in Britain

British engineers were trained in a variety of institutions, mainly universities and the former polytechnics. Their studies lasted for three to four years after the `A' level examinations, which made them somewhat shorter than those of French engineers.[115] The title of `engineer' was not protected.

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[112] Witness the aggregate value of tax subsidies to company car owners: `about £2,000 a year or roughly twice the amount of government support for the passenger railway', according to Bagwell (1984, p. 5).

[113] Ward, Samways and Benton, `Environmental Politics and Policy', in P Dunleavy *et al*, *Developments in British Politics 3* (Basingstoke: Macmillan, 1990): p. 234.

[114] HC 383-I , p. lvi.

[115] See Sir William Barlow and Peter Hector, `Engineering Education in Europe', *European Infrastructure Development* (London: Sterling Publications International Ltd, 1991): table 1., p. 24. Degree courses leading to the *ingénieur diplômé* title last 5 years.

The engineering profession in Britain has always been self-regulated:[116] `a *laissez-faire* approach has largely operated' in the relationship between state and engineering in Britain, both with respect to educational provision and professional regulation, even though it has been estimated that about 40% of Chartered Engineers work in the public sector.[117] The former Lord Chancellor claimed that professions (including engineering) should have `independence of professional integrity and freedom from political interference ... to nationalise the professions and place them under statutory control of the Executive is a threat to the liberties of a free society.'[118]

The distinguishing feature of the British engineering profession since the beginning of the century has been its low morale; the high status formerly enjoyed by engineers in the nineteenth century vanished; dissatisfaction with the status of engineers could already be found in some professional journals in 1919 and by the end of the twentieth century there was `a widespread belief within the profession that it has low social status.'[119] In fact there is a considerable literature on the fact that `Measured in status terms, British engineering does not, as an occupation, rank very highly, even though some individual engineers do'; this phenomenon has often been connected to a more general anxiety about the weakness of British manufacturing, and as such has given rise to a very large number of official inquiries.[120]

The widely accepted explanation was that `Britain has an anti-engineering ethos, particularly in the public schools, which has been traced to well before the 1890s.'[121] Another, complementary explanation was that engineering was the poor relative of science. In 1974 the Hudson Report noted that pure science was taught in the great universities but technology and engineering were consigned to schools of inferior social status.[122] Perhaps as a result of this, educational qualifications required to enter an engineering course were often relatively low: an

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[116] See Grant Jordan, *Engineers and Professional Self-Regulation: from the Finniston Committee to the Engineering Council* (Oxford: Clarendon Press, 1992).

[117] Glover and Kelly (1987), pp. 86 and 99. Figure from Council of Engineering Institutions quoted p. 171.

[118] Lord Hailsham, `Reflections from a former Lord Chancellor', *The House Magazine* (19/06/1989).

[119] Jordan (1992), pp. 48 and 43.

[120] Glover and Kelly (1987), pp. 24; see the exhaustive, impressively long list of inquiries (p. 49) carried out between 1852 and today (with a particularly large number in the late 1970s-early 1980s period), which testify to an apparent inability to remedy the situation.

[121] Jordan (1992), pp. 43-44. See Martin Wiener, *The English Culture and the Decline of the Industrial Spirit 1850-1980* (Harmondsworth: Penguin, 1985) and Corelli Barnett, *The Audit of War* (London: Macmillan, 1986).

[122] Hudson (Institute) Report, *The U.K. in 1980* (London: Associated Business Programmes Ltd, 1974). Glover and Kelly note that some studies have shown the tendency of engineers to come from humbler social backgrounds than other university students (1987, p. 80).

interdepartmental report in 1977 was concerned with the poor quality of engineering students.[123] It has also been noted that `Britain produced far more science graduates relative to engineers than was the case in other industrial countries where engineering courses also attracted more of the most able students.'[124] Science appeals to the seeker after truth and `In a country like Britain ... the disinterested pursuit of knowledge for its own sake has been given more prestige than production for practical and commercial reasons'; also the British had been `singularly good at natural scientific discovery ... compared with other countries'; as a result - and as a means to enhance their status - engineers had been tempted to position their discipline as close to science as possible in educational establishments and the content of courses was markedly more science-based than in other countries.[125]

The relationship between science and engineering as perceived in Britain, according to Glover and Kelly, rested on a fundamental misunderstanding of the nature of engineering. There had been a popular and widespread belief for at least one century that engineering was part of science, with `a derivative, subordinate status' and that `engineering increasingly consists, as it becomes more difficult, of the use of scientific knowledge and the application of scientific principles'; but engineering used `technical knowledge of many types concerning markets, money and people as well as hardware'; this fact was well understood on the Continent, where engineering professions in the British sense scarsely existed; as a result of this misconception, engineering degrees `tended until the late 1970s to become increasingly theoretical and academically specialized rather than practical, and concerned with research and development rather than production and the commercial and financial functions in manufacturing'.[126] Another instance of this confusion was that engineer civil servants were part of the `scientific' branch of the Civil Service; and technical ministries employed `Chief Scientists' and `scientific advisers'.

The degree of specialisation of engineering courses was higher than in France.[127] Given the marked preference for `generalists' over `specialists' within the Civil Service, it is hardly surprising that the status of engineers was harmed by the perception that they were `only' `technical specialists, at best a breed of trusted super-technicians, not potential top job holders ... they are less likely to be promoted into senior posts than, say accountants or Oxford history graduates turned marketing specialists'.[128]

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[123] Department of Industry, *Industry, Education and Management* (August 1977).

[124] Glover and Kelly (1987), p. 25.

[125] Ibid., pp. 96, 233.

[126] Ibid., pp. 95-96, 103, 230.

[127] Derek Jones, `La formation des ingénieurs en Grande-Bretagne', *Engineering Education in Europe* (SEFI).

[128] Glover and Kelly (1987), p. 28.

Lastly, the profession was highly fragmented, with sharp divisions between chartered / non-chartered bodies (the latter tending to be incorporated as companies under the Companies Act), and within those bodies themselves.[129]

As a result of all the above, engineers and engineering concerns have not been influential in shaping the policy agenda in Britain. Lord Hinton (himself a distinguished engineer) pointed out in 1970 that the number of MPs who were engineers did not reach into double figures and that the Civil Service's Administrative Class hardly ever recruited engineering graduates.[130] Even within a public undertaking such as BR there prevailed a culture of `learning on the job' and a certain amount of distrust towards graduates and formal qualifications in general. Many senior railway people had joined at sixteen on apprenticeships and been promoted internally; at the same time, the recruitment of graduates was not easy. As a result there co-existed two `camps' within management, even at Board level.

Conclusion

Railway engineers and transport officials did not share the same educational backgrounds. Administrators lacked technical grounding and engineers had little knowledge of economics or management. BR managers were treated by the (generalist) civil service as mere technicians; their opinions accordingly tended to be overlooked. Engineers and officials, who had been trained at different establishments, lived and worked in isolation from each other. So if we now return to the more tangible aspects of the central government - railway relationship, it is not surprising to find that the alternation of power between the Labour and Conservative parties, and the strict policy of decreasing state support for the railway since 1976 have had a devastating effect on BR because the railway establishment was unable to resist the imposition of policies which it disliked. The balance of power was tilted in favour of central government.

[129] Jordan (1992), p. 68. For details, see The Engineering Council, *The 1983 Survey of Professional Engineers: A Survey of Chartered and Technician Engineers* (1983).

[130] Lord Hinton, *Engineers and Engineering* (Oxford: OUP, 1970).

2. RELATIONS BETWEEN THE STATE AND THE RAILWAYS IN FRANCE

When the railways began to be developed in France, it was under the aegis of unregulated private companies. But the State, `considering that the search for profit by rail transport companies, which through want of strict control might so naturally have become systematic and been an obstacle to the achievement of its social or economic goals ... always refrained from allowing companies to create lines in total freedom, to choose their alignments ... and to set the most profitable fares.'[1] As early as 1833 (Montrond-Montbrison Charter) the Government decided that this new mode of transport was too important to be left entirely to private initiative: the `principle of the concession of an inalienable element of the public domain' was established.[2] And in 1838, when the first project for a railway network was the object of a Parliamentary Bill, it was argued by Inspector Legrand that `Main railway lines ... are the great reins of government, the State ought to be able to retain them in its hands'.[3] The great debate of the late 1830s over whether the nascent railways should be public or private was settled by a compromise. Although dominant thinking favoured public rail construction and operation, this was fiscally impossible and it was thought that the involvement of private companies would not be detrimental as long as they were strictly controlled. Thus numerous forms of control over the railway were established from the outset and lasted well into the twentieth century: e.g. the State kept a firm hold through the Ministry of Public Works, staffed by State engineers, and through the concept of public service concession (a form of franchising), `a process whereby a public person, called conceding authority, puts into the care of an individual or of a legal entity called concessionary, the management of a public service under the control of the conceding authority, in exchange for revenue which most often consists in the charges collected by the concessionary from service users.'[4]

A. Legal and institutional relationship

There were numerous calls for nationalising the railways throughout the second half of the nineteenth century and the beginning of the twentieth but the condition of public finances still made it impossible. Finally, the Radical government nationalised the 5 private railway companies and the 2 public ones in 1937. The decision to set up the *Société nationale de chemins de fer*

[1] René Parès, *Le chemin de fer en France*, Notes et Etudes Documentaires, No 4121-4122 (Paris: la Documentation française, 28 Oct. 1974), p. 9.

[2] Michel Godineau (SNCF engineer), `Régulateur et opérateur dans le service public SNCF', in Bauby et Boual, *Pour une citoyenneté européenne: quels services publics?* (Paris: Editions de l'Atelier/Editions Ouvrières, 1994), p. 152.

[3] Quoted in Armand Audiganne, *Les chemins de fer aujourd'hui et dans cent ans*, Vol. I (Paris: Capelle-Librairie, 1858), p. 461.

[4] Vedel, quoted in Jourdan (Jan.-Feb. 1987): p. 104n.

(SNCF) was taken by decree; the new undertaking was to be a *société d'économie mixte*, with the State as majority shareholder (51%) and the remaining 49% being held by the private companies; the franchise ran for 45 years, and in 1983 the assets were returned to the State.

(1) Forms and actors of State control

State control during the period covered by our case studies could be carried out in two main ways: statutory and contractual. Statutory control involved Acts, decrees, rules, circulars, approvals, whilst contractual control relied on covenants and contracts, in particular franchises; a favourite instrument of control was the *cahier des charges*, which brought together statutory and contractual elements.[5] SNCF's duties were inscribed in the *cahier des charges* drawn up in 1937.

(a) Politico-administrative control

Politico-administrative control was mainly exercised by the Ministry of Transport (MdT), with SCF (Railways Division, itself part of DTT, Directorate of Land Transport) in charge of all SNCF matters. At the general policy level, DTT contributed to the formulation of railway transport policy and regulated competition between different transport modes.

The legal status of SNCF was determined by government, first in 1937 with nationalisation, then in 1983 when the franchise expired and a new status had to be agreed: the railways became an *Etablissement Public Industriel et Commercial* (EPIC, or `industrial and commercial' firm), a designation used for public sector undertakings that carry out activities more alike those of private firms as regards their object, the source of their revenues and their mode of operation.[6]

The head of SNCF was bicephalous: President and Director General; whilst the post of President was filled from State ranks, the Director General was always recruited from within the railway. The President was appointed by a decree taken by the Council of Ministers, on the basis of a proposal by the railway board, itself mainly appointed by government decree. The Board underwent changes in its composition with the 30 December 1982 Transport Act, but in the period covered by the case studies, it was made up of 10 State representatives (including the President and Vice-President), 3 representatives of the private shareholders, and 5 staff representatives; the CGT trade union was well represented.[7]

The President was chosen amongst the State representatives and could in principle be dismissed at any time by the government, though in practice there is no precedent. Because the

[5] Claude Martinand, `Les réseaux et le service public', *Metropolis*, No 73/74 (Paris: 1986): p. 91.

[6] When the concession expired at the end of 1982, shares held privately were transferred into State ownership and the railway became a public corporation with the State as sole shareholder.

[7] E.g. in the elections to the SNCF Board of 17 February 1983, 49.1% of the vote went to CGT candidates (close to the Communist Party), 25.4% to the CFDT, 14.2% to FO, with the two remaining unions achieving low scores (under 8%).

appointments of presidents of public enterprises constituted `the most important prerogative of the sponsoring authority, the one that leaves the deepest mark on the great strategic choices of the interested enterprises',[8] they were informed by a two-fold concern: the person chosen must be a widely respected `personality', untainted by strong political prejudices, which is why a former President such as André Ségalat (1959-1975), described by those who knew him as a man of the Left, was a long-standing head of the railways, serving mostly under governments of the Right. André Chadeau, appointed in 1981, had served as Prefect and as *Directeur de cabinet* to right-wing Prime Minister Chaban-Delmas; he was re-appointed and served until 1985 under Socialist governments. Fourcade, a former right-wing Minister of Transport, acknowledged that political motives had not been conspicuous: `The appointment of leaders of public enterprises was directed more towards competent men than party political men.'[9] Appointees must also have the necessary contacts within governing circles that would enable them to be effective; Ségalat had held one of the highest public offices in France as *Secrétaire général du gouvernement* from 1946 to 1958; a career path shared by former SNCF President Jacques Fournier, who occupied the same function between 1982 and 1986; both had served as members of the *Conseil d'Etat*.

All important decisions required the Board's preliminary approval, but Mény's analysis of EPICs' boards as `purely and simply a mere extension of the administration, which endows itself with managerial instruments similar to those of private enterprises', also applied to SNCF; indeed the State kept `a majority of the seats, which allows it to channel pressures, to take advantage of the experience of the interested professionals, while benefiting from an automatic majority.'[10]

Close links between central administration and SNCF were ensured through the presence of State personnel on the Board: e.g. the head of the Land Transport Directorate was automatically appointed as Government Commissioner. A very senior official from MdT, he acted as a permanent link between management and minister, attending Board meetings, playing a consultative role, and informing the Minister of the firm's activities, as well as informing the Board of the Minister's opinions. The Commissioner could put items on the agenda, and overturn a majority decision of the Board, but this never happened in practice because difficult issues were ironed out prior to Board meetings.

The Ministry of Finance (hereafter Finance) was well-represented on the Board: the heads of the two Finance directorates (Budget and Treasury) were automatically Board members as administrators; a State auditor was appointed by the ministers of Industry and Finance. Moreover the *Chef de la mission de contrôle économique et financier des transports* reported directly to the Economy and Budget Minister(s), by `formulating a written opinion on all proposals put before the

[8] Haut Conseil du Secteur Public, *Rapport 1988* (Paris: 1988), p. 113.

[9] Quoted in: M Durupty, *Les Entreprises publiques*, 2 (Paris: PUF, 1986), p. 141.

[10] In Yves Mény (ed.), *Idéologies, partis politiques et groupes sociaux* (Paris: Presses de la FNSP, 1989), p. 362.

Board relating to the operating budget, the investment budget and the accounts of the fiscal year.'[11] This Mission also took part in the control of SNCF's accounting activity on a day-to-day basis; its offices were situated within the SNCF compound and it could request any relevant information as it saw fit, which made it a rather fearsome agency in the eyes of railway management.

(b) Parliamentary control

Two types of procedure - respectively for permanent and temporary control - were available to the French Parliament: permanent control was achieved through the work of *rapporteurs* from the Finance commissions in both assemblies, and through budgetary debates, during which all standard parliamentary procedures could be used. Reports from the Senate Finance Commissions in the 1970s and 1980s were very critical of government and public firm policies at times; in this way they played - if nothing else - a useful informative role. Temporary control consisted in setting up Commissions of enquiry and control, information missions or special commissions dealing with specific legislative proposals. The Commissions of enquiry however could only operate for a maximum length of six months, and rules of confidentiality meant that the reports they produced were not always published. As in many other policy matters, the Fifth Republic's Parliament had little say and wielded little power.

(c) Technical control

Technical control of the railways by State engineers has a long history in France. In the era of railroad-building, they scrutinised the technical particulars of the (private) companies' plans, in order to make sure that the lines would not be poorly built, and because of concern over safety issues, took an increasing stake in the drafting of technical specifications.[12] This practice continued, with MdT's Technical Safety Division, who had to approve SNCF plans for technical changes.

However, railway accidents - when they occurred - did not for a very long time give rise to public inquiries as in Britain. An internal railway inquiry was all that was required since the matter was viewed as a technical one. When it was first suggested by a Transport official that a railway accident should be publicly investigated, SNCF reacted very strongly.

(2) The formal relationship

(a) *Tutelle*

The British view of the French State - public sector relationship was that `concertation tends to be the desired and achieved objective'.[13] The French term *tutelle* only loosely corresponded

[11] Parès (1974), p. 12.

[12] Dobbin (1994), p. 107.

[13] NEDO (1976), p. 40.

to the term 'sponsorship'. It consisted in `all the administrative services in charge of supervising, one way or another, the activities of public firms, which implies functions of information, coordination, authorisation, or more rarely, of decision-making.'[14] The term had a connotation of permanent assistance, and of hierarchical control of the State over the public sector (in common usage, *tutelle* means guardianship, e.g. of a child by an adult). One would therefore assume that the doctrine behind State intervention that the term encapsulated was that State expertise was superior to that found in (public or private) industry.

What made *tutelle* necessary in the eyes of French politico-administrative elites? Three justifications were generally given. Firstly, `the State alone is able to truly fulfil the function of collective very long-term forecasting.'[15] Such forecasting was a need that all public firms acknowledged. Secondly, continuity for large-scale projects could only be guaranteed by the State. Lastly, the State was deemed to represent the `general interest'. Thus State `guardianship' was expected although the detailed control which it entailed until the 1970s was disliked by railway management.

(b) The contractual model

For a long time, the State - SNCF relationship was conducted at close quarters and senior railway managers complained of not being able to do anything without prior approval. Even some State officials, joining the Transport administration in the early 1960s, were shocked by the amount of involvement of Mdt and put forward proposals for reform. Yet at the same time, the undertaking was viewed by many decision-makers as `untouchable', or as a `great lady'; as late as 1993, an official report stressed the need for SNCF `before anything else to come out of the "splendid isolation" that for too long they have embraced".'[16] Perhaps this indicates that the control mechanisms described above were indeed numerous and fastidious, but that when it came to matters of strategy, SNCF had the necessary clout to get its proposals approved.

The relationship was reformed in 1970, following long and extensive discussions and proposals made by SNCF in 1966 found their way into the new relationship.[17] Within the new framework, SNCF was an autonomous undertaking and the practice of concluding a pluri-annual contract with the State was introduced. The Reform of SNCF came in the wake of the Nora Report on public industries of 1967 and was its first (and most successful) application. SNCF signed its

[14] HCSP (1988), p. 111.

[15] Ibid.

[16] Commission d'enquête du Sénat (chaired by Hubert Haenel), *Rapport sur l'évolution financière de la SNCF* (Paris: June 1993).

[17] C. Monbrun-Gutteriez, `Service public et rentabilité: La réforme de 1969', in Centre universitaire de recherches administratives et politiques de Picardie, Faculté de droit et des sciences économiques de Reims, *Variations autour de l'idéologie de l'intérêt général*, Vol. 1 (Paris: P.U.F., 1978), p. 223.

first `Programme contract' on 27 January 1971. The oil shock negated the advantages of detailed contracts and they fell into disuse in the mid-70s, before being revived with the La Genière Report in 1977, under a different name (La Génière was the head of the Budget Directorate, Finance). SNCF signed an `enterprise contract' with the State for 1979-1982, which gave it `greater financial autonomy and guaranteed investment levels'.[18] This contract committed the company to a number of management indicators in return. It had taken three years for SNCF and the State to negotiate it.

But these contracts were developed solely on the basis of government directives. A further step in the formalization process was taken under the Socialist administration, with the introduction of `planning contracts', which have a legislative foundation. An interministerial committee staffed by the Planning Commission would ensure the compatibility of contracts and national plans. SNCF signed its first *Contrat de Plan* (1985-1989) in April 1985; it included a definition of planned levels of investment.

Contract procedures emerged on the one hand, in response to the realisation that public firms were stifled by State controls that were both too numerous and fragmented, ill-adapted to industrial competition, and made solely on an annual basis. On the other hand, contracts were seen by the State as a way to curb spending on railways deemed to have reached excessive levels: indeed the first one was entitled `Programme contract for the restoration of financial balance'. Contracts meant that financial and budgetary relations could be established on a firm pluri-annual basis. They were designed as the instrument that would enable the passage from one mode of State intervention to another, from a situation in which controlling powers were emphasised, to a situation of corporate autonomy in the public sector; the Prime Minister declared that `Planning contracts will be a discipline at least as much for the State as for the firm'.[19]

In a nutshell, hierarchical relations were to give way to a more collaborative approach, in which both partners would agree on a set of objectives and the means to attain them. Paradoxically, this move took place shortly before the status of SNCF shifted from semi-public company to wholly State-owned enterprise.[20]

(c) Policy coordination and planning

The French approach to rail transport policy may be characterised as medium-term,

[18] *Contrat de Plan Etat-SNCF 1990-1994*, p. 3.

[19] And also: the firm's `freedom of movement will be absolute and total within the contractual framework which it will have established with the State.' (Pierre Mauroy, *Débats parlementaires*, Assemblée nationale, Sessions 1981/1982, séances du 13-10-81, No 41 (CR) (Paris: J.O.), 1715-1719.)

[20] An official report warns us that the term `contract' must not be taken too literally: `although the term "contract" is used, the *contrat de plan* essentially defines objectives rather than commitments ... Not accompanied by "sanctions", their impact has been very limited' (HCSP, *Rapport 1986*, p. 43). They have however provided a setting for meaningful contact between officials and railway managers, as well as an agreed framework for action.

planning, and integrative: it has traditionally involved the extensive use of State powers, at first simply through the corps of State engineers, later through the National Planning Commission, interministerial committees accountable to the Prime Minister, and national transport consultative bodies such as the *Conseil supérieur des transports*. The first National Plan listed rail transport as a priority area. The second Plan (1954-1957), `oriented towards the search for the most economic way of operating at the cost of modernising investments chosen for their profitability' led to the electrification of main trunk lines and the replacement of steam by diesel engines on secondary lines, the general aim being to reduce operating costs.[21] Among the third Plan's objectives (1957-1961) were better use of energy resources and productivity increases, which favoured even faster electrification of the railway. The fourth Plan (1961-1965) continued the policy of traction modernisation, viewed as the major plank of railway transformation. But by the beginning of our case studies, the large railway modernising programmes had been completed; the fifth Plan (1966-1970) launched a drive to modernise rolling-stock, ending 15 years of investment into infrastructure.

Planning of national transport policy was meant to be done on a cross-modal basis, being based on the perceived complementarity of different means of transport, the belief that no one mode should be allowed to dominate the others and the conviction that the railway system could not be dealt with in isolation from other transport systems.[22] The preference for coordination over competition was well-entrenched: markets could not be left to themselves. The decree first instituting transport coordination (19 April 1934) ushered in an era of preferential treatment of the railways: `It was the concern to protect the railway companies, later SNCF, which led as early as 1934 to the formulation of regulation regarding other modes of transport'.[23] Again with the Act of 5 July 1949, coordinating rules were set up with the avowed aim of containing the growth of road transport, deemed to be damaging to railway development.[24] Similarly, coach transport was little developed in France, owing to State regulation.

The Transport Upper Council (*Conseil supérieur des transports*), an advisory body attached to the Ministry of Transport, dealt with general transport policy and with national transport coordination. At the local level, the *Comité technique départemental des transports* was consulted on local transport plans which statutorily involved rail and road services.

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[21] Parès (1974), p. 21.

[22] This was already true in the early railway era, when State engineers pursued specific `strategies for influencing the route decisions of private entrepreneurs to guarantee that the rail network would be well integrated with water transportation' (Dobbin, 1994, p. 106).

[23] Emile Quinet (ed.) *Les transports en France*, Notes et Etudes Documentaires Nos 4684-86 (Paris: La Documentation Française, 1982), p. 211.

[24] Patrick Niérat, `Concurrence rail-route: les limites du réseau ferroviaire', *Recherche - Transports - Sécurité*, No 18-19 (Paris: INRETS, Sept. 1988): p. 63.

In practice, coordination foundered against the complexity of the task and calls for better coordination of the competing modes continue to be made today. Cross-modal policy remains an ideal which is seldom reached, owing to the disparate interests that come into play. All the same, the fact that is has been such a resilient concern is of great significance: in the French referential framework, consumer satisfaction ranked higher than consumer choice. It was considered that choice could only exist if services of equivalent standards were offered to all. Consumer satisfaction was to be achieved through the coordination of some means of transport, and competition between some others, whichever was the more efficient.[25]

Conclusion

The French control machinery was highly fragmented and rather complex. But in fact, not all of the available controls were continuously used, and the justifications for their use were sufficiently internalised by practitioners both within the Administration and the railway to be acceptable. Moreover, controls were only one part of the relationship, the other part being concertation over matters of importance to SNCF. There was sufficiently give-and-take on both sides for relations to be fairly harmonious and with a generally low political profile.

SNCF managerial autonomy became more entrenched through the use of contracts from 1970, which bound both the State and the railway. The Inland Transport Act (LOTI, 1982) attempted to refine the framework of transport policy: it considered the transport system as a whole, asserted the notion of a `right to transport' and re-defined the evaluation process. In this Act passed by the Socialist Government, as in previous legislation and practices, the aims of comprehensiveness, integrated decision-making and long-term planning were clearly stated.

B. FINANCIAL RELATIONSHIP

State involvement in railway matters had begun at a very early stage in matters of finance. It was assumed that the State should not give too much power to private parties in this key sector of the economy, but since at the time public funds were not readily available,[26] a system of *de facto* mixed public / private financing took shape `in a pragmatic fashion, the State financially contributing to the construction of the infrastructure of certain lines and granting, at the same time, concessions to Companies, all this whilst liberalism was in full swing.'[27] With nationalisation, even closer financial involvement was inevitable.

French State aid to industry was concentrated on a few major sectors, transport being the second major beneficiary, and SNCF received over 60% of all aid to the transport sector.[28] The

[25] HCSP (1988), p. 84.

[26] Dobbin (1994), p. 104.

[27] Godineau (1994): p. 152. The mixed system was enshrined in the 11 June 1842 Act.

[28] Source: J C Dutailly, `Les aides aux entreprises', *Economie & Statistique*, No. 169 (Paris: Sept.

amount of public money allocated to SNCF was criticised as being excessive throughout the postwar period: in the 1950s, `A sally by politician Antoine Pinay was a fair reflection of this feeling: "SNCF is worshipful of minutes and contemptuous of billions" - and whilst he was Transport Minister he told Armand one day: "I grant you the funds you request but do not conclude that I believe in the future of the railway. The car will take its place".'[29] Financial arrangements were then fragmented and unclear in the extreme. The outcome of disaffection with rail spending was the 1969 Reform, which sought both to decrease spending and clarify financial arrangements; the then Transport Minister, Raymond Mondon, declared that `The prime objective of the reform is to restrict SNCF services solely to its profitable activities by allowing it to operate freely and on a par with its competitors on a veritable transport market, this under the sole constraint of balanced financial management.'[30]

This drive to curb railway expenditure was not part of a drive to reduce public spending *per se*; rather it was part of re-directing public funds away from the public sector and towards private firms, at a time when the private sector was a political priority. By the mid-1970s, although complaints about the railway's propensity to `devour' public funds were still being heard, the first Contract's objective (breaking even by 1st January 1974) had been abandoned and a balanced account was merely presented as `a desirable and sensible aim'.[31] Growing aid granted to SNCF after 1975 revived criticism: in 1979, the Court of Accounts warned that `There is ... a need for putting an end to the growth, which tends to become inordinate, of the contributions and compensations paid to the railway by the State and the public authorities'.[32]

The second part of the preceding section dealt with the Treasury's *de facto* sponsorship of BR. A similar situation obtained in France, where the Ministry of Finance is sometimes known as the `*super-tutelle*'. Finance exercised financial control through a central control structure which comprised its two Directorates: `Budget' (with at its head `the most powerful civil servant in France, the Director of Budget')[33] and `Treasury and Prices'; and through the Economic and Social Development Fund, FDES (*Fonds de développement économique et social*, a division of the Treasury Directorate) which amongst other things, co-ordinated technical and financial supervision.[34]

1984).

[29] Association des amis de Louis Armand, *Louis Armand: 40 ans au service des hommes* (Paris: Lavauzelle, 1986), p. 59. Armand was a leading SNCF figure who became President of the SNCF Board.

[30] *Le Monde* (18/07/1969).

[31] Statement from the Transport Minister, *Le Monde* (15/09/1976).

[32] Cour des Comptes, *Rapport au Président de la République*... (Paris: J.O., 1979), p. 50.

[33] Dupuy and Thoenig (1983), p. 132.

[34] FDES is an interministerial agency chaired by the Minister of Finance, and made up of senior

(1) Instruments

The means to aid industry fall into two broad categories: budgetary activities and off-budget activities such as tax expenditures, loan guarantees, government loans, often used in order to circumvent budgetary controls. The latter were largely used in France.

Before the 1969 Reform, which marked a turning-point in railway finances, the operating account of SNCF received several types of direct grant. The 1937 Covenant (Article 25) provided that at the end of every financial year, if expenditure had exceeded receipts, the State would make up the operating losses incurred by SNCF for that year, regardless of their origin or amount. The Reform of 1969 put an end to this `blank cheque' policy, introducing the payment of an amount fixed at the beginning of each year, that could not subsequently be made to match the size of the deficit, with a view to gradually attaining the financial break-even point by 1974. The Reform acknowledged two long-standing grievances of railway management (namely that they had to bear infrastructure costs which other transport operators did not, and had to provide unprofitable services even if they did not wish to), which had led to repeated calls for the `equalisation of competitive conditions' and the `normalisation of accounts': it instituted the compulsory and exact payment of compensation for services imposed by the State which ran contrary to commercial interest, and introduced a measure designed to `equalise' competitive conditions between road and rail. The claim that motorway operators did not have to pay for a number of costs which the railway had to shoulder and that this distorted competition was validated. The Reform aimed at putting the railway on a more equal footing with other transport modes so that a genuinely competitive transport market could operate.

As regards debts, until 1971 they were relatively small because annual deficits were covered by the State. From 1972 onwards, SNCF was responsible for balancing its own accounts, which was not always achieved. And SNCF seldom benefited from its debts being written off,[35] unlike BR, which resulted in interest payments burdening the books of the enterprise. SNCF's continuously increasing debt burden has become a pressing issue; in 1993 for instance, the undertaking owed over FF150 billion; debt servicing the previous year had cost FF11 billion on its own.[36]

(2) Prevailing factors of decision

Prior approval by the sponsoring ministry was required for all decisions with financial implications for the State Budget. Approval might be based on financial, economic, and/or non-economic factors. A good overview of the arguments used to justify transport investment was

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officials and of ministers.

[35] Debts to FDES incurred in 1970 and 1972, of FF500m each, were cancelled in 1973.

[36] Godineau (1994): p. 159.

provided by the Planning Commission's Transport Committee in its 1971-1975 report; members of the Transport Committee were drawn from the transport policy-making community, and were the same figures which we will find again in the TGV/LGV case studies.[37]

(a) Financial factors

Since SNCF accounted for nearly fifty per cent of the total public sector deficit, it is hardly surprising that financial matters should have come to the fore, from the 1960s onwards, and that State funding of the public sector should have been the subject of an official report, the Nora Report (1967). This report was a watershed in the history of the French railways, as SNCF was the first public enterprise to undergo reform, whose aim was to make the enterprise `1) one like any other transport enterprise; 2) an enterprise that works well, that is at the lowest cost.'[38]

The setting of commercial and financial objectives is a State prerogative which was used increasingly after the Reform, but objectives were generally not imposed on SNCF; rather contracts were introduced as a means to establish clear, agreed guidelines and objectives, and were the outcome of lengthy negotiations between the Board, MdT and Finance. The new obligation to break even (from 1971) had for counterpart the granting of corporate autonomy in the 1974 Addendum (Art. 18). The *contrat d'entreprise* signed in 1979 also aimed at improving the company's financial situation. In 1984, the break-even point originally planned for 1974 was finally reached. SNCF today is still not required to make a profit, but to break even.

In the new, more commercial environment, keeping open rural lines which were little used was increasingly difficult to justify in financial terms and in the wake of the Nora Report, a programme of secondary line closures was launched. The Transport Minister had been empowered by the Decree of 14 November 1949 to set up or cancel services, and the Reform enabled the railway to take measures justified by its commercial interest, such as closing down unprofitable services. The programme, launched in 1970, had to be halted in 1974 however, owing to local political pressure.

The Planning Commission specified three main functions in the transport sector, beginning with the `internal economic' one, which concerned the competitiveness of the undertaking.[39] In order to maximise `internal return rates' (TRI), it was argued that the railway ought to operate on a `level-playing field', or in the hallowed phrase that `"equality of treatment" of economic agents in the market economy' be enforced by the public authorities.[40] The whole thrust of transport research

[37] E.g.: G Dreyfus, P Lacarrière, B Félix, M Frybourg, P Josse, H Lefort, C Malaurie, P Protat; contributors included R Coquand, P Le Vert, M Walrave.

[38] *Le Monde* (22-23/09/1968).

[39] Commissariat général du Plan, Commission des transports, *Rapports des comités du VIe plan, 1971-1975: Transports intérieurs*, Tome I (Paris: la Documentation française, 1971), p. 30.

[40] CGP (1971), p. 36.

and of government policy (and - incidentally - of SNCF demands) was `to create in our country a genuine freight and passenger internal transport market ... in order to place the various modes of transport in a situation of healthy competition, it is urgent and imperative to make each of them bear a fair share of the costs to the community to which they give rise.'[41] This meant that working conditions in rail, road, etc. ought to be harmonised, for instance as regards the length of the working week, where large discrepancies existed.[42] Overall, the aim was `to eliminate distortions to competition'[43] through State action.

(b) Macro-economic factors

The second function of the transport sector, according to the Planning Commission, was `economic development' within the framework of *aménagement du territoire* (regional planning and development), that is to say `the anticipatory role of public authorities, with a view to structuring the territory, ensuring desirable continuities, promoting innovation, encouraging ... desired industrial take-off.'[44] Transport issues had traditionally been viewed as strategic and national issues (one can go as far back as Louis XIV's proactive policy towards canals and turnpikes). As a result, SNCF was often used as an instrument of national economic policy. The perception that efficient rail links stimulate local industry and regional economic development was widespread within the Administration; *désenclavement*, or improving access to remote (usually mountainous) areas, was a theme often found in the transport policy debate and a well-established factor of decision. The association of nation-building with the railways had appeared early in the nineteenth century and justified State involvement in financing the network. One State engineer argued in the early 1830s that `The importance of the railways is uncontestable ... The unity of France, which foreigners admire and which gives us our strength, will be fortified'[45]; a feeling echoed a decade later by a parliamentarian: `Brought together in military camps, in schools, under the same masters and under the same flag, the French of the North will become those of the South - everything that can strengthen national unity should have the highest priority.'[46] More recently, the argument was used to justify the modernisation of services: `The organisation of frequent and fast rail services between urban centres situated at a medium distance from each other can contribute to

[41] Ibid., p. 151.

[42] Ibid., p. 42.

[43] Ibid., p. 152.

[44] Ibid., p. 30.

[45] Bérigny (General Inspector of *Ponts & Chaussées*), quoted in Richard de Kaufmann, *La politique française en matière de chemins de fer* (Paris: Librairie Polytechnique, 1900), p. 5.

[46] Dufaure (Chair of Railway Committee in 1837), quoted in Alfred Picard, *Les chemins de fer français*, Vol. I (Paris: Ministère des Travaux Publics, 1887), p. 123.

giving a new face - perhaps a more harmonious one - to the growth of very large urban centres.'[47]

Also railway equipment was seen as an extremely valuable source of export earnings and its manufacture was considered strategically important for the national economy,[48] especially in the face of stiff German competition.

(c) Social factors

The third function of the transport sector, according to the Planning Commission, was `social development', which included accessibility and `the protection of the living conditions and environment of all the populations'.[49]

The French State imposed social transfers between users, consisting of favourable rates that applied to specific categories of users, such as families with three children and more, military personnel, students, apprentices etc. These transfers, if they ran contrary to the undertaking's commercial interest, gave rise to financial compensation by the State in the shape of `public service' grants agreed contractually, introduced by the 1969 Reform. The social dimension of the railway was felt to be legitimate, even at a time when financial concerns had come to the fore: the then Transport Minister's Head of *Cabinet* argued that `One cannot indeed exclude certain public service duties.'[50] The second contract, signed on 30 March 1974, recognised the difficulties faced by SNCF in competing with more commercial means of transport and gave it accordingly a greater amount of financial compensation to enable the company to meet its social obligations.

Employment levels and industrial relations concerns could also come into play when financial decisions concerning SNCF were made: the railways had traditionally been a large employer, with moreover powerful unions that could only be ignored at the government's peril. Thus the reduction of the workforce was never achieved through outright redundancies, but was gradual and continuous.

(d) National defence

Railways having strategic military importance, especially in a country with a relatively large landmass and long borders, the defence factor was commonly listed among reasons why the French State had to play a unique role in rail policy. Thus the *Commissariat général aux transports* (which depends from MdT) was generally headed by a State engineer seconded by a General from

[47] Lapautre (2/02/1969), p. 21.

[48] For instance, an official Chinese delegation went to Paris on 14 Jan. 1991, to discuss amongst other things the creation of a joint industrial firm, bringing together GEC-Alsthom and Chinese railway manufacturers, which would specialise in making rolling stock (*Le Monde*, 16/01/1991, p. 25).

[49] CGP (1971), pp. 30, 42.

[50] Lapautre (2/02/1969), p. 10.

the armed forces, and another military presence was ensured through its subdepartment, the *Commissariat aux transport terrestres*, which was also headed by a State engineer and usually seconded by a Colonel. Furthermore, a *Haut fonctionnaire de défense* (Defence high civil servant) unit existed within MdT.

To sum up, a relatively large range of factors were considered by railway policy-makers and unlike in Britain financial factors did not figure exclusively. It was as if the needs for a given policy overrode other, more prosaic considerations: if the case for new investment could be made, then funding solutions would be found.

(3) Raising revenue

SNCF has had two main ways of raising funds for its activities: internal and external, the latter including both public and private sources.

(a) Internal revenue

The main source of internal revenue was self-financing through ticket sales. The government had the power to influence SNCF's commercial policy: the 1937 Covenant established the principle that all users should be charged according to the same criteria, irrespectively of their status, except for those categories allowed by the State to benefit from reduced rates for social reasons. The political principle of equality was given precedence over commercial considerations, therefore for a long time, SNCF was not allowed to offer commercial discounts. After the Reform however, fares were determined by SNCF, who had to submit the proposed charges to the Minister of Transport at least six days before they were due to be implemented. The Minister could `oppose the proposal on two grounds: abuse of dominant position, and non-recovery of marginal costs'[51], or refuse a justified fare increase that ran counter to government economic policy, as happened throughout the 1970s (in 1972, 1974, 1976 and 1977 for instance) when the fight against inflation overrode any other considerations. From 1970 onwards, such delays involved financial compensation from the State for loss of earnings.[52] Therefore the railway enjoyed a form of redress.

Fares were established along rigid principles until 1979: the obligation to treat equally all users meant that fares had to be evened out across the board. Differences in cost due to geographical diversity, temporal factors (such as peak periods) and types of services were ironed out in an effort to achieve `equal treatment': `whatever the line being used - on a plain or in the mountains - whatever the actual cost of transport may be, pricing is the same, the ratio of first to second class is always of 1.5, and everyone knows that wherever they may be, they thus contribute

[51] Quinet (1982), p. 229.

[52] Thus FF180m were paid to SNCF after the government had twice delayed price increases in early 1972. (Commission de vérification des comptes des entreprises publiques, *Treizième rapport d'ensemble*, No 5030, 1973, p. 60.)

to the equalisation of costs.'[53] Only since the State - SNCF Contract for 1979-1981, has the company been able to charge different prices depending on the time of travel. The temporal element in the principle of equality of treatment has thus been dismissed. Expansion of the customer base being an objective for economic reasons (rail transport was treated as a product with increasing returns), SNCF pursued a low fares policy, and encouraged discounts: in 1986, 79% of the passenger traffic took place on a discount basis. But SNCF has not been granted complete pricing freedom: equalisation of fares between regions continues and allows densely populated areas to cross-subsidize rural ones.

The management of subsidiaries provided another source of internal income; the Reform made it easier for SNCF to diversify its activities and allowed the undertaking `to sell at its own benefit land and buildings not needed by the railway'.[54]

(b) External funding: borrowing restrictions

SNCF was able to seek three types of external finance: loans on the private markets; loans from FDES; *subventions d'équipement*. The State underwrote loans from a number of lending agencies and SNCF, like a number of other public undertakings, was able to borrow both in France and abroad on financial markets, subject to approval by FDES. In 1968, the extent of overall public enterprise borrowing was of some concern: it represented `30% of loans issued for the benefit of the productive sector ... This situation is not unrelated to the difficulties experienced by private companies in financing their own plant';[55] that year SNCF borrowed FF460M, rising to FF1 billion in 1969, 1970 and 1971; as regards foreign loans, in 1974 SNCF borrowed $130M, in 1975 160M Florins and $100M.[56] SNCF operations on the capital markets were conducted by its Treasury Directorate, a specialised unit with a very business-like image and well-established in financial circles. Because it was felt that the French State would not let down SNCF, a public undertaking, the railway benefitted from a very good rating on financial markets, and SNCF's Treasury Directorate was able to get favourable terms. The *Comité ministériel d'Orientation des entreprises publiques*, which depended on the Treasury Directorate for its administrative support, arbitrated in cases of disagreement regarding borrowing on financial markets by public firms.[57]

(4) Investment programmes

Investment funds were equally welcome whether it be from private or public sources: in

[53] Parès (1974), p. 50.

[54] Ibid., p. 19.

[55] *Le Monde* (22-23/09/1968): p. 20.

[56] Monbrun-Gutteriez (1978): p. 225.

[57] Durupty, 2 (1986), p. 227.

1975 for instance, 43% of new investment was financed through borrowing, rising to 50% in 1977;[58] and SNCF could receive loans from FDES, whose specialised Transport Committee met twice a year and supervised investment programmes. Both before and after the Reform, SNCF's investment proposals had to be vetted by FDES. The procedure was eased after 1969: from then on, ministerial approval was necessary only for large infrastructure projects above a ceiling set by decree (FF30m in 1974). Large investment decisions involving FDES have been described as `the reserved territory of the Ministry of the Economy, the Ministry of Transport - the regulator in principle - is present, listened to but rarely followed.'[59] One former Budget official described the power configuration as railway and sponsoring ministry on one side, Ministry of Finance on the other.[60]

When the State attempted to disengage itself from public sector funding in the late 1960s, railway investment levels fell (by 11% between 1967 and 1971).[61] Investment by SNCF was again restricted in the early 1980s: it was cut by 20% between 1981-1986, and the electrification programme halved. Then investment levels rocketed, from over sixty billion francs (1985-1989) to over one hundred (1990-1994), but these swings were highly unusual and investment levels were generally not a bone of contention, quite unlike in Britain. Partly this was because SNCF external borrowing was allowed by Finance: it was not included in the national budget (since the railway was not part of the central administration) and the railway therefore enjoyed more financial room for manoeuvre. Also different methods of investment appraisal were used in France.

The approach to appraisal tended to be comprehensive; both direct, financial costs and non-financial ones (economic and social) were considered legitimate. The use of cost-benefit analysis (CBA) was widespread for public sector investment - SNCF was no exception - and was justified in the following terms by Finance: `The economic theory regarding State choices aims at defining the conditions which are necessary in order to maximise the benefits to the community accruing from such choices.'[62]

CBA involved putting a monetary value on all relevant advantages and disadvantages flowing from projects under evaluation, with a view to ranking them as objectively as possible. Taken to its logical conclusion, the approach could be extremely ambitious: `An Act of 9 July 1949 stipulated that one must "use the transport mode that results in the minimum real production cost to the Nation". But it quite refrained - and with good reason - from saying how one would calculate

[58] Cour des Comptes (1979), p. 50.

[59] Godineau (1994): p. 158.

[60] Interview with former Budget official, Finance.

[61] Monbrun-Gutteriez (1978): p. 225.

[62] Ministère de l'Economie et des Finances, *Appréciation de la rentabilité économique des investissements* (Jan. 1968), p. 27.

the cost.'[63] Because such calculations were inherently difficult, a continuing debate on methodology took place within the transport policy world and a great deal of economic research was carried out within the State apparatus.

Conclusion

There was a marked shift both in rhetoric and practice towards a more commercial railway from 1969 but the approach to financial control was pragmatic. There was a definite change in the way SNCF and the State related to each other, in rhetoric most visibly,[64] but also in practice: corporate autonomy increased. Whilst all governments at some point used SNCF as a tool of economic and social policy, they also encouraged the railway to make full use of their freedom of action. Among all the factors listed above, financial ones were very prominent; but, whereas in Britain they came to dominate the whole policy process, in France they were tempered by the continued perceived importance of other factors. Social factors for instance remained salient even under right-wing governments of the 1970s, at a time when they were being diluted in Britain, and not only by Conservatives. Although the powers of Finance were considerable, they should not be over-estimated. Even in the 1970s, when the emphasis was on reducing SNCF's deficit, the railways actually received more State money than before.

Even though a commercial era began in 1970, it was accompanied by a renewed emphasis on public values,[65] and on the fact that the `public service' ethos should be the overarching principle that bound together profitable and loss-making activities into a whole. Indeed, the balance of power was not always tilted in favour of Finance, for there was a counterweight which in the case of the railways, was particularly effective: the integrated nature of the technical, administrative and political elites, which is the subject of the coming section.

C. THE PROFESSIONAL INTERFACE: THE RAILWAY TECHNOCRATS

The professional interface between the State and the railways included civil servants and senior railway officers, the vast majority of whom had a shared educational background.

(1) A remarkably integrated technico-administrative elite

During the period covered by our case studies, personnel mobility between the public and private spheres was far more widespread in France than in Britain, so much so that it has been stated that it is difficult to make `a clear distinction between the French administrative elite and the

[63] Association des amis de Louis Armand (1986), p. 61.

[64] For instance, the settlement reached regarding the SNCF's debt problem, according to SNCF, clarifies its financial relations with the State, and shows the latter's `will to consider [SNCF] as a responsible, non-dependent enterprise' (*Contrat de plan 1990-94*, p. 63).

[65] Witness the advertising campaign by SNCF in the early 1990s, with the slogan: `Progress is only valid if it is shared by all.'

French industrial elite ... The ability of the French administrative elite to move on and *colonise* the highest echelons of society is particular to France.'[66] It stemmed from the high regard in which top servants of the State were held, which in turn was derived from the `innate' prestige of the State in the socio-economic strata from which most high-flying civil servants were recruited.[67] The considerable overlap between the public and private sectors was also due to the prominent place occupied by the engineering profession: `technocrats' were members of various professions and this was particularly true as regards railway engineers. *Ecole nationale d'administration* (ENA) and *Ecole polytechnique* graduates could join the civil service, later move into industry but might also go into politics, and switch from one sphere to the other.[68]

Horizontal movement between different parts of the sector of interest to us was widespread, as a few examples will show: Bernard Félix (X-P&C)[69] worked in Public Works and Transport administration (1966-1973), briefly in the Transport Minister's *cabinet* (1972-1973) before founding the Matra company in 1973. Pierre Bilger (ENA) headed the Transport Unit at Ministry of Finance (mid-1970s), joined Alsthom (rolling stock manufacturers) in 1987 and became President of GEC-Alsthom in 1991. Claude Gressier (X-P&C; ENA) headed the Transport Ministry's DTT (1986-1993) then joined SNCF as Deputy DG (1993-). Michel Fève (X-P&C) was a technical adviser at the Transport Minister's *cabinet* (1968-1971), then headed the Roads Directorate (1971-1983), and joined SNCF in 1983 as Deputy DG. Guillaume Pépy (ENA) was a Councillor of State (1984-1988) who briefly advised the Budget Minister (1988-1989), joined SNCF as head of the President's office (1989-1990) before becoming director of two ministers' *cabinets* (1990-1991, 1991-1993) and returning to SNCF in 1993.

The separation between generalists and specialists was not as marked as in Britain. Specialists had a relatively broad training in fields outside their own; they were provided with a general scientific culture, and were not necessarily practical engineers, although they might have attended an engineering *Grande école* such as *Ecole nationale des ponts et chaussées* (ENPC) or *Ecole des mines*. Generalists trained at ENA also benefitted from a relatively technical training. There was no split between managerial functions and policy-making ones: one civil servant might have all these at different stages of their life.

Many senior civil servants had spent five years in engineering State schools supervised by technical ministries, which enforced strict quotas for new pupils, and had obtained a professional

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[66] Michelle Cini, `The renewal of the French ruling elite', *Politics*, II (2) (1991): p. 11.

[67] Even today, in spite of the cries for `less State' that resounded in the 1980s, serving the State is still considered as noble and prestigious as it was at the beginning of the period under study, in the mid-1960s.

[68] For instance in early 1993, `two hundred former ENA students hold positions in ministerial *cabinets*' while many members of the same ENA cohorts are top civil servants (`L'Etat malade du pantouflage', *Le Monde*, 9/02/1993, p. 29).

[69] `X' stands for former graduates of *Polytechnique*, P&C for those of *Ponts & Chaussées*.

title (*Ingénieur diplômé*), itself under the control of a State structure, the *Commission des titres*, set up in 1934 to protect the title. French engineers had a much higher status than their British counterparts: `In France, engineers occupy the greatest number of top management posts, competing with other specialists, such as economists and business school graduates, for the highest positions in government and industry. Prestige and salary put the French engineer near the top of the social ladder.'[70] They were more likely to be listened to even when they did not work in the public sector. This high status was not at all a new phenomenon. As early as 1862, the Chief Inspector of Public Education felt compelled to exclaim: `I grant you, gentlemen, that engineers are the kings of the modern world', a type of discourse which Dhombres argues `was to be taken up in diverse ways until today.'[71]

Part of the prestige derived from the fact that access to the best engineering schools was extremely difficult: they attracted `a high percentage of the most scientifically-gifted students'.[72] It also stemmed from the fact that technical expertise (in the widest sense) was extremely valued in the French referential framework: `A "grande école" engineering education ... benefits the student ... it benefits industry, by forming managers with sound engineering background, broad knowledge of several technical fields, and expertise in applying technology. And finally it benefits the country as a whole by producing talented leaders who can successfully compete in today's highly complex international arena.'[73] The duration of engineering degree courses was also somewhat longer than in Britain (5 years as opposed to 3-4).[74] The curriculum at the State engineering schools was very broad, increasingly including non-scientific subjects, to the extent that the `Ponts et Chaussées, for example, now trains more engineers for Finance than for Civil Engineering.'[75] Professional engineers were not restricted to narrow, technical career paths, unlike their British colleagues.

The prominence of engineers in the French State apparatus was something which some of the British respondents in the case studies found striking. It made for a`technocratic bias' in public administration.[76] The presence of an integrated elite had a very practical consequence, the existence

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[70] Claude Maury, `Engineering education in France', *Engineering Education in Europe* (SEFI).

[71] Victor Duruy, quoted in Jean Dhombres, `L'image "scientiste" de l'Ecole polytechnique', in Belhoste *et al*, *La formation polytechnicienne, 1794-1994* (Paris: Dunod, 1994a): p. 290.

[72] Maury, op.cit.

[73] Maury, op. cit..

[74] Barlow and Hector (1991): table 1., p. 24.

[75] Maury, op. cit..

[76] Technocracy is a system in which both broadly and highly educated engineers or experts hold technically specialised senior positions and belong to the elite in cultural, social, economic and political terms by virtue of their formal expertise. They play a central and dominant role in economic and political life.

of strong network links: `The governmental authority enjoys ... the support of the most powerful institutions in public management and they provide it with a network of cross-acquaintances, and with a mechanism for cross-organisational co-ordination, thanks to their members everywhere present, speaking the same language, holding similar interests, veritable negotiating diplomats.'[77] As a result, policy-making could take place in a fairly consensual environment. Self-preservation dictated that differences of opinion be ironed out away from the public eye in one of the many fora for discussion that existed (Planning Commission, CGPC etc).

One should not over-emphasise the influence of State `Great Corps' as a whole however, for `In ordinary times, the corps is a polycentric milieu, which is relatively apathetic ... behaves in a conformist way in relation to the political world, and which is careerist but devoid of risk'.[78] Also the existence of a remarkably integrated technico-administrative elite did not mean that all of its members shared exactly the same values and interests. What they did share was an outlook, habits of mind and of practice.

(2) The State *grandes écoles*: `X'

The French State required engineering expertise for military purposes and decided to positively encourage the profession by setting up *Ecole polytechnique* in 1794: `Over the long term, a State chose for its managerial elite science as the means and objective of education. From this explicit choice, it organised a system whereby the School could only be a generalist one and provide theoretical training in science ... this political and cultural choice ... often ... contested, was never overturned.'[79] The teachers recruited tended to be generalists, rather than scientists, perceived as too specialised and therefore narrow in their outlook.[80]

Polytechnique did not seek to turn bright pupils into research scientists. There was a marked preference for `the established forms of knowledge, for definite and certain science ... and a correlating distrust of knowledge in the process of being constituted'.[81] Only in 1937 did a report suggest an introductory course on the experimental method, which would familiarise pupils with empirical procedures, and laboratories only began to be set up within the School between 1937 and 1940.[82] But applied, `useful' research continued to be emphasised, and from the 1930s onwards, there was strong internal disagreement on the research issue, with traditionalists upholding

[77] Dupuy and Thoenig (1983), p. 129.

[78] Ibid., pp. 79, 80.

[79] Dhombres (1994a): p. 285.

[80] Dominique Pestre, `Le renouveau de la recherche à l'Ecole polytechnique', in Belhoste *et al* (1994a): p. 345.

[81] Pestre (1994a): p. 339.

[82] Ibid.: pp. 340 and 342.

encyclopeadism and polyvalence against specialisation, their credo being that `Polytechnique trains engineers, not scientists'.[83]

Even so, X did not produce fully-fledged engineers, partly because of `The policy of the corps, who favour high administration and management functions';[84] the aim of X was `not to train scientists ... but to educate the country's elite', which in practice meant two things: to provide moral and physical training for future leaders, including the inculcation of a `sense of the State', and to give them a broad general and scientific cultural outlook, hence the name `poly-technician'.[85] By the early 1960s `one of the criticisms most commonly levelled at the School by University academics was that it "sterilised" too great a number of young French people gifted for science by diverting them away from fundamental research to the benefit of technique or administration.'[86] The Administration in any case preferred `to have their own, applied research laboratories and [saw] no practical utility in fundamental research.'[87]

This last point is crucial in that it illustrates a salient feature of the French referential framework: science and technique were encouraged (by the State, in schools training State engineers) only insofar as they could be made to serve the State; pure research was a matter for universities. For this very reason, an enduring feature of the polytechnician's outlook has been a strong interest for issues of `flow', be it of air, water, light, people or vehicles, which have inherently very practical applications.[88] Because of the polytechnicians' interest for such issues, they acquired an intellectual appeal and even `glamour'.

The predilection for `practical' technical problems was paralleled by an interest in concrete economic issues. Following the 1929 crash, a group was set up by polytechnicians to reflect on current economic problems, using scientific methods and mathematics, `away from any partisan influence'.[89] By 1933, the group - X-Crise - set up its own organisation, the *Centre polytechnicien d'études économiques*: `What is remarkable in X-Crise is the methodology it instaured in the economic debate: statistical data, but also mathematical models, played a considerable role ... Economic policy became a matter of expertise, concentrated in the hands of technocrats with a

[83] Quoted in Dahan Dalmedico (1994a): p. 317.

[84] Dahan Dalmedico (1994a): p. 332.

[85] Pestre (1994a): p. 339.

[86] Association des amis de Louis Armand (1986), p. 78. In 1954, Armand became a member of the School's Board of Improvement, as representative of SNCF (the other 20 members originated from public organisations recruiting polytechnicians and from the teaching profession).

[87] Pestre (1994a): p. 344.

[88] See Bruno Belhoste, Francine Masson, Antoine Picon, *Le Paris des Polytechniciens: des ingénieurs dans la ville* (Paris: Délégation à l'action artistique, Ville de Paris, 1994).

[89] Armatte (1994a): p. 391.

scientific - polytechnician for the majority of them - background.'[90]

A continous feature of polytechnician education was a belief in the objectivity of technical reason and the ensuing desire to forge rigourous instruments in the very image of mathematical knowledge:[91] instruments that would be equally applied to technical projects in the first instance, and then to public policy in general. State intervention in France thus acquired its peculiarly technical tenor, combining both boldness (based on confidence in one's technical expertise) and attention to detail. Technocratic intervention was perceived by its practitioners to be both rational and neutral, at least until the 1970s. The belief in the superiority of technical reason was constitutive of the belief in progress, itself closely connected to the concept of modernity. These three elements (technical reason, progress, modernity) were the pillars ot the polytechnician culture, which permeated the higher reaches of the Administration.

(3) Transport officials: from *Ponts et chaussées* to *Equipement*

In the railway sector, the presence of engineers from one of the State Corps, namely *Ponts et chaussées* (`Bridges and Roads') both in public bodies and private firms, was inescapable. Engineers trained at *Ecole nationale des ponts et chaussées* (ENPC) were found everywhere in the railway policy-making community: inside MdT's Land Transport Directorate, on the SNCF Board, among railway manufacturers such as Alsthom and at the head of OFERMAT (*Office Français de Coopération pour les Chemins de Fer et les Matériels d'Equipement*), a State agency which sponsored international technical cooperation in the public transport sector.[92] As a result, one can argue the existence of a closely integrated French technocratic community in the transport sector.

In the words of two French sociologists, `The *Equipement* divisions, better known under their old name of *Ponts et chaussées*, occupy a prominent place in the public sector. This is through their weight: personnel numbers over 110,000, they use close to 1/3 of State and local authorities investment, and have jurisdiction ranging from transport and civil engineering to housing and town planning. It is also through their institutional longevity: already created in the seventeenth century, this technical administration has lived through the political history of France without experiencing a significant change in its structures. It is finally through their prestige: their heads, the engineers of

[90] Ibid.: p. 392.

[91] See Belhoste *et al* (1994b).

[92] `The *Ponts et Chaussées* engineers belong to those elites which, under the aegis of ENA and Polytechnique, govern or give the feeling of governing France ... many of them hold positions where they are in command ... above all within the central administration, the public sector, mixed economy enterprises, and at the head of large private firms. A very honourable porfolio of "*pantoufles*" is detained by the corps: Air France, Aéroports de Paris, SNCF, Compagnie générale d'Electricité, and large construction companies are habitually managed by a *Ponts et Chaussées* engineer' (François Dupuy, J C Thoenig, *Sociologie de l'administration française*, Paris: Armand Colin, 1983, p. 79). *Pantoufles* are directorships of large organisations held by former civil servants.

Ponts et chaussées, are recruited amongst the best pupils coming out of the *Ecole polytechnique*.'[93]

One particular feature of ENPC of interest to us is its tradition of *calcul économique public* (which very loosely translates as cost-benefit analysis), which began to be developed in the mid-nineteenth century: `this tradition was an old concern of P&C engineers, passed on within technical lectures themselves, before giving rise to its own teaching.'[94] Dupuit, who developed the concept of consumer surplus, was himself a P&C engineer. More generally, P&C pupils were taught to take interest in economic matters; a professorship in Political Economy was set up as early as 1846 by the Public Works Minister. Clément Colson and François Divisia taught there as well as at Polytechnique. Colson (a P&C engineer) became the specialist of transport economics, first as a senior civil servant at the Ministry of Public Works then as a lecturer from 1885 (in later life, he was to become Vice-President of the Council of State).

Similarly, the *Ecole des mines*, which provided a number of engineers in the transport sector (not least the influential Deputy DG / President of SNCF between 1949-1958, Louis Armand, who also headed Polytechnique's managing board from 1957 until 1968), had its own teaching in economics and the seminars on economics of future Nobel-prize winner Maurice Allais attracted a number of P&C engineers working in State services in the early 1960s.

Conclusion

The existence in France of an integrated technical / political / administrative class with a tradition of going into industry, both public and private, meant that there was within the State apparatus a broker, as it were, for the national railway and the rail industry in general. French railway engineers could exclude governmental influence on decision-making quite successfully, partly thanks to their monopoly on technical expertise, and mostly because of the high regard in which their profession was held. In fact SNCF exploited the administrative system; after a difficult period in the 1960s when government policy turned to motorway-building and the railways seemed an obsolete technology, they acquired a new respectability, both by developing new technology and taking advantage of the technocratic bias in French administration.

[93] Ibid., p. 63.

[94] Armatte (1994a): p. 378.

3. COMPARATIVE ANALYSIS AND CONCLUSIONS

In the first two sections of this chapter I presented the British and French policy actors and arrangements. Many similarities between the two will have appeared clearly in the course of these sections, and I will mainly dwell on the differences in this comparative section, in order to arrive at a first approximation of the referential frameworks of public action in the two countries.

Relations between State / central government and railways have never been easy or comfortable in either country; there have always been grievances of one type or another, both on the side of the authorities and on the railway side. But the ways in which an inherently problematic relationship has been handled since 1965 in the two countries differed greatly and I will argue that in the French case, strenuous efforts were made to nurture a partnership characterised by mutual respect, whereas on the British side, a confrontational mode accompanied by a degree of mutual suspicion tended to prevail.

A. Confrontation or partnership?

(1) The hard road to greater autonomy

In France rationalisation of the relationship was achieved to some extent; there remains a certain amount of State involvement, which is however not resented by railway managers.[1] If anything the (British) Morrisonian concept found a more congenial ground in France in the late 1970s. In Britain, the arm's length relationship failed to materialise in the way it was intended and attempts at reforming it only appeared to compound the problem. The public corporation model failed to achieve its professed goals principally because the relationship simply could not be sustained at arm's length: NEDO regretfully concluded that `Ministers do not and cannot in practice keep their involvement restricted within predetermined guidelines. The major nationalised industries' positions in the economy are too strategic and their market power too politically sensitive for Ministers to accept self-denying ordinances for more than a very limited period of time.'[2]

The shorthand way in which practitioners referred to railway undertakings (in policy and professional literature) was indicative of a number of conceptions. In Britain, BR was mostly referred to as `the industry', `the business', which stressed commercial aspects, as though the railway was no more than a firm that happened to be in the public sector. BR was viewed as part and parcel of the business world, not as an extension of central government. Yet it was also part of the category of `nationalised industries', a phrase which one Chairman (Parker) sought to replace by `national industries', with a view to removing the ideological connotations of the term `nationalised'. The working conception of officials was to let the railway get on with it, as if it was a private company. In France, SNCF was mainly called either `the operator' (*l'exploitant*) or `the

[1] A clear impression gained through interviewing a number of past and present SNCF senior managers.

[2] NEDO (1976).

national company' (*la société nationale*) and the phrase `public service' was frequently used in conjunction with it; it was sometimes - though rarely - referred to as an administration,[3] although during the first decades of SNCF's existence, senior management were officially called *fonctionnaires supérieurs* (higher civil servants). The French flag flies from SNCF's headquarter buildings, and the general feeling was that the railway was a *national* firm which naturally belonged to the public sector. SNCF was treated by officials as a public asset, for whose fate they were at least partly responsible.

Relations between the two parties were conducted in a confrontational mode in Britain, the lack of contact and shared academic backgrounds resulting in a gulf of incomprehension. The relationship was often conducted at the highest level, since accommodation could not be found at the administrative level and no institutional departmental presence existed on the Board; there were for instance two encounters between the full Board and the Transport Minister, the first one in 1981 to request from him the formulation of a long term rail policy, the second one to make the same request from the first Minister's successor.[4] Yet when central government took more than a passing interest in the railway and requested data, railway management felt besieged.[5] There was a widespread belief that government should not be seen to meddle in the affairs of industry - public or private - and that in general, `the influence of Parliament, government and key interest groups such as consumers, can and should be exercised from the outside.'[6] A clear separation between central government and Board was thus maintained at the institutional level, where there was no overlap. In France, State presence within the undertaking on a continuous basis was expected and accepted, responsibilities were clearly delineated, and medium to long term goals set clearly so that SNCF was on the whole able to get on with it.

British arm's length sponsorship rested on the principle that nationalised industry and department operated at the same hierarchical level, whereas *tutelle* implied the hierarchical supremacy of the Ministry. The first arrangement was conducive to a constant power struggle between equals whilst the second fostered concertation. The British framework of control, a `mixture of vagueness and precision',[7] was harshly criticised in a Select Committee on Nationalised

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[3] See Philippe Roumeguère (then Head of Signalling): `a scheme which my administration, SNCF, has so steadfastly pursued' (in `Safe running of TGV commercial services at 260 km/h and more'), and Raymond Garde (then Deputy Director and Head of Rolling Stock): `SNCF ... is the most advanced railway administration for electric traction with rolling stock with thyristor control' (in `From the Thyristor to the TGV') both in *Rail Engineering International* (August-Sept. 1981): pp. 73-74.

[4] Parker (1989), pp. 273-74.

[5] For instance Marsh complained of `the activities of civil servants' in relation to public expenditure issues: `bureaucrats were trying to get into British Rail to look for extraordinarily detailed information.' (Marsh, 1978, p. 192.)

[6] NEDO (1976), p. 44.

[7] Harrison (1988): p. 23.

Industries report on capital investment procedures (1973-1974) which found that the Government failed to exercise control over the industries publicly and according to well-defined rules. Perhaps this was because informal control was preferred, and when ministers did intervene, it was mostly on an *ad hoc* basis. The overall impression one gains is of successive governments `muddling through'.

One might argue that this had nothing to do with general state practice, but rather with sectoral policy-making, in other words, the lack of sustained interest in railway matters might be the reason behind this incremental approach. But if one turns to roads policy, where the commitment of successive governments to road-building was beyond doubt, a similar picture emerges of short-term uncoordinated policy-making,[8] which contrasts with French roads policy: in 1960, a centralised Master Plan for the National Road Network was formulated, which had no equivalent in Britain.[9]

A different climate prevailed in France, where more direct State participation and concertation with industry were institutionalised, for instance through the contractual process. The French State proved a reliable partner in the eyes of SNCF. Although it made great demands upon the railway, it was willing in counterpart to provide a sufficient degree of political commitment, financial stability and natiowide planning necessary for cost-effective expansion and modernisation of the network. The large amount of negotiating that took place, first around the National Plans, then around the contracts allowed the two parties to understand each other's position clearly and at an early stage. This was made all the more easy as most senior railway managers / engineers and their opposite numbers at the Ministry had similar educational backgrounds.

The relationship State - SNCF was a symbiotic one, a fact which, paradoxically, allowed the `partners' to retain their full integrity, whereas the more distant relations between British central government and BR made it difficult for the Board to resist the application of more coercive methods. The background of those heading the railways is an important clue in this respect: BRB chairmen were mostly either from within the railway or from the business world, whereas SNCF presidents were always from outside the railway and from the public sector or civil service, but definitely not business; they were figures with insider knowledge of the State machinery and with well-garnished address books. The status of these figures was also indicative of different state

[8] The roads investment system is dominated by a `laissez-faire approach' which `leads to piecemeal roads investment driven by demand'; the `investment process as described by DoT is mainly a spontaneous generation of schemes coming forward as proposals from regional offices and working their way through the appraisal system on individual merit.' (Burnham, Glaister and Travers, 1994, pp. 131, 130.)

[9] A recent examination of road and rail investment appraisal systems showed that low investment in rail schemes in the UK was not simply due to the fact that evaluation of such schemes was narrowly conceived (whilst road appraisal was broader) but that `Rather, under-investment ... is common to both road and rail and must be explained by a factor outside the formal appraisal systems: to put it simply, the lack of a national - political - commitment so to invest.' (Rana Roy, *Investment in Transport Infrastructure: The recovery in Europe*, ECIS report, Rotterdam: ECIS, Nov. 1994, p. 53.)

practices: SNCF presidents were listed among the `State' representatives on the Board, whilst BR chairmen were just that.

To sum up, in France a model of `joint action' prevailed in the overall strategy for rail transport, while in management matters, SNCF was encouraged to be autonomous; in Britain on the other hand, the relationship was an `arm's length' one only as far as overall commitment to the railway was concerned, but involved a great deal of central government interference. State action in the UK was constrictive (imposition of limits), whilst State action in France tended to be enabling (objectives, together with means to reach them, agreed by all parties). The fact that SNCF and politico-administrative thinking developed along the same paths was no happy accident, but rather the result of its close involvement, at the highest level, with the State machinery. Clearly this was not the case with BR. In practical terms, this French consensus meant that SNCF never criticised the government openly although it might call for specific measures to solve a particular problem; public dissent was unthinkable. In Britain, there were no such reservations and BR senior management did not hesitate to openly voice their discontent at periodic intervals.

(2) Financial arrangements: shackles or springboard?

Figures regarding state assistance per head and government support as a percentage of GNP all pointed to the same conclusion: `Compared with other European railways, BR receives a low level of support ... In addition, the grant does not sufficiently acknowledge the benefits offered by rail in terms of accessibility, speed, reliability, environmental impact and safety.'[10] Central government support for Britain's railways had always been low, and already by 1982 support for the railways as a percentage of GDP was lowest in the UK, out of nine European countries.[11] The overall figures for 1982 were £928m for BR; £1.4bn (FF14.5bn) for SNCF.[12]

By the 1960s, both BR and SNCF were prone to chronic deficits, which required ever-increasing state assistance. This situation was perceived as intolerable by both governments, which sought to reduce the railway's call on public funds, using a number of direct and indirect devices. But the means to this common end were totally divergent: in France, reliable State backing in times of hardship was seen as the prerequisite to making the company financially viable in the long run, whereas in Britain, financial disengagement was seen as a precondition to increased efficiency in the railways, no matter what the economic situation might be.

British central government was the first to take action in 1961, with the appointment of Beeching, a businessman, then under the Wilson Governments of 1964-1970.[13] France followed

[10] HC 383-I, lv.

[11] DoT Memorandum, quoted in the House of Commons Transport Committee (1985-86), *Financing of Railway Services: Minutes of Evidence*, HC 303/i (London: HMSO).

[12] *FT* (7/03/1983).

[13] Barbara Castle, the then Transport Minister, referred to `the tough remit Cabinet had given [her] to

suit with the publication of the Nora Report in 1968 and the decision to implement its recommendations in the railway sector. Both governments sought to make it more difficult for railways to obtain public funds and a more commercial approach was implemented during the period covered by our case studies, from 1961 in Britain and from 1969 in France. The British railway network was not treated as a national asset, but purely as a commercial entity. Unlike BR, SNCF was not subjected to deep, continuing cuts in its overall funding and continued to stress its function as provider of a public service. The perception in France was that reaching financial break-even point was a long-term task which required careful planning; furthermore, the drive to eliminate railway losses was tempered by social factors.

In both countries, financial objectives ran up against the fact that secondary lines often could not break even. Imaginative solutions were sought on both sides of the Channel from the mid-1960s to the mid-1970s, in particular much effort was expanded on defining a (highly controversial) `core railway', stripped of all loss-making components, but this particular philosophical stone could not be found.[14] Consequently similar arrangements were devised in both countries whereby losses incurred on unprofitable lines that had to be kept open for social (or political) reasons would be financially compensated. However this in France was viewed as a first step, the second being further modernisation, but in Britain, `a good little railway' seems to have been many people's sole ambition.[15]

Several types of financial instruments are available to support public industry generally and the mix favoured by one country over another is very indicative of conceptions of public action. The UK tended to rely on direct grants, whereas France `used capital market instruments - equity participation, soft loans, and loan guarantees - heavily.'[16] Thus British Rail was in practice extremely dependent on the goodwill of central government, principally the Treasury, a situation which set it apart from private firms. French public undertakings - including SNCF - were less reliant on direct subsidies and had at their disposal some (if not all) of the financial instruments available to private firms. Also all means of external funding in Britain were budgetary and therefore directly implicated general public expenditure policy. In France both budgetary and off-budget means co-existed, which provided for greater leeway.

There were some striking differences between British and French railway investment levels: for instance, BR planned to invest £200m in 1983, while SNCF, in spite of a deficit more

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get rid of railway deficit financing' in her diaries (Castle, 1984, p. 333).

[14] The reasons invoked by interviewees are symptomatic: in France, State experts found that core passenger and freight networks would not overlap and that the two together added more or less to the existing network; in Britain a map produced by BR for the Minister showed that the vast majority of the lines needing to be closed passed through Conservative constituencies.

[15] Phrase attributed to Labour Minister Anthony Crosland by former BRB Chairman (interview).

[16] Ford and Suyker (1990): p. 50.

than double BR's, projected an investment figure equivalent to £900m.[17] The cross-party British view was that government should get a return on public investment and BR was asked to return profits; whilst there was no such assumption in France, where Finance sought to allocate investment `rationally', and SNCF was only required to break even: the railway benefitted the whole Nation, over and above any financial returns for the undertaking. State aid was therefore taken for granted in the French referential framework, whereas in the British it was regarded as a bane.

These differing views also underpinned the approaches to fare-fixing: BR benefitted from a much higher degree of commercial freedom in setting its own fares, not being bound to a nation-wide standard rate per mile, whereas SNCF had to maintain the public service principle of equality of all users. Pricing principles adopted by the two railways represented two fundamentally different approaches: a `cost-based pricing system' had long been applied in France whilst in 1968 BR began to apply `market pricing'. Consequently fares covered 71.2% of BR's costs, as against 55.3% of SNCF's, and average fares per passenger mile were higher in the UK, at 8.4p., compared with 6.0p. in France.[18] Paradoxically, commercial pricing was introduced by a Labour government but cost-based pricing was retained unchallenged by successive right-wing French governments.

We can also account for attitudes towards accumulated debt and for the vastly different sizes of the railway deficits (e.g. £173m for BR, £485m for SNCF, in 1982)[19] in terms of general conceptions: BR's deficit was part and parcel of the PSBR, SNCF's was its own. Under those conditions, it is not surprising to find that BR debts were written off three times in the space of twenty years whereas SNCF was expected to find its own way of dealing with them. This duality of conception also applied to the railways' subsidiaries: British ministers required BR to dispose of its subsidiaries in the early 1980s but deprived the undertaking of the proceeds of the sales; SNCF enjoyed far more freedom in the running of its subsidiaries and retained profits from asset sales.

The roles of Finance / Treasury officials were strikingly different. Finance were directly involved in policy proposals through their being represented as a matter of course on SNCF Board, Planning Commission working parties and interdepartmental committees. Furthermore there were both routine and exceptional direct contacts between Finance and SNCF. The British Treasury for its part operated at one remove: direct contacts with the Board were exceptional and it had no continuous institutional presence within it.

To sum up, central government attitudes towards the railways in Britain changed little from the late 1950s, `a significant watershed for ... [government] shifted back to treating the railways in economic isolation, to be evaluated purely in terms of profit and loss ... overall the

[17] Figures for investment per train kilometre were also widely different: £0.264 in the UK against £0.703 in France (*FT*, 7/03/1983).

[18] See *The Independent* (14/07/1989).

[19] *FT* (7/03/1993).

predominant attitude came to be that of viewing railway economics in terms of annual accounts and balance sheets.'[20] The hierarchies of factors influencing the decision-making processes in Britain and France differed; in Britain financial considerations were by far the most salient, even when a good case could be made for a new investment. This narrowly financial approach meant that the railway was an easy target for spending cuts announced at short notice: one Chairman stated that `The staff at British Rail became demoralized because they never finished working out the implications of the last set of Treasury cuts before the next lot were upon them.'[21] The general thread in British policy was to reduce central government's overall financial commitment, whereas in France policy aimed both at creating a high quality system and getting more value for money: funds were made available, but only after lengthy consultation and negotiation.

(3) Four concepts of control

`Control' can broadly be conceived in four ways: the first meaning of `control' is to do with public accountability, of which there was rather little in the two countries. With the second meaning, the control function consists in auditing the activities of the controlled body to ensure that they conform to given standards. This was a particularly important function in France. The third meaning is one of simple restraint: the control machinery is there to prevent the industry from getting out of hand, e.g. excessive spending. This is the sense which emerged most clearly in Britain, where from 1961, control mostly took the shape of financial constraints and cuts in subsidies. The fourth meaning was prominent in France but virtually non-existent in Britain: positive guiding of the enterprise was something which the French State was inclined to engage in.

It is worth dwelling on these four conceptions a little longer. The first one, that is control in the *a posteriori* sense of ensuring accountability, was mainly carried out through parliamentary activity. In both countries, parliamentary control was far less effective than government control, since British governments normally rested on a parliamentary majority which loyally supported their policies and the French Parliament has played a minor role in the policy process since the beginning of the Fifth Republic.

Turning to the second control function, jurisdictional control was far more a reality in France, where auditing and continuous financial control were carried out directly by the Court of Accounts and by Finance officials, unlike in Britain, where DoT provided auditors annually and BR allowed no continuous access, having fought off plans for the Comptroller-General to audit railway business. Technical control *a priori* was inexistent in Britain but highly developed in France; whilst the *a posteriori* type was an important feature in Britain and has only recently been introduced in France. In Britain safety measures were left to the discretion first of the private railway companies, then of the public undertaking, on the understanding that all reasonable

[20] Potter (1987), pp. 20-21.

[21] Marsh (1978), p. 198.

endeavours would be made. When safety broke down, the public was entitled to know why, in the name of public accountability. In France, public safety ranked so high in the referential framework that it was felt to be a direct duty of the State to enforce it on a continuous basis and to prevent accidents at all costs. There was therefore a strong emphasis on preventive action. When accidents happened, the responsibility was purely the railway operators' and no longer a matter of public policy. Where British inspectors from the Board of Trade, later MoT, had the duty to report on all serious accidents, their recommendations being published (but not necessarily implemented), official inquiries into railway accidents in France were not carried out until recently. It was for SNCF to make its own inquiry and take action.

As regards control in the restraining sense, the British predilection for financial controls can only be explained in terms of the referential framework, which was dominated by issues of taxation and public finance.[22] The approach to financial control was dogmatic, bound up with the Treasury ethos of financial orthodoxy; the French Finance approach was a great deal more pragmatic.

Control in the fourth, developmental sense was effected through the institutional framework in France. The presence of State officials on SNCF's Board was not replicated by that of British government representatives on the BRB. Although attempts were made, they did not come naturally and mostly failed (Sir Peter Baldwin, DoT Permanent Secretary who sat on the BRB in the late 1970s, was one exception; Sir David Serpell, who had been MoT, then DoE's Permanent Secretary in 1968-1972, only became a Board Member *afterwards*); interestingly, one talked of introducing `cross-postings', which implied reciprocity, whereas in France, the traffic was one-way, with a very tangible State presence within SNCF taken for granted. The presence of departmental officials in the midst of BR management was perceived as an intrusion.

Encompassing the four categories of controls presented above, there were two antithetical controlling styles in the British and French railway sectors. A marked dislike of formal arrangements on the British side was evident in the arm's length relationship, the absence of contracts and medium to long term planning, and the fact that one Permanent Secretary had sat on the BRB but not others. The French habit of institutionalised relations and formal arrangements manifested itself in the inclusion of railways in the five-year National Plans after the war, in the contractual relations established in 1969, in the automatic membership of the SNCF Board for certain Transport and Finance officials and the existence of national consultative / policy-making bodies (National Transport Council, CGPC).

B. The weight of party politics and professional interests

(1) The politics of technical education

We have already established that the engineering condition differed sharply in the two

[22] `No taxation without representation': this ancient principle binds two distinctive features of the British framework, parliamentary representation and freedom from financial state interference.

countries. This was directly linked to the referential frameworks.[23] Britain had been traditionally committed to the idea that training in practical skills should be left to the employer and to professional organisations, whereas France had long cherished State involvement in the provision and supervision of vocational training.[24]

The strict separation in Britain between on the one hand, broad (academic, university) education and on the other specialised (vocational) training was not replicated in France, where the more prestigious State schools were professional in orientation. Nevertheless in both countries generalists were more prized than specialists and the focus of elite education was on intellectual training rather than on the acquisition of knowledge. Where Britain and France differed was in the definition of a good generalist education: in France it was grounded in mathematical training whilst in Britain it was based on the humanities (less frequently, the natural sciences).

Engineering education and regulation of the engineering profession reflect cultural values of a given society and more particularly political assumptions about the role of the state in the economy. British policy towards engineering was non-interventionist until the 1980s, whilst French policy was hands-on from the very beginning, an approach which has not been challenged. The traditional British emphasis on market competition, independent private firms and financial returns led to a fragmented engineering profession which could not assert its technical values. The French concern with the consolidation of centralised State power, often on the basis of technical achievement, made it seem natural that engineering education should be closely controlled, and in return made it possible for engineers to decisively influence State policy in technical sectors. Engineering in Britain began and remained a matter for the private sector; in France it was nurtured and developed as a matter of public concern and therefore controlled to a very large extent by the State.[25]

(2) Partisan differences and state practice

In the UK, railway issues generally had a high political profile: on the one hand, in the words of former Labour Transport Minister and BR Chairman Marsh, `political troglodytes' were convinced that `the very act of nationalization transformed formerly efficient undertakings into a slap-happy shambles led by incompetents and, since they elevated purely pragmatic argument for

[23] Sorge has identified three main philosophies of technical education and training, which go hand in hand with the political histories of Britain, France (and Germany). See A Sorge, `Engineers in management: a study of the British, French and German traditions', *Journal of General Management*, Vol. 5 (1979): pp. 46-57.

[24] Glover and Kelly (1987), p. 97.

[25] The regulation of accounting followed divergent paths much in the same way as the regulation of engineering. A British attempt at formulating public sector accountancy norms was abandoned in the 1970s, central government powers being weak in this domain. But the French drive to harmonise accountancy norms of public firms led to the implementation of PCG in 1982, the State enjoying full powers to define such norms.

and against nationalization to the prime political issue between the two main parties, they missed no opportunity to indiscriminately attack nationalized industries.'[26] On the other hand, Labour politicians had believed in 1945 that public ownership would solve everything and that government should keep out of railway management. In France, railway policy was on the whole uncontroversial, and SNCF was not criticised simply by virtue of belonging to the public sector.

The terms of the transport debate were not identical in the two countries. French transport practitioners perceived an irremediable tension between `commercialism' and `public service', with the ideal transport policy a balance of the two. British practitioners saw policy in terms of a continuum that stretched all the way from `free market' efficiency as the best guarantee of the public interest, to public ownership as the ideal solution. In the French debate, the question was not whether the State ought to intervene at all, but whether it was giving due regard to both commercial and public service aspects of transport policy. In the British debate, there was no fundamental cross-party agreement concerning the role of central government in the railway sector, whether simply regulatory or actively interventionist. It is hardly surprising that with such a lack of common ground, the railways in the UK should have been caught between conflicting, partisan policies, whilst French railway policy displayed a large degree of continuity overall.

Although from an ideological point of view, there were stark differences between Conservative and Labour thinking, in terms of practices continuity was quite common: `The most frustrating aspect of the return of the Labour Party to power in 1974 was that it produced no difference whatever in the relationship between Government and the nationalized industries ... One of the great myths is that there is some fundamental difference between Conservatives and the Labour Party. There is none as far as the administration of public sector industries is concerned';[27] this, according to Marsh, was because neither Conservative nor Labour governments had `any comprehension of the length of time it takes to make major changes in industrial plans efficiently ... Parliament is not designed for sophisticated, detailed, industrial planning'.[28]

This brings us to conceptions of time horizons. The distinguishing feature of the State in the French framework was its proclaimed ambition to rise above the fray of party political considerations and contingent issues to take the long-term view of the Nation's interests. Party political influence was deemed to represent organised, *particular* interests and perform a divisive role; against such a threat, the bureaucracy led in the name of the *general* interest. This was one of the reasons why it saw itself as the natural guardian of national prosperity and why markets never could be. The dominant influence on State practice was administrative and industrial, not political, time. In British policy, the timespan of policy was consistently a short one, dominated on the one hand by party political considerations and on the other hand by short-term financial imperatives:

[26] Marsh (1978), pp. 184-85.

[27] Marsh (1978), p. 188.

[28] Ibid., p. 189.

`very few Ministers were able to think five years forward in terms of industrial planning. That is not a criticism of the individuals but of the system.'[29] On the government side, nowhere can one find references to investment lead times, and the necessarily long delays between the formulation of a new policy and its effects on the transport network. State practice was dominated by the politician and the accountant's, not the industrialist's, time horizon.

Although the Civil Service was dominated by a `mandarin' culture which favoured policy continuity, there was no degree of overlap, between central administrative services and more peripheral public services such as the railway, comparable to that found in France. The large degree of integration of technical, political and administrative personnel in France facilitated continuity in sectoral policy, which was simply not found in Britain, where the type of training received by aspiring public servants differed strongly from that of railway officers. British civil servants were skilled in weighing the pros and cons of a question, whilst their French counterparts were far more action-orientated and not likely to passively await government instructions. There was no overarching public service ethos binding all British officials into an entity with a common goal. In fact there was no common goal for administrators other than to serve the political masters of the day. For in the final analysis, the Civil Service served the Government, not the nation.[30]

(3) Two ideas of public service

The French transport policy elite shared the same educational and professional background and the public service ethos, instilled into aspiring civil servants by technical *Grandes écoles*, and after 1945 by *ENA*, which favoured intervention and equipped civil servants with a strong sense of mission. As regards the railways, the `mission' involved the creation of an integrated national space in which every part had efficient, good quality transport links with the centre. The ethos was non-partisan: `Regal and Republican traditions, in agreement on this point, have deeply embedded the idea of public service "by nature" in the French political culture'; the idea itself could not be said to have been born on the left or the right exclusively.[31] The reference to both regal and republican traditions directs us to a crucial point: the enduring presence of the public service concept, which has not been challenged, in spite of a lengthy and learned debate on its crisis and impending demise

[29] Ibid., p. 188.

[30] Sir Warren Fisher, Head of the Civil Service in the 1920s, described as `probably the greatest civil servant of this century' argued that `The first and most important duty of a civil servant is to give his undivided allegiance to the state' (quoted in foreword to O'Toole and Barry, *Private Gain and Public Service*, London: Routledge, 1989) but the Civil Service disciplinary code, drafted after the Ponting trial in 1985, forbade civil servants to reveal ministerial wrongdoing on the basis that their ultimate loyalty was to their ministers. More recently, the head of the First Division Association declared that as things stood, `An individual [civil servant]'s duty to the courts, Parliament and the public is subsumed in their primary duty to their minister' (Elizabeth Symons, `The exposed civil servant', *The Guardian*, 2/04/1993: p. 24).

[31] Olivier Duhamel, Evelyne Pisier, `Services publics, opinions publiques', in Mény (ed.) (1989): p. 369.

throughout the twentieth century. By way of definition, `public service' refers both to an abstract doctrine with an imposing body of legal argumentation and to actual economic activities falling within a defined sphere and carried out by undertakings such as SNCF.

In 1842, the railway was placed under the concessionary regime and by the 1850s public service principles had begun to be applied to the private railway companies. The concept of public service was formalised by the `Bordeaux School' of legal experts[32] around the turn of the century: `The public service doctrine sought then to renew the theory of the State, by complementing the idea of power with the idea of service.'[33] The new philosophy of State action coalesced around the notion of public service. Three great principles, known as the `laws of public service', were formalised by Rolland:[34] (1) continuity (operations must be carried out without any interruption, in the interest of users); (2) equality, `which rests on the extension of the principle in the 1789 Declaration of judicial equality before the law and rules, and which demands that users be placed on an equal footing, without discrimination or special advantages;'[35] (3) mutability, `according to which services meet needs and evolve both in quantitative and qualitative terms. The notion of public service is not static, but dynamic.'[36]

Even in the last thirty years, French policy-makers have used the public service notion as a point of reference.[37] The abiding presence of this concept in the French referential framework was the consequence of its being deeply rooted in three critical terrains: `legal (jurisprudence of the Council of State [...]), economic (public economics) and socio-political (trade-union movement, municipal socialism, nationalisation)'.[38] It was also a function of its inherent flexibility: in the wide

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[32] Prof. Léon Duguit was its leading exponent, see E Pisier-Kouchner, *Le service public dans la théorie de l'Etat de Léon Duguit* (Paris: LGDG, 1972).

[33] Bauby and Boual (1994), p. 9.

[34] See Chéreau and Rodrigues (1994): p. 88. *Professeur* Louis Rolland taught Law at the *Faculté de Droit de Paris* in the 1930s and 1940s.

[35] Equality here is meant as equal treatment of cases that are alike, a principle which results for instance in the equalisation of prices within the framework of the area covered by the public service (Bauby and Boual, 1994, p. 12). Hence SNCF continued to charge the same price per kilometre on all services whilst BR moved to market pricing.

[36] Bauby and Boual (1994), p. 12.

[37] The concept continues to resonate in France, even under the Chirac presidency: an adviser to Prime Minister Alain Juppé asserted that `The idea of public service is at the heart of the Republican pact, like schools, pensions and social security' (Franck Borotra, RPR *député*, quoted in `Le RPR contre la Commission européenne', *Le Monde*, 7/07/1995).

[38] Claude Martinand, `Les grands réseaux et l'Europe: transport, énergie, communications. Pour une approche nouvelle combinant efficacité, concurrence et service public', *Flux*, No 6 (Paris: Oct.-Dec. 1991): p. 56. Martinand was then the head of the *Equipement* Ministry's division of economic and international affairs.

interpretation of the concept, `public service [combined] efficiency, commercial approach, competition ... without opposing them' and had thus been associated with the public sector modernisation drive, in particular in the transport sector.[39]

State and public service became closely identified because at the outset *service public* had been closely linked to *ordre public* (law and order), the enforcement of which was the prerogative of the State.[40] The connection was part of a rationalistic search for political order through economic welfare. Secondly, the public service concept rested on the unquestioned postulate that `certain social activities must be free from ... the search for profit, in order to be managed according to specific criteria ... thus contributing to the economic, social and cultural balance and cohesion of society'; the type of activities that fell into this category were those that were essential for all, either because they `flow from a common strategic interest, or from a necessity of solidarity or equity.'[41] The referential framework was not subservient to economic forces; there was a perception that social imperatives were just as important and that `social solidarity does not easily flow from market forces alone ("between the weak and the strong, it is law that liberates and freedom that oppresses")'.[42] This perception was institutionalised, e.g. in the Economic and Social Council (an advisory body) and the Finance Ministry's FDES (*economic* and *social* development fund).

If we now turn to Britain, there was no overwhelming sense among policy elites that the free play of economic liberalism might have destabilising social effects, which central government had a duty to prevent, a perception which was prevalent in France. Shonfield had noted that `the French appeared to proceed from the consciousness that insurrection is within the realm of possibility'.[43] The ever-present threat of insurrection partly explains the greater willingness of the French State to engage in social dialogue, or at the very least, to *appear* to engage in it. Throughout the postwar period, the progressive, continuous decrease in French railway staffing levels contrasted with the much steeper drop in BR personnel.

Public service `was used by the public authorities as a multi-dimensional reference':[44] a legal dimension, defining the remit of administrative law; a socio-economic dimension, involving

[39] Ibid.: p. 59.

[40] Quinet (1982), p. 295.

[41] Bauby and Boual (1994), pp. 11, 12.

[42] Martinand (1991): p. 57.

[43] Shonfield (1982), p. 106.

[44] In Bauby and Boual (1994), p. 83.

the existence of public undertakings, and an ideological dimension, namely that State action was legitimate in the areas deemed to belong to the sphere of public service. If we now apply these three dimensions to the British case, we find that the only meaningful one was the second; `public service' denoted actual services (e.g. railways) rather than a doctrine. In fact, one came across the phrase `public utility' far more frequently than `public service', and `the very translation of the expression "*service public*" as it is understood in France ... is nearly impossible in English ... the English expression "public utilities" is more apt than "public service"' yet is not entirely satisfactory.[45]

Or else the phrase tended to apply to individuals who had served their community rather than to impersonal organisations: discussing the British Monarchy, David Starkey stated that it stood `as any sensible reading of the honours system shows, not for mere wealth, but for public service';[46] even a traditional Conservative politician such as Douglas Hurd, who argued: `We have to place public service back at the heart of our political idiom' added immediately that it was best provided by the marketplace for `the most invaluable improvements to our quality of life come from the behaviour and decisions of *individuals*, acting on their own and in their communities.'[47] Public service rested on individual rather than collective action. However, could one go along with the statement by former SNCF Deputy Director General (in charge of relations with BR, 1957-1974), that `the British tradition is hardly conducive to large public service projects'?[48]

The public sector and Civil Service in Britain tended to have a lacklustre image, long before the neo-liberal agenda became established in the 1980s. For instance `Civil service mentality' was a disparaging expression. More generally, attitudes towards public officials tended to be negative. The often derogatory attitude towards the Civil Service was echoed in the relative contempt in which public industries were held, both by Whitehall and Westminster. There was a fairly widespread perception that British public sector management had tended to be over-bureaucratic, and that many job holders had been inadequately qualified.[49] Such contempt was at its most vocal with Mrs Thatcher, who during her premiership made a characteristic comment on

[45] Bella Montagner, `La notion de service public en Europe', in Bauby and Boual (1994). On British public sector culture, see Richard A Chapman, *Ethics in the British civil service* (London: Routledge, 1988) and R A Chapman (ed.), *Ethics in public service* (Edinburgh: Edinburgh University Press, 1992).

[46] D Starkey, `Daze of Empire', *The Guardian*, G (11/01/1995): p. 9.

[47] Conservative Political Centre annual lecture delivered by Douglas Hurd at Blackpool (9/10/1991). He then went on to say that `The enabling state is an idea whose time has come. It means that the state helps organise public services, and it pays for them through taxes - but it doesn't have to provide them *itself*.'

[48] Written answers from Hutter (29/07/1994).

[49] A point alluded to by Glover and Kelly (1987), p. 43.

`talent' necessarily going to well-paid private sector jobs.[50] British Rail particularly suffered from adverse perceptions: one scientist who joined BR Research in the early 1960s said that at the time it `was a very foolhardy thing to do in many people's eyes.'[51]

Within central government there appeared to be an institutionalised obsession with `public *enterprise*' and competition at the expense of `public *service*'. The commercial function of the railways was clearly emphasised from 1961 and displaced the public service ethos which had until then been upheld by railway management. At the same time, the railway's role as a possible agent of public policy was downplayed or rejected. Both central government and BR chiefs tended to view the railway as above all a commercial business. Some at BR did have a wider frame of reference than a purely commercial one but it could not be translated into policy because most of the time it was not accepted as legitimate: the public service language used by some railway managers was drowned by the official language of financial returns, which in any case the BRB tended to borrow. The following excerpt shows how far a BR chief had internalised the government's financial concerns; asked whether he had ever considered himself a `public servant', he replied: `I was conscious that we were trying to spend the country's money sensibly. I was very conscious of that ... So I suppose in that sense I was thinking of myself as a public servant. I wanted to use the money wisely.'[52] There was nothing more to public service than cost-consciousness.

In Britain `public service' generally applied to actual undertakings rather than to the abstract principle, but even when viewed in abstract terms, it bore little resemblance to the French acception; one BRB Chief Economist considered that there was a `basic inconsistency between "co-ordination" and "public service"' since `Co-ordination can only mean the restriction of choice to reduce costs' whilst `"public service" implies the widest possible choice.'[53] In his definition, there was a strong element of individualism which was totally absent from the French definition; the latter implied that transport should be co-ordinated precisely in order to fulfill the public service obligation; individual choice was a non-issue. The same Board member also criticised the fact that the public service objective imposed by the government had remained `undefined', which contrasts with the highly formalised rules of public service in France.

To sum up, the French referential framework was grounded in a highly developed economic, legal and social doctrine of public service informed by a strong sense of collective obligation, whilst the British framework used the same phrase in a more descriptive sense,

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[50] *The Observer* (25/02/1982). One BR Chairman recalled a lunch with her when she was Opposition Leader, during which she explained that `to be nationalised ... was an industry's admission of failure' (Quoted in Parker, 1989, p. 277). This applied particularly well to the railways, the private railway companies having been bankrupt prior to nationalisation.

[51] Interview with former Head of Research (2), RTC, BR.

[52] Interview with former Vice-Chairperson (1980s), BRB. This was especially true in the 1980s.

[53] Joy (1973), p. 144.

emphasising its individual facets, and did not possess a comparable formal basis for public action.

Conclusion

BR management lost their sense of a railway fulfilling the needs of the Nation and became a purely commercial entity. In France there was both a more commercial approach and a continuing attachment to traditional notions of public service. SNCF continued to see itself as `general carrier of both passengers and freight' whilst the self-image of BR became that of a `specialist carrier' for a minority of passengers.[54] In Britain the railway was perceived as a `problem' rather than as an opportunity or an instrument for economic improvement, which was the dominant image in France.

In Britain as in France, central government's main source of technical information was to be found in the railway enterprise itself and in the private railway industry, but when it came to technical expertise the situation was contrasted: expertise in Britain was located *outside* central government and its development (through education and training) was left to non-state agencies. In France, central administrations had their own in-house experts and actively fostered technical education and training through State-sponsored schools. Furthermore management advice did not have to be heeded by central government, warnings from the industry could be ignored and financial constraints tightened against the wishes of the Board, as happened in Britain, where there was an extremely `thin' interface between central government and the railways, and no common public sector values. In France the concerns of railway engineers and managers stongly influenced the formulation of railway policy owing to the presence of a technical elite spanning both the Administration and industry and the existence of shared, non-partisan values centred around technical progress and public sector excellence.

Finally, we can provide a first approximation of the national referential frameworks of public policy in the two countries: the British one was divided, both along partisan lines and in terms of dominant imperatives: short-term financial and/or electoral concerns prevailed at the politico-administrative level, whilst longer term, technical considerations were more prevalent in the industry. In sharp contrast, the French referential framework was relatively homogeneous, with technical, social and broad economic concerns ranking high, and a longer time horizon. The case studies which follow will enable us to explore further these differences and to build a more detailed picture of state practices and of the prevalent conceptions of public power in Britain and France.

[54] Dunleavy and Duncan (unpublished paper).

CHAPTER III
PIONEERING HIGH SPEED RAIL TECHNOLOGY IN BRITAIN AND FRANCE (1965-1985)

Introduction

By 1990, according to the Confederation of British Industry, `France [had] taken the lead in high speed rail development'[1] thanks to its high speed train, TGV (Train à Grande Vitesse; at 300km/h it was then the fastest train operating in the world). However the British railway manufacturing industry had for a long time been the most advanced and developed of its kind: `BR had acquired a digital computer as early as 1957 and was the first railway in Europe to use computers for scientific and engineering applications'[2]. But BR's most advanced project to date, the Advanced Passenger Train (APT), never went further than the R&D stage.

The revolution in high speed rail development that took place in the 1960s and 1970s followed sharply contrasting ways in France and in Britain. I shall not seek all the reasons for this contrast since many of them are unrelated to the public policy referential framework in the two countries. For instance, each railway undertaking operated according to its own traditions and evolving organisational culture, which greatly influenced the outcome of the projects. I shall concentrate instead on the main features of the environments in which the R&D processes took place that can increase our understanding of policy-making practices and of the place of the State/central government in the referential frameworks, such as: the political climate, methods of appraisal and financing of new technology, the impact of an international event such as the oil crisis of 1973, the condition of the private rail industry, and the professional dimension of the policy process. I shall also discuss the ways in which central government support for the new technology was enlisted - or not - in the two countries. The above-mentioned points will be discussed in the context of the British case-study first, then in the context of the French one; finally a comparative analysis will highlight the salient features of the referential frameworks in the two countries. These did not arise in a vacuum; they were shaped to some extent by natural geography and by historical factors, so before turning to the case studies proper, it is essential to remind ourselves of the geographical and historical constraints that diversely affected the British and French railways and restricted the options available; a brief outline of different strategic approaches to high speed rail travel will then be provided.

The geographical and historical contexts

What criteria were used to make high speed rail policy decisions? The first, inescapable

[1] CBI, *Transport and Distribution* (London: Allen & Co, 1990), p. 158.

[2] Potter (1987), p. 50.

criteria were linked to geography, in particular national patterns of population distribution and densities, which had repercussions on the economic viability of building new lines. In some transport corridors, a great deal of traffic could be generated by significant improvement to railway services, so that investment in new railway infrastructure was worthwhile. On the contrary, where traffic generating potential was relatively low, it became very costly to build new track or to upgrade existing track, and improvements could best be achieved through new train designs. The latter situation prevailed in the UK, where demand for rail transport was spread over a much wider area, across a high number of very large cities, whereas urban population in France was concentrated in fewer cities, several hundred kilometres away from each other. A second factor was the size of the country: longer distances are more economical to run and time savings made through increasing train speed are also more apparent. In this respect, SNCF therefore had an in-built advantage over BR.

One important characteristic of the British network at the beginning of the case study was the curvaceous nature of many trunk lines (roughly fifty per cent of BR track was on a bend). This considerably slowed down trains and made their energy consumption a lot higher than it would otherwise have been. Short of relaying entire lines, it therefore seemed sensible to seek increased average speeds by designing a train such as APT that would be able to negotiate corners at a third higher speed than normal trains. In France on the other hand, the problem was more to do with numerous and steep slopes, which were difficult for trains to climb and therefore had to be skirted around. The TGV's technical characteristics were chosen on the basis that new track was required in order to exploit wheel-on-rail technological potential to the full. A new, straight line following natural ground contours - rather than avoiding them - would overcome the need for winding, low-gradient track and could be tailor-made for trains that had no difficulty in tackling steep hills, thanks to their vastly increased motive power.

Strategic approaches

There were three possible strategies in the field of high speed rail development, according to the professional literature: 1) an entirely new network may be built, which is incompatible with existing lines (the Japanese approach, with the Shinkansen line opened in 1964, and the German approach, with the decision to build a new, incompatible infrastructure for the Transrapid magnetic train in the 1990s); 2) existing railways may be extensively upgraded for use by new `medium-tech' trains, and new track built where track improvement would not yield sufficiently high speeds (TGV approach); 3) existing track may be used more or less as it is by sophisticated (high-tech) new trains (as with APT). The more new track can be built, the less technically complex the train needs to be. The fact that TGV was designed to operate at very high speeds on purpose-built track meant that, even though it was a far less innovative train than the APT, it was capable of surpassing the performance of British Rail's high-technology train in terms of speed.

Let us now turn to the first case study, the British Advanced Passenger Train. The first part of the case study provides a brief chronological summary of the R&D process; it is followed by an

exposition of the context in which decision-making took place; the last part deals with the fluctuations of central government support for the project. Throughout these sections (and all subsequent case study sections), much use is made of interview material. For reasons of space, I have not qualified the statements but their content clearly should not be treated as established fact. Some of the statements are highly subjective but as such provide pointers to the kind of working environment in which decisions were taken.

1. CENTRAL GOVERNMENT AND THE R&D OF THE ADVANCED PASSENGER TRAIN

The mid-1960s were a time of transformation for BR; the modernisation of the network, launched in 1955, had been watered down by government in 1961 and it was now being `rationalised' following the initiative of Dr Richard Beeching. As a consequence of delayed improvement to services, as regards speeds in particular, rail was steadily losing traffic to the roads (by 1970, the dominant feature of the transport system was the motor-car, whose rise had caused the number of passengers carried by the railways to decline by one quarter in ten years);[3] some, even in BR, saw it as `the inevitable beginning of the end for the inter-city passenger train.'[4] Within senior management, reflection on the long-term future of the railway was taking place. One policy document prepared under Beeching's chairmanship, *The Development of the Major Trunk Routes* forecast that by 1984, inter-city passenger traffic would have slightly diminished but would be `concentrated upon fewer routes.'[5] It would therefore be in BR's interest to operate a policy of `selective development and intensive utilisation of a more limited trunk route system' and `to concentrate railway investment upon the selected trunk routes'.[6]

At the same time however, the seeds of a railway revival were being sown: the `accelerated East Coast service, using the new Deltic diesel locomotive ... was inaugurated in 1962 and is generally viewed as the turning point for British Rail's post-war inter-city services.'[7] Also a full electric service between London and Liverpool/Manchester was launched in April 1966. These new services, although they had only required a relatively small investment and the application of small-scale, evolutionary innovations, increased passenger traffic considerably (traffic doubled

[3] B T Price (MoT), *Transport in the Eighties*, lecture to the British Association for the Advancement of Science (1971), p. 217.

[4] Freeman Allen (1978), p. 96.

[5] BRB, *The Development of the Major Trunk Routes* (Feb. 1965), p. 50.

[6] Ibid. pp. 45-46.

[7] Potter and Roy (1985), p. 10. On this period, see Terry Gourvish, *British Rail: A Business History 1948-1973* (Cambridge: CUP, 1986).

between 1965 and 1973 on those lines), so that `The commercial impact of that mid-1960s inauguration of revolutionised East Coast and West Coast main line timetables ... confounded the sceptics in the corridors of British power as well as within British Railways management ... [it] made a nonsense of the Beeching regime's pessimistic outlook.'[8] As a result, both railway managers and government changed attitudes. It became clear that higher rail speeds were generally desirable and a High Speed Policy was developed which envisaged operation of most of the InterCity network by 200km/h trains in the late 1980s, instead of the then maximum speed of 160km/h (average speeds on WCML services were only about 125km/h)[9]. A detailed study into reducing city-to-city journey times with a view to winning back passengers, especially businessmen, was launched, which examined four potential high speed routes.

In this period of actual and projected decline, followed by the renewal of hope in the viability of the railway, the Advanced Passenger Train was born. The initial impulse for a very fast train project came from the Advanced Projects Group in BR's Research and Development Division in November 1966, in other words from the engineers rather than from the commercial managers. The proposal was received with interest by the commercial section and followed up, for `there was a perception that one of the big things that needed to be done in terms of passenger market ... was to get inter-city times down ... to reduce journey times was seen to be a strategy which from a commercial point of view would pay a lot of dividends. And the question was how to do it.'[10]

The traditional approach in the British railway industry was an evolutionary one, in which step by step improvement to passenger services was pursued, known as `cut and try'. But the APT project represented a new departure, a more `scientific' approach, in which radical design innovation was preferred. It followed the reorganisation of BR's research facilities by Dr Sidney Jones (a non-railway engineer), in particular the establishment in 1964 of a new Railway Technical Centre (RTC) at Derby, which aimed at strengthening research capability and implementing an `offensive' research strategy, and attracted a significant number of engineers from the aeronautics industry.[11]

It took two years for the proposed plan to be accepted by the Railways Board, and for funding to be agreed, from the first proposal by BR's Advanced Projects Group in November 1966 until the Labour Minister of Transport, Richard Marsh, offered support for the project in Autumn 1968.[12]

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[8] Freeman Allen (1978), p. 101. See also Hugh Williams, *APT: A Promise Unfulfilled* (London: Ian Allen, 1985), p. 9.

[9] Simmons (1986), p. 158.

[10] Interview with former APT Project Manager, BR.

[11] On Beeching's initiative, the majority of researchers were recruited outside railway personnel in the hope that `new blood' would spur on new developments.

[12] The Minister later wrote that the APT was `a brilliant conception, developed by British Rail scientists working

A. Phases in the Research and Development process

The APT programme can be divided into three phases (as defined by BR engineers Boocock and King): the experimental, which lasted seven years, the prototype, lasting well over ten years and finally the production phase. There was some overlap between the first two phases; the production phase never fully materialised.

(1) Experimental phase: the APT-E (1969-1973)

The R&D programme for APT-E (experimental train) was approved in January 1969. The decision covered the construction of an experimental train, but also the building of laboratory facilities at Derby and the preparation of a special test track. During this phase, the R&D of novel technical concepts took place. For instance, `gas turbine traction using aerospace's new compact, low fuel-cost engines looked the white hope of economical high speed trains.'[13] Some of the research on aerodynamics was carried out outside BR: `There were excellent facilities at the National Physical Laboratory at Farnborough and one or two university departments' and the researchers also made use of French facilities at St Cyr.[14]

Throughout the early stages, the future of the APT project was far from being assured technically-speaking. Very high speed could only be achieved on the existing, winding network (without causing discomfort to passengers) by trains with tilting bodies, a new breed that would require a great deal of technological innovation. Because of the high technical risks involved, of pressure from `traditional' railway engineers and because `it was evident that it would be several years before those risks could be resolved ... BR developed its high speed strategy on the basis of first exploiting the potential of faster conventional trains and then exploiting APT.'[15] Thus from 1970 BR had two main rolling stock research programmes, APT and the less ambitious High Speed Train (HST), a quickly developed `low-tech' diesel-powered design, which applied some of the research done for APT but otherwise contained nothing truly innovative; it was approved by government in August 1970. The latter project gave birth to the InterCity 125 fleet of passenger trains, which came into service in 1976 (BR was then only one of three railways in the world with 200km/h commercial services, France and Japan being the other two).

In 1970, APT was subjected to a government review, which found that APT services would be commercially viable. A subsequent BR review in May 1971 recommended the commercial development of APT and advocated the development of HST as an `insurance' against

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at Derby, the largest railway research centre in the world.' (Marsh, 1978, p. 193.)

[13] Freeman Allen (1978), p. 106.

[14] Interview with former Head of Research (1), RTC, BR.

[15] Boocock and Newman (Dec. 1976): p. 654.

any major difficulties with APT. By 1972, the construction of the experimental train was completed and in 1972 and 1973, it was commissioned and tested.

(2) Prototype phase: the APT-P (1973-1981)

Following successful test runs of APT-E, a second review of the project was undertaken between November 1972 and February 1973 by a team of engineers from BR Research and from CM&EE (Chief Mechanical and Electrical Engineer's Department). At the outset of the project, APT had offered attractive prospects at considerable technical risk, but by 1973, `technical risks were considered sufficiently small for [APT] to be firmly integrated into BR's commercial plans.'[16] Government approval for three identical prototype trains was secured in July 1974.

Unlike APT-E however, the prototype train was to be electric-powered. `There was always a plan, from the very early days, that an electric version would be produced'[17] so that APT trains could operate both on electrified and non-electrified routes. Gas turbines were necessary for the first application of APT, which was to be the non-electrified Bristol-Newcastle route. But government decided to let BR complete the electrification of the West Coast Main Line (WCML); the 1971 review decided that the first application for service trains would be WCML[18] and concluded that APT-P should proceed as an electric train.

By 1977, the prototype had been delivered and began to be tested on reserved track. But tests of APT-P in full passenger service were delayed time and again by BR owing to technical failures; this put them in an embarrassing position for `The Department of Transport would only authorize a production run of APTs once the prototypes had proved themselves in actual passenger service.'[19] Passenger trials carried out in December 1981 experienced serious technical problems and as a result, APT-P was withdrawn from passenger service shortly afterwards.

(3) Production phase: the APT-S (1981-1985)

The third phase of the APT programme had as an objective the consolidation of all previous developments into a final train design. In early 1981, BR was `awaiting government approval [for] a programme to build an initial fleet of 60 APTs',[20] sufficient to cover the London-

[16] Ibid.

[17] Interview with former APT Project Manager, BR. An article in *The Times* stated that `if all goes well one gas turbine and one electric-powered prototype train will go into passenger service in 1974.' (`Special Report on passenger services', 17/03/1972, p. III.)

[18] Potter and Roy (1985), p. 30.

[19] Potter (1987), p. 124.

[20] Colin Ledsome, `APT', *Engineering*, Vol. 221, No 2 (Feb. 1981): p. 106.

Glasgow route and expected to be in full service from May 1984. Following the misfortunes of December 1981, BR admitted in 1982 that APT-Ps would not be used for passenger service, only as relief trains or in peak summer periods. Some engineers thought that the December trials had `demonstrated' that the APT concept was `achievable'; all that was left to do was to make it reliable, at the production stage.[21] But as Peter Parker, the then Chairman, reflected, `We could not protract the development any longer ... There had to be something ready to take over as the HST aged and our electrification programme was widely introduced over more of the network ... this was a defeat'.[22]

In August 1984, APT-Ps entered passenger service as relief trains on the London-Glasgow route. In December there was even a record run, Euston-Glasgow in 3 hours 53 mns. But `we had decided in fact that APT would not proceed and we had conceived ... the IC225'.[23] Passenger trials ceased in early 1985 and in 1986, the design, development and construction of Class 91 `Electra' locomotives started for the `InterCity 225' project: this new electric train was to be non-specialist and non-tilting, though it used elements of APT technology and is considered to be APT's direct successor. It took only two years to be designed, developed and built, and in October 1989, the first complete Class 91 trainset entered service on schedule (IC225 London-Leeds).

B. The decision-making context

Decisions regarding APT were made in a multi-dimensional context, which yields several elements of the British public policy referential framework. The dimensions have not been listed in a hierarchical order, but in order to maximise ease of understanding. I argue that the political environment in which the project was launched was favourable, whilst other elements of the policy context were sources of difficulty.

(1) The political environment

APT was born in a favourable political configuration, both as regards science and technology policy and rail transport policy although there was no publicly acknowledged connection between the launch of APT research and Harold Wilson's call for the `white heat of the technological revolution' to modernise Britain (and the Labour conception that science could revive the economy).[24] In fact, `the project was considered of sufficient importance for a special laboratory to be built at Derby ... The comprehensive nature of this test house is indicative of the

[21] Interview with former Director of M&EE (2), BRB.

[22] Parker (1989), p. 273.

[23] Interview with former APT Project Manager, BR.

[24] See Prorogation Speech, 8 November 1965, quoted in Harold Wilson, *The Labour Government, 1964-1970: a Personal Record* (London: Weidenfeld & Nicholson and Michael Joseph, 1971), p. 175; also p. 435.

massive investment made into the whole APT project.'[25] The government `undertook to give financial support to selected areas of engineering research and the Advanced Passenger Train was an early beneficiary.'[26] One former head of Research at the RTC recalled that `Wilson and the Government gave us a bit of a fair wind' because it was a public transport project,[27] and this appealed to a traditionally public sector-minded Labour Party. The Advanced Passenger Train could embody the power of socialism to harness technology to public ends. The Wilson government wished to see a renewed development of rail transport; to this end, a Joint Steering Group (JSG) was set up in 1966 `to commission, oversee and report on a series of studies which it was hoped would plot a lasting solution to the railway problem.'[28] JSG's review of railway policy helped APT inasmuch as `it established that there were going to be no more cuts ... therefore the future of the railway was assured'.[29] Under the guidance of a strong Minister of Transport, Barbara Castle, a new railway regime was ushered in: `the government was very concerned about the future of British Railways ... they saw the Research Department as something pretty different to what was the norm at British Rail ... so the Ministry of Transport, and particularly their Chief Scientific Adviser, were very keen on enhancing the role of BR Research ... the proposals for APT were actually part of a larger programme'.[30] A High Speed Policy, supported by the Ministry, was launched, and BR adopted a new slogan, `Fastest Through Crowded Britain'.

Even in an auspicious political climate there were narrow limits to what could conceivably be attempted: `the extent of the electrification on the British Railways network was fairly minor at that stage and although there were plans to electrify at a future date, it was going to be clearly a slow progress. So APT was designed predominantly as an independently-powered train' rather than an electric one,[31] and `was intended for the East Coast main line as an alternative to electrification.'[32] The Japanese bullet train option (straight, new track) was not feasible in Britain: `For right or wrong, it very quickly stopped being a technical matter and became a political matter ... there was no way of getting from London to Glasgow without passing somewhere around the

[25] O S Nock, *Two Miles a Minute: the story behind the conception and operation of Britain's High Speed and Advanced Passenger Trains* (Cambridge: Patrick Stephens, 1980), p. 87.

[26] John Johnston and R A Long, *British Railways Engineering 1948-1980* (London: Mechanical Engineering Publications Ltd, 1981), p. 79.

[27] Interview with former Head of Research (1), RTC, BR.

[28] Stewart Joy, *The Train That Ran Away: the inside story of British Railways' chronic financial failures since nationalisation* (London: Ian Allen, 1973), p. 92.

[29] Interview with former Permanent Secretary, DoT (3).

[30] Interview with former Head of Research (2), RTC, BR.

[31] Interview with former APT Project Manager, BR.

[32] Correspondence with former Chief Scientific Officer, MoT.

heart of Birmingham, Manchester, Coventry, Liverpool and thread your way through that lot, with the 1000s of houses, 1000s of factories ... the Minister of the day would have had to have said "Look I'm sorry, I can't sell that, not to either side of the House" ... Neither side could do that sort of thing so we had to go about it some other way!'[33]

(2) Financing and appraising new technology

Policy constraints were not solely political but also financial: new rolling stock was an attractive idea but did anyone at BR wish to push for new infrastructure?

> No, we were very realistic in the industry ... We looked at our inter-city business in a very commercial way, not in a total cost-benefit approach, we looked at it purely as a commercial business ... and recognised that we'd never be able to make a business case for building completely new infrastructure.[34]

Passenger traffic could not be sufficiently increased: `BR studied the cost per seat/km of a high speed Inter-City network in relation to the passenger flow and concluded that a larger flow than was ever likely to be attained in Britain would be required to justify the expense of building a new line. Therefore we decided to take a different route by making use of the maximum railway infrastructure. And so the Advanced Passenger Train was conceived.'[35] An early study into the reduction of journey times concluded that new tracks were not a workable idea because they `would require massive investment, not to mention Parliamentary Bills and public inquiries.'[36] In any case there was not a great deal of enthusiasm for *very* high rail speeds even within BR; at the Vienna High Speeds Symposium of June 1968, BR emphasised its belief in `the "value for money" criterion attached to railway engineering development in Britain.'[37]

The train would have to run on the *existing*, winding routes, since the relatively low level of railway investment meant that investing in *new* lines - even on a limited scale - could not be contemplated: `the capital cost involved in providing this significantly better service should principally be that of the trains themselves.'[38] This made the most well-known characteristic of APT, the `tilting body', more than a *technical* necessity: the research team had to adopt a more

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[33] Interview with former Under-Secretary (Railways), DoT.

[34] Interview with former Vice-Chairperson (1980s), BRB. He also described the idea of building new rail infrastructure in Britain as `commercial cloud-cuckoo land as we operated here.'

[35] Peter Parker, `High speed travel on both sides of the Channel', *Rail Engineering International*, Vol. 10, No 3 (August/Sept. 1981): p. 66.

[36] According to Williams (1985), p. 10.

[37] Johnston and Long (1981), p. 82.

[38] A H Wickens (then BR Director of Research), `R&D on high speed railways - achievements and prospects', *Transport Reviews*, Vol. 3, No 1 (Jan.-March 1983): p. 95.

risky high-tech strategy.[39] As an MoT official put it then, `Our problem was to see whether the application of modern technology could *squeeze more out* of the existing system, simply by improving the vehicles rather than the tracks'[40] (my italics). This telling metaphor implied that central government had to make the best of the legacy of the Victorian era, as a fresh start was unthinkable. Later, when the project had encountered difficulties and alternatives were being re-examined concerning the WCML, the `alternative of straightening the track [was] ruled out on cost and environmental grounds.'[41]

The lack of financial means had a second technical implication: the replacement of the signalling and safety systems was deemed too expensive an option, therefore the new train would have to use the same signals as conventional trains, and be able to brake in a relatively short distance; train drivers had requested some form of cab signalling; BR `had ... a system in readiness but could not cope financially with the costs of its widespread application.'[42] The system was not applied. The requirement for powerful brakes led to another technological challenge, the development of high performance, hydrokinetic brakes, which were unique to APT: `the impetus for this was really the general approach of the APT project which was intended to avoid the need for expensive infrastructure'.[43]

The decision not to re-signal had a critical implication as regards APT's maximum commercial speed: the original design speed of 250km/h was reduced to 225km/h because it was eventually found that the existing signalling system would not be able to cope with speeds above that limit, in particular if a train needed to be halted in an emergency. In 1970, it was already apparent to the Working Party on inter-city transport that there was a contradiction between the objective of high speed operation and the fact that `The Train Control Project for advanced signalling systems is not part of the APT program'; they argued that `Operation of APT at 200km/h ... is expected to be possible using present modern signalling equipment. Nevertheless, for operation at higher speeds, some parts of the TCP system will be needed'.[44] By 1973, the

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[39] The initiator of the APT concept at BR's RTC wrote that because new track required large capital sums and this was unlikely to be available in the UK, there was `an economic limitation to the achievement of high speeds by track improvement alone' (Wickens, March 1971: p. 209).

[40] Price (1971), p. 218. Another Transport official thought that `one way or another, the track wasn't gonna get straightened!' (Interview with former Principal Private Secretary to Minister of Transport.) The cost-cutting philosophy has been absorbed by BR management: C Buck for instance has written of the `commercial needs of a transport system that must squeeze out every penny of unnecessary costs, to maximise its full and great potential.' (Christopher Buck, `Railways', *Engineering* special issue, Vol. 226, No 1 (Jan. 1986): p. 88.)

[41] Draft submission on APT, 29/09/1977, BAM (1977 Part II).

[42] Safety above 150mph demanded `some form of continuous cab signalling' but `that would be very costly to develop and install' (Freeman Allen, 1978, pp. 102, 111).

[43] Potter and Roy (1985), p. 23.

[44] IWPICT, *Comparative Assessment of New Forms of Inter-City Transport*, TRRL Report SR1 (Dec. 1970), p.

professional literature made it clear that `signalling and level crossings [would] limit [power cars] to 200km/h on the West Coast main line' and that this would have to be the top commercial service speed.[45]

Railway engineers themselves had absorbed the prevailing ethos of financial restraint, justifying their technical choices thus: `The approach to high speed transport through the APT is more cost effective [because] the very high capital value of existing track is exploited to the full'.[46] A statement from A H Wickens went even further: `Whatever system of support, guidance and propulsion is chosen, the major objective for research and development must be the minimization of infrastructure cost.'[47] The ratio of cost to quality did not enter into the equation and costs were the main consideration from the very beginning. The Victorian legacy of track layout was to be built upon in organic fashion, rather than modernised or replaced.

Ways of financing the APT research programme were left to BR Research managers at first but they had very little for manoeuvre in financial terms; BR Chairman

> Stanley Raymond said he was very willing to progress research along the lines Sidney Jones wanted but he had a deficit of several hundred million a year ... he said "If you can find the money, you can go ahead". So Sidney Jones and other people looked all around, in private industry, and eventually secured an agreement with the Ministry of Transport, that they would put in pound for pound what the railways would put in, on work on track, work on signalling, and particularly work on the Advanced Passenger Train.[48]

The APT proposal took two years to be accepted by BRB and government, partly because `it was about that time that public expenditure figures were becoming much tighter and also there were cuts following the devaluation'.[49] But MoT officials backed it and `made sure it got the money'.[50] The government approved the APT expenditure plan in November 1968 on the basis that BR and MoT would provide 50% each, as part of a larger, jointly-funded programme of railway R&D. A Joint Research and Development Committee (JRDC) made up solely of BR and MoT representatives, was set up to monitor the funded research programme; its parent body, the Joint

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[45] `APT programme moves ahead after searching reappraisal', *RGI* (Dec. 1973): p. 470.

[46] Newman (1973): p. 327.

[47] Wickens (Jan.-March 1983): p. 108.

[48] Interview with former Head of Research (1), RTC, BR. NRDC was approached but there resulted only `an agreement ... that they would get involved if we tried to sell any of the technology to other people ... they would have taken a share in any money that was made' (ibid.). Even under Labour, intervention by actors other than the sponsor department was confined to promoting a product and did not include its development.

[49] Interview with former Permanent Secretary, DoT (3).

[50] Interview with former Under-Secretary (Railways), DoT.

Research and Development Working Group (JRDWG) met monthly and was chaired alternately by BR's Head of Research and by an official from the Railways Directorate at MoT. Within the framework of the joint programme, `in order to satisfy [MoT officials] we had to have proper reporting procedures, proper financial procedures'.[51] This arrangement meant that APT was dependent on central government approval at every stage of the R&D process, that BR had no budgetary room for manoeuvre and that the departmental input into budget allocations was very consequential. JRDC meetings reviewed the progress of the project and the next milestones, and divided up the budget: `there was no way that the Board was given a set of money and then it could go off and do what it liked for that year. No there was a fairly close involvement of the government departments in making sure that the money was being well spent.'[52]

On their own admission, Transport officials `monitored, quite fiercely what they were doing, we had regular meetings ... we quizzed them. We had to do that because we in our turn had to bring the Treasury along with us'; the Treasury were being neither more nor less difficult than usual but `were doing their proper thing ... They were tough, we knew they would be tough, we used the fact that they were being tough on us to justify our being tough on Alan [Wickens] and Sidney [Jones] and the rest, but at the end of the day ... it did go through!'[53] There were no `triangular' meetings between MoT, Treasury and BRB representatives: financial matters were always settled on a bilateral basis because the Treasury role was to `put [Transport] in a corner' and Transport's role was to go away and deal with BR in turn; in a triangular arrangement, DoT officials would have been `the chaps in the middle' with `loyalties in both directions' and courtesy would have `got in the way' whereas in bilateral discussions you could really say what you meant.[54] Inevitably, two sets of bilateral procedures gave more scope for delays and misconceptions than a single triangular arrangement.

One BR scientist's perception was that

> the Department of Transport ... actually interfere on a day-to-day basis ... In fact the top layer of management of British Rail was in fact in Marsham Street, not in Euston House. *Every* investment decision was made down there. They were never submitted until they were sort of given approval ...[55]

Another APT engineer deplored `the slow process of gaining government approval for each stage

[51] Interview with former Head of Research (2), RTC, BR.

[52] Interview with former APT Project Manager, BR.

[53] Interview with former Under-Secretary (Railways), DoT.

[54] Interview with former Under-Secretary (Railways), DoT. The JSG had included one Treasury official but `It was unusual to have the Treasury ... represented on such a group, and, presumably, committed to support its conclusions' (Joy, 1973, p. 92).

[55] Interview with former Head of Research (2), RTC, BR.

of expenditure'.[56]

Following the second internal review of the project, a proposal was submitted to the BRB in April 1973, but `the authority to construct prototypes was to take seventeen months to come through. This delay was largely connected with a wrangle between the British Railways Board and the Government over the financing and scale of the APT project.'[57] Also, a new government had just been elected: `The Labour government was squeezing BR spending ... In fact, BR was lucky to continue with the project at all ... it narrowly escaped cancellation.'[58] The national economic crisis resulted in the railway investment programme being greatly reduced, and in this new atmosphere of financial restraint, APT was particularly exposed. Although ministerial approval had been given for 4 prototypes, `because of cash restraints at the time the Board decided to build only 3 trains',[59] a decision approved by the government on June 24 1974.[60]

Unlike the experimental phase, which had been financed jointly by BR and MoT as a separate research project, the prototype phase was to be financed internally by BR, in the same framework as decisions on other investment projects. But BR did not have sufficient resources to devote to it and wished to apply for a loan of £11.6m (40% of the estimated cost of 3 prototypes) from the European Investment Bank (EIB) in 1976.[61] DoT supported BR's application but at first the Treasury wished to defer it; following an exchange of letters between the Railways Directorate and the Treasury in March 1976, the latter allowed the application to be made and BR obtained the loan.[62] Throughout the project, BR were entirely dependent on the level of government support, either directly or indirectly; because of this, any change in policy was keenly felt.

Although APT was often portrayed by its detractors as an expensive piece of technology, the total cost of the project was £43m, over a period of over fifteen years (1967-1982).[63] BR's 1977 *APT Prototype Progress Report (No 6)* stated that expenditure to date had been `closely in accord with the planned expenditure'. To go into production phase however, involved approving

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[56] Ledsome (Feb. 1981): p. 106.

[57] Potter (1987), p. 117.

[58] Hughes (1988): p. 53.

[59] BRB, Chief Executive memorandum, *Advanced Passenger Train: the evolution of a policy for a West Coast Main Line service fleet* (31/01/1978), p. 2.

[60] Ian Campbell (BRB), `Speed at the right price', *RGI* (May 1980): p. VII.

[61] In his memoirs, the Chairman of BRB recalls that `In 1974 I even persuaded European Investment Bank to put up the money to finance the advanced passenger train, because of its potential benefits to the European Community.' (Marsh, 1978, p. 194.)

[62] See BAM (1977 Part I).

[63] Potter and Roy (1985), p. 22. They add that in comparison, `the Concorde project alone cost £2000m to develop from 1962-76'. See also `Prototype APTs take shape at Derby', *RGI* (Jan. 1977): p. 27.

expenditure in the region of £150m (in 1977). This was felt at the Department to have considerable political implications.

Funding was dependent on continued positive appraisal of the project. By the late 1960s, `Passenger surveys ... suggested that the key factor was journey time':[64] the `1968 formula' (revenue would increase if trains ran above the speed of 100mph) was derived from market research.[65] The traffic expansion experienced in the late 1960s was analysed by BR, who found `a clear relationship between journey time and traffic increase. More elaborate analyses have been made using computer models ... These have confirmed that the common thread of improvement resulting in rapid traffic growth is that of journey time. Independent market research has confirmed these conclusions.'[66] Some argued that `If the argument of `generalised cost' is accepted, reduction in rail journey time will increase the rail share of the total market as well as attracting traffic generated by a progressively more affluent society.'[67] Yet as with other railway investment projects, appraisals of APT were conducted purely on a financial basis, without taking into account wider, non-financial or indirect, benefits, such as time savings. These were not included in appraisals of new rail schemes, even though they were for road schemes appraised by Roads officials. By late 1978, BR chiefs were still convinced that journey times had `a significant effect upon the share of the market which is attracted to rail' on WCML routes.[68] But time savings continued to be excluded from appraisal procedures.

Even when cost-benefit analysis (CBA) was attempted, as it was in 1970 within the framework of the interdepartmental working party on inter-city transport (IWPICT, an *ad hoc* group set up by MinTech in 1969, bringing together officials from MoT/DoE, TRAG, MinTech, DTI, and several members of the Railways Board), central government expertise was found wanting. IWPICT assessed new forms of inter-city transport for which there was a great deal of interest in the late 1960s: the Tracked Hovercraft and the Vertical Take-Off and Landing aircraft (VTOL), both of which would require new infrastructure. Although its terms of reference had been `To co-ordinate and direct a comparative assessment of the ... costs ... and the relative social merits ... ensuring that a common basis is used for the assessment', it took an approach `which determines the operators' financial profit or loss, and does not attempt to make a broader assessment of other effects on the community'; therefore `the possible future modes of inter-city transport [were] not ... placed in order of social merit' and the report (*Comparative Assessment of New Forms of Inter-City*

[64] Potter and Roy (1985), p. 12.

[65] Johnston and Long (1981), p. 82.

[66] Smith (Dec. 1971): p. 8.

[67] Ibid.

[68] BRB, Chief Executive memorandum, *Advanced Passenger Train: the evolution of a policy for a West Coast Main Line service fleet* (31/01/1978), p. 4.

Transport) did not constitute a costs and benefits assessment.[69]

Nevertheless, APT appeared `to be assured of success. In the possible future situations its revenues substantially exceed its costs, even when it has to compete against other modes operating at a loss.'[70] This was because `any transport system requiring a new fixed track does not seem able to pass the economic tests of profitability that are currently applied, at least in this country - so that the APT, which (so to speak) rides on the back of previous railway investment, has a head start.'[71] Thus the APT project was allowed to be pursued purely on financial grounds and clearly benefitted from the foresight of BR managers, who had realised at an early stage that the only high speed services that would be officially approved would have to run on existing infrastructure.[72]

Why was the appraisal of social benefits beyond IWPICT's resources? There was a lack of methodological tools in several domains which the report deplored; it called for further research in transport appraisal methodology and for later studies to deal with whole networks, rather than single London-based routes.[73] One member of the working party thought that there were two obstacles: `1) the computer models that didn't exist would have had to have been written. 2) You didn't have the origin / destination matrices, you had to assume them ... that is not simple ... and therefore when we talked about the resources which would have been needed, it would have been immense survey resources ... an immense amount of data collection would have been required ... There wasn't the money available to make the surveys and we would have had to develop survey techniques'.[74] One official thought that the Ministry at the time did not have any in-house capability which would remotely have allowed them to evaluate the soundness of the project and that `British Rail was ... judge and jury if you like as to whether this should go ahead within its overall research spend'.[75]

Little faith attached to such studies anyway. One MoT official directly involved in the APT project remarked that TRAG's `connection to APT was limited to a paper study ... There was not a clear cut outcome, nor would one really expect there to be one. ... as always with such studies, the outcome is sensitive to market forecasts. Furthermore, the target is not a stationary one.'[76]

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[69] IWPICT, *Comparative Assessment of New Forms of Inter-City Transport* (Dec. 1970), pp. 1, 8, 65.

[70] Ibid., p. 75.

[71] Price (Sept. 1970): p. 220.

[72] Potter argues that in a different political context, one in which cost-benefit techniques were used, `the major rebuilding of a route such as the West Coast main line could feature.' With the enormous advantage of new track, the project would have had to take fewer technological gambles. (Potter, 1987, p. 179.)

[73] IWPICT (Dec. 1970), p. 74. See also TRRL Report SR3 (Final Report, Dec. 1971), p. 70.

[74] Interview with former senior TRRL/DoT scientist.

[75] Interview with former Principal Private Secretary to Minister of Transport (late 1960s).

[76] Correspondence with former Chief Scientific Officer, MoT. He was referring to *Comparative Assessment of*

Another official felt that `The British Rail people were, I think with some justice, seeing the entire exercise as being a little theoretical and were trying to say I think ... that life is more complicated than that'.[77] The underlying feeling was that of an unfathomable market which might unpredictably alter. The same official on the working party was himself sceptical about the virtues of CBA to aid decision-making:

> The fact of the matter was that as soon as you came to these questions and started to look at the thing in its actual complexity, two things happened: firstly the thing ceased to be a matter of economics and became a matter of politics and the economists were very chary about moving into the decision-making area of the elected politician! and quite rightly too ... in any case the problems could be formulated, and you could in principle state how you could investigate them. But in practice there wasn't enough time, there wasn't enough money and there weren't even enough economists.[78]

The lack of expertise and resources, together with the fear to impinge on ministers' territory, appear to have been a powerful deterrent.

Even within the BRB, CBA was not pursued with great devotion; although a table in a 1978 BRB memorandum showed the cost-benefits of APT,[79] Chairman Peter Parker believed that `cost benefit analysis falls down because it depends on those costs and those benefits which can be relatively easily valued, but tackles less well those factors which do not lend themselves easily to expression in numerate terms'; also `the naive position adopted by early cost benefit man ... seemed to imply that every consideration could be perfectly weighted and that therefore there was a single best solution.'[80] Parker went on to argue that multi criteria analysis (MCA) would be more appropriate `in sectors such as transport where there are often several objectives in potential conflict - such as objectives on efficiency, mobility and environment ... [it] might provide a means in which various policy options could be compared, with each policy option representing a different balance of objectives and of funding.'[81]

Even though the Chairman was sceptical towards CBA, he did suggest `that if we have a way of subjecting the various competing options to some sort of agreed quantification, than we have a means of taking the heat out of the debate and concentrating our minds on the real key

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New Forms of Inter-City Transport.

[77] Interview with former senior TRRL/DoT scientist.

[78] Ibid.

[79] BRB, Chief Executive memorandum, *Advanced Passenger Train: the evolution of a policy for a West Coast Main Line service fleet* (31/01/1978), p. 8.

[80] Parker (23/02/1978), p. 14.

[81] Ibid., p. 15.

issues.'[82] He clearly perceived the need for a more rational approach to policy-making, but this ran against the grain: TRRL (which was considered to be independent-minded) began to produce studies which influenced some aspects of rail policy and `The idea that these things could be studied in any other way than by political negotiation was alien and of course they didnt like it!'; for it was `alien to the administrators in the railway divisions and not very welcome to British Rail either, who had ... got to know how to twist the arm of the administrators and what sorts of things to say to them'.[83] The politicised nature of DoT / railway relations could not have been put more clearly.

Appraisal is highly dependent on experts' assumptions, which are part of the referential framework. The 1970 inter-departmental report discussed above, for instance, `did not take account of new trips which might be generated by improvements in transport.'[84] It did not conclude that frequency of service had much influence on modal choice either `partly because an operator will, in practice, adjust the service frequency to match the demand.'[85] In other words, the underlying assumption was that demand leads and supply of transport should not anticipate, even less seek to direct, future demand (e.g. by creating improved conditions which will induce *new* demand, either as additional traffic or as traffic diverted from other forms of transport).

An MoT official, speaking of the choice that needed to be made between APT and rival technologies, such as Tracked Hovercraft and VTOL, declared: `eventually the market will make a choice, and no doubt it will be one based on an overall assessment of reliability, cost, speed, safety, engineering elegance, and the level of interference with amenity. It will be an interesting struggle.'[86] The assumption here was that the Department could sit back and watch market forces compete. The official then concluded that `we have to think of the future of transport not as something pre-ordained ... but as a highly competitive situation in which many modes of transport are vying with each other for the public's favour ... The transport policy-maker will, of course, make full use of the modern techniques of system analysis ... and all the rest;' but techniques in his mind were subservient to public finance, for `In the end, a country gets what it is prepared to pay for'.[87] The decisive role of the market was again highlighted; a further assumption was that central government had to provide what the country wanted as a consumer of services, rather than what the government thought it needed for its welfare. The recurring concern with financial costs also

[82] Ibid., p. 19.

[83] Interview with former senior TRRL/DoT scientist.

[84] IWPICT (Dec. 1970), p. 13.

[85] Ibid., p. 46.

[86] Price (Sept. 1970): p. 220.

[87] Ibid.: p. 226.

surfaced in this statement, which was made in 1970, before neo-liberal thinking had become the common currency of Conservative political language. Clearly, market ranked higher than society.

This assumption was not wholly shared by the railway operator. The Chairman declared: `the nation *needs* the railways, and they are here, adapting themselves to the country's needs, to stay.'[88] (My italics.) Mike Newman, the then Deputy Director of Laboratories (R&D Division) stated: APT `is aimed at *fulfilling a need* for fast interurban passenger transport.'[89] (My italics.) Transport `needs' is a more hypothetic, qualitative concept than transport `demand', which is more readily quantifiable. So whilst BR would have wished to both match existing demand and fulfill potential transport needs, the latter was not viewed as a legitimate argument by central government officials, who were content to react to changing rail transport patterns but were not prepared to forestall them.

More generally, qualitative arguments were automatically excluded from the appraisal process, although the BRB's inter-city strategy was to improve quality of service, and senior managers did make use of such arguments: the Passenger Executive Director on the Railways Board referred to `heavy investment needed to improve quality' (in the London area) and to the fact that `research [had] indicated that passengers [would] pay more for higher quality'.[90] One Chairman stressed that APT would operate `at a net benefit to the environment' and that `In terms of reduced road congestion and accident costs, not to mention aircraft noise ... this all adds up to massive social benefit.'[91] Similarly, two of the senior engineers engaged in APT research considered that `Higher speeds are worthwhile ... until the economic, social and environmental advantages to the nation grow more slowly than the disadvantages.'[92] BR's inter-city strategy was also defined in terms which combined service quality and commercial sense: `to attract passengers to rail travel by running fast comfortable trains at economic cost to maximise net revenues.'[93] But the vocabulary of the market was a dominant part of the referential framework whereas the vocabulary of society was not and such transport-centred discourse carried little weight in the policy process.

There was dissatisfaction about the appraisal process by the end of 1977[94] and it was decided to launch an *Inter-Urban Study* covering all modes, which would examine `how well the

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[88] Richard Marsh, in *The Times: Special Report on passenger services* (17/03/1972): p. II.

[89] Newman (1973), p. 319. He also stated that the renewed interest in rail transport in the world was `In order to *meet the transport needs* of modern, highly urbanised areas' (my italics).

[90] A E T Griffiths, in *The Times: Special Report on passenger services* (17/03/1972): p. VI.

[91] Marsh (Dec. 1971): p. 7.

[92] Boocock and Newman (1976): p. 659.

[93] Boocock and King (1982): p. 35.

[94] Background note on APT, BAM (1978 Part III).

institutions work in practice' and `the way that operators draw up and departments appraise long-term strategies'.[95] It was to be carried out by TRRL and look at a time horizon of 10 to 15 years. The Treasury however objected to this medium-term approach; it `argued for a less far-reaching study which would be more relevant to imminent decisions'.[96] Appraisal continued in an *ad hoc* fashion. To sum up, appraisal was conducted on a narrow, financial basis. Those at BR who sought to widen the terms of appraisal were unsuccessful.

(3) The international environment

The international market for railway equipment was an important consideration throughout the decision-making process, following a change in government policy. Clause 45 of the Transport Bill (Clause 48 in the Act) which Barbara Castle was preparing in 1967 empowered the Railways Board to manufacture for sale to outside persons, which meant that railway workshops could now manufacture for exports on a commercial basis. The Minister was `taking a fantastically wide extension of the manufacturing powers of nationalised industries'; officials were very anxious that there should be a way to control the use of the powers, and accordingly made a provision whereby the Minister had to approve all proposals for their use; the Clause on the whole was quite controversial and was the object of a `big debate' in the Standing Committee.[97] It opened a new fund-raising avenue for the national railway.

In order to protect the name of BR's new train, a limited company was set up as a subsidiary of the Board in April 1969 (`Advanced Passenger Trains Ltd'). Richard Marsh thought that `The export potential was vast. Throughout the world there was a massive railway resurgence.'[98] In particular, the public railway corporation Amtrak had just been set up in the United States. DoE was very enthusiastic about APT, as it was believed that export sales might result in the cost of research being defrayed by external revenue. The proceeds from any export contract `would have benefitted the Treasury in terms of the support of BR' since pound for pound BR would have `needed less from the Exchequer to stay afloat' and it would have improved the national balance of payments.[99] It is worth noting that the railway would not have gained additional revenue over and above state funding, which it could have re-invested as it wished. The only beneficiary in financial terms would have been the Treasury, which perhaps explains why the export sales argument (to which Treasury officials would have been sensitive) was so prominent.

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[95] *Inter-Urban Study*, draft submission to Secretary of State (06/01/1978), BAM (1978 Part III).

[96] Draft submission to Secretary of State (06/01/1978), BAM (1978 Part III).

[97] Barbara Castle, *The Castle Diaries 1964-1970*, 11 and 14 March 1968 entries, pp. 394-396. See Edgar J Larkin and John G Larkin, *The Railway Workshops of Britain: 1823-1986* (London: Macmillan, 1988).

[98] Marsh (1978), p. 193.

[99] Interview with former Under-Secretary (Railways), DoT.

In the midst of the tremendous international attention which the project had aroused in professional circles, BR signed a technological co-operation agreement with the US Department of Transport and in October 1969 signed a licence deal with the American company Budd Co.[100] In October 1971, a BRB delegation including the Chairman was invited to Washington to outline BR's projects before the U.S. Senate Sub-Committee on Surface Transportation.[101] An MoT official, referring to `the market for APT and similar trains', stated that `rail transport should be able to hold its own against air services over distances of the order of 300 miles' that is in inter-city travel corridors, many of which existed in Europe and America.[102] One member of the original APT team thought that `the government ... or certain people, were ... excited by this idea of ... revolution and Britain will be seen to be ... producing new technological trains ahead of other people ... here was something which would portray Britain as once again taking the lead in the railway field as it had done when railways started.'[103] BR produced optimistic statements such as: `on America's indifferent tracks British Rail's Advanced Passenger Train would show to advantage';[104] the Head of Research, Dr Jones was reported to have spoken openly of a 400km/h APT in 1971[105] and he `recruited somebody ... who went tramping around the world ... trying to sell BR Research, the major bit of which at that stage was to do with APT.'[106] In 1980, export hopes were still strong: `we shall see a tremendous upsurge of interest in this train from overseas ... wherever electrified tracks link large centres of population within the range of daytime travel, APT will offer the smoothest ride of any train built to date - and the cheapest too in terms of value for money.'[107] This factor was of great importance to some Transport officials, to the extent that an official visit to China in 1980 involved displaying a model of APT; it was thought that on Chinese railway tracks, APT would bring much improvement at little cost.[108]

The common thread running through these activities of the Board and Department was the high hope of commercial benefits, all the more so as railway funding continued to be a thorny issue. One of the reasons why they did not materialise was the peculiar organisation of the railway

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[100] Hughes (1988), p. 52.

[101] Marsh (Dec. 1971): p. 3.

[102] Price (1970): p. 219.

[103] Interview with former APT Project Manager, BR.

[104] *The Times: Special Report on passenger services* (17/03/1972): p. V.

[105] Hughes (1988), p. 50.

[106] Interview with former APT Project Manager, BR.

[107] Campbell (May 1980): p. VII.

[108] Interview with former Permanent Secretary, DoT (2).

manufacturing industry in Britain, the subject of our next section.

(4) The industrial environment: the railway manufacturers

The private railway manufacturing industry at the beginning of the APT programme was `Fragmented, backward-looking', because `When steam went out, that industry very largely collapsed'.[109] On the whole, the 1960s and 1970s were very much a difficult time of transition for the private railway industry. The manufacturing of locomotives, rolling stock and other machinery followed a unique pattern, inasmuch as it `was carried on much more extensively by the railways in Britain than anywhere else. In other countries it was more usual for railways to buy their equipment from commercial manufacturers. Both systems existed side by side on a great scale in Britain'.[110] The 1968 Transport Act enabled BR to continue building a large share of its own rolling stock, henceforth through BREL (British Railways Engineering Ltd).[111] This historical state of affairs left comparatively little work to private manufacturers: `The old BR-dominated system tended to relegate the supply industry to little more than a production line operation.'[112] Hence contractors were used for APT not right from the beginning, but once design specifications were sufficiently advanced.

In other words, responsibility for the whole project rested squarely with BR, with designing (at RTC) and building (at BREL) both taking place at Derby; one of the reasons for technical failures experienced by APT was poor quality control within BR and the fact that a number of BREL workshop managers gave APT work a low priority.[113] An ACARD report in 1980 (*R&D for public purchasing*) `recommended that, in order to improve their export competitiveness, state-owned companies should rely less on in-house research and more on their suppliers and other contractors to develop new products.'[114] The traditional railway engineering work pattern was heavily criticised in the Report of the Committee on the Review of Railway Finances (1983). It was felt that partnership between the public and private sectors needed to be developed.

As regards the work contracted out to private firms, the relationship between BR and the

[109] Interview with former Head of Research (1), RTC, BR.

[110] Simmons (1986), p. 236.

[111] BREL was a BR-owned, separate subsidiary (conforming to the Companies Act) set up in 1968 under the new Transport Act, until April 1991, when it was privatised.

[112] Potter, `Managing high-speed train projects', Whitelegg *et al* (1993): p. 161.

[113] Potter and Roy (1985), pp. 46-47. One former Head of Research thought that `BREL's performance on the APT was disastrous' (interview).

[114] Potter and Roy (1985), p. 57. They argue that in BREL's case - untypically - `privatisation was not forced on BR by the Government but was welcomed' (p. 59).

firms `was fairly ... well understood by all parties ... We didn't just stick to one manufacturer.'[115] Foreign companies were used as regards certain components of APT, for instance power circuits: `No British suppliers had suitable components available or was willing to bear the development costs just for prototype quantities and so the equipment was ordered from ASEA in Sweden which had a suitable system already developed'[116] in 1972. Similarly, APT power cars for prototype sets were to be manufactured by ASEA because the only British supplier, GEC, could not meet the required specifications. But `This choice was not well received either politically or by the British firm concerned.'[117] This was indicative of the sort of relations that prevailed between BR and its native suppliers.

Generally speaking, both public and private manufacturers were in a difficult predicament owing to the lack of a clear, long-term government policy.[118] In the 1970s, `they had been through what can only be described as a British railway recession ... This culminated at the end of 1981 in the government's refusal to countenance further electrification. ... Only with the East Coast electrification [in 1984] did the tide begin to turn.'[119] Even after 1984, relations between BR and private manufacturers continued to be characterised by uncertainty. For instance, `in 1984, the Board produced ... a plan for saying that over the next 15 or 20 years we plan to build the following amount of rolling stock; and it was very large! ... The industry was anxious that it was going to put a lot of money into development and no orders would be forthcoming. So the Board saw it as important to make a statement to the industry and it held a *huge* meeting where all the managing directors were invited ... now unfortunately within the space of two years the whole thing had fallen flat on its face ... It was politics ... The government would not allow, or placed very severe limits on ... public spending ... so we were not able to invest in new rolling stock'.[120] This particular development took place in the same period when APT was finally shelved.

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[115] Interview with former Vice-Chairperson (1980s), BR.

[116] Ledsome (Feb. 1981): p. 104.

[117] BRB, Chief Executive memorandum, *Advanced Passenger Train: the evolution of a policy for a West Coast Main Line service fleet* (31/01/1978), p. 3.

[118] Around 1972 `I sat down with my opposite number at the Passenger Department and we reviewed all the fleets and motor vehicles ... and we drew up a ... plan for renewal on a basis of a 30 to 35-year life and that would have given a very nice spread for the manufacturers and renewed the stock at an economic rate... they stopped it!' Instead, government gave the go-ahead to a small tranche; `They [politicians] seem to think, if you're a manufacturer, [you] will have men and facilities ... waiting'. (Interview with former Director of M&EE (2), BRB.)

[119] Hughes (1988), p. 180. But in the 1980s and for the same reason, according to one BR Chairman, the `inability to establish a long-range building programme with railway manufacturers' was a fundamental problem for BR; it did not make for harmonious relations within the industry as a whole. (Reid, 18/11/1992.)

[120] Interview with former APT Project Manager, BR.

(5) The professional dimension

Difficulties of a professional nature were prominent right from the start. Research at BR until 1964 had mainly been `defensive', but the arrival of Dr Sidney Jones, a non-railway engineer with a scientific training, heralded a new era of `offensive' research strategy. The creation of RTC was `largely an initiative of Sidney Jones', who `persuaded the Board that they should invest in some longer-term thinking ... in particular higher speed'; the Board however `were not easily convinced, partly because they were not technically qualified, mainly - and even on the engineering side - they were very down-to-earth ... empirical ... mainly engineers from the steam age'.[121] In the mid-1960s, some perceived the BRB as being `nearly all railwaymen, a lot of them anti-engineering, anti-technological', with a background in operating and maintenance, a `lack of technological expertise' and `very narrow in their outlook'.[122] In fact `The threat of the project being axed was a very real one'[123] even at the beginning. Jones recruited a number of `bright young men' from other industries, mainly aeronautics, but also the car and the coal industries; `They came with ... scientific procedures' and `an entirely different perspective' on technical problem-solving, because for instance `In the aircraft industry they were pushing the limits of development, they were breaking new ground themselves'; the research people `thought if you threw enough time and money ... you could solve anything!' whilst the `traditional' railway engineers `had a greater awareness of the restrictions being placed' on the railways from their nationalisation in 1947 onward.[124] The old `cut-and-try' approach `was challenged by a radical research-based "scientific" approach'[125] and professional rivalry ensued, embodied in the rival designs of HST and APT.

The split between `research scientists' and `railway engineers' was to prove an enduring, perhaps even fatal, one. MoT/DoT most definitely was on the side of the researchers, at least until the late 1970s: `In the eyes of the departmental officials they were a welcome change, very welcome change from the traditional and rather blinkered approach ... I mean we all had enormous enthusiasm for the work that was being done at Derby, we were very impressed by it and we thought the railways would benefit from it.'[126] MoT's Railways Division felt that `The railway had just come through a period of quite considerable change in their thinking' thanks to people who had

[121] Interview with former Head of Research (1), RTC, BR.

[122] Interview with former Head of Research (2), RTC, BR.

[123] Potter and Roy (1985), p. 21.

[124] Interview with former Director of M&EE (2), BRB.

[125] Potter and Roy (1985), p. 17.

[126] Interview with former Permanent Secretary, DoT (3).

come in from the outside `and the whole place had got a degree of ferment about it, a new sense of going somewhere and it was in that environment that the APT idea managed to sprout and grow.'[127] Some officials were aware of the internal dissension at BR: one BRB member (Research) could not visit the Permanent Secretary because he `didn't want to be seen with [him]!'[128] It was clear to those officials that `Sidney Jones carried the APT banner with the Department, carried it successfully with the Department, with the Railways Board marching along carefully ... but they never got in front of him!'[129]

Internal rivalries within BR were able to surface partly because HST and APT were indirectly in competition for limited resources, and because central government was the only source of financial support for investment, which could never be taken for granted: `major engineering resources, at that time, around the mid-1970s, were put into making sure the HST would work and would be a deliverable product, and what was left over ... would go into APT ... They were trying to do too many different things at once, a very innovative APT and a slightly less innovative HST. There just weren't enough people and money around to do both properly.'[130]

Another element of the professional dimension was the background of Transport officials. Most of the questions expected from them were practical, rather than technical ones: one APT engineer said that the regular meetings held jointly by the railway and MoT/DoT `were essentially about the Department wanting to be convinced that this programme which they were supporting was sensible.'[131] He went on to say that `they wanted to talk about the generalities ... they had obviously argued for budgets from the Treasury, so they had to have ammunition ... to go back to the Treasury ... They certainly weren't technical experts, no, definitely not.' This partly explain the fact that technical sticking points were not detected by the authorities at the development stage, in spite of the very close involvement of MoT/DoT through JRDWG. One senior engineer did not think officials could have questioned technical choices made by the APT team: `I don't think they had anybody there who could discount it ... The Ministry so far as I know is comprised mainly of economists and civil servants!'[132] As for TRRL it did house technical specialists but had no railway expertise to start with and was only involved on rare occasions.

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[127] Interview with former Under-Secretary (Railways), DoT.

[128] Interview with former Permanent Secretary, DoT (3).

[129] Interview with former Under-Secretary (Railways), DoT.

[130] Interview with former Head of Research (1), RTC, BR. The experimental diesel HST's performance was impressive: 230km/h on 11 June 1973 between Darlington and York for instance; once in operation as Inter-City 125s, HSTs put Britain in second place `behind Japan for the number of daily services at a maximum speed of 200km/h' (source: *La Vie du Rail*, `Spécial record du monde', No 1785, 19/03/1981, pp. 18-19).

[131] Interview with former APT Project Manager, BR.

[132] Interview with former Director of M&EE (2), BRB. Note that civil servants in his opinion could neither be economists nor engineers.

When discussing the professional dimension, one also needs to look outside technical expertise to more commercial skills. The APT team's `best support in the railway, were the Passenger Business, not the engineers ... Right from the early 1960s, they identified that speed was important to railways. They were the first people outside Japan ... to measure the effect on revenue as they increased speeds'.[133] Commercial managers did not have a decisive input to start with for the in-house economists did not constitute `a very strong or cohesive group ... really!'[134] Indeed `If you go back to the 60s ... the railways were dominated by engineers. There's no question about that ... I don't think they [the economists] had a particularly strong voice.'[135] As a result, the Passenger Marketing Department `didn't have a very big impact ... The argument, *really*, was around the engineering and how adventurous could you be in the engineering.'[136] The research scientists did not have a specific main trunk line in mind for APT: `we were developing what we saw as a generic technology and it would be applied generally.'[137] The more ambitious claims of the APT engineers were not checked: the top speed was set at 250km/h because `this was considered the fastest speed that could initially be achieved' and it was 50% higher than the speed of existing trains.[138] But 250km/h did not really make commercial sense: `I think *that* figure came from the engineers. The commercial people came on board, but I don't think there was an attempt, certainly in the early days, to do any form of cost-benefit analysis which says: what extra are we paying to go this bit faster? I think the questions were asked, but they were asked when the decisions had been made and then the engineers came forward and tried to defend their figure of 250, rather than it being a *rational* examination'.[139]

Until 1976, BR did not seem to have influential economists at senior level. For instance, the BRB's Chief Economist at the beginning of the 1968 Transport Act regime, Dr Stewart Joy, only remained three years (1968-1971) and was so unhappy about his experience that he published a book soon afterwards, `not written under the auspices, or with the records, of the British Railways Board.'[140] There was no tradition and few attempts at economic thinking within the organisation: `The highly complicated business of transport economics was not what railwaymen were brought up to think about. They were not trained in the argument, they couldn't actually handle the

[133] Interview with former Head of Research (2), RTC, BR.

[134] Interview with former Head of Research (1), RTC, BR.

[135] Interview with former APT Project Manager, BR.

[136] Interview with former Head of Research (1), RTC, BR.

[137] Interview with former Head of Research (2), RTC, BR.

[138] Potter and Roy (1985), p. 23.

[139] Interview with former APT Project Manager, BR.

[140] See Preface, Joy (1973).

debate.'[141] This view was echoed at DoT: `They hadn't been thinking of the railway as anything else than an operation, that was the tradition ... Introducing the business attitude was certainly quite a business, it took a long time!'; as a result, BR `were terrified of the economic quality of the Department' and were often `criticised by economists' but unable to disprove them; in fact, it was apparently on the initiative of the then Permanent Secretary that in 1976 the BRB took on a respected economist, Michael Posner (previously at the Treasury), which `stopped this business of being afraid of us and we could talk on equal terms'.[142] The lack of economic input into BR policy was particularly in evidence with the APT project.

To some extent, the dearth of economists at BR during the first half of the APT case study had for a long time previously been matched at MoT by a lack of institutionalised economic thinking. It was not until Barbara Castle's term of office at Transport that an Economic Planning Unit was set up, in 1966: `there were no economists in the Department until 1965. In 1965, I think as a result of pressure from the Treasury or from the Department of Economic Affairs ... Michael [Beesley] came in on a part-time basis ... and he was joined by one man ... from Reading'.[143] Even MoT's road policy sections had no economists to speak of: those brought in by Castle, according to one Railways official, `were the progenitors almost of cost-benefit analysis in the transport field, a serious attempt to measure, assess, on an economic basis, the costs and benefits of road schemes' from around 1966-1967, under Christopher Foster.[144] By 1971 `the number of economists in the Department of Transport had grown enormously ... I mean it had a lot more economists than the Treasury did!'[145] A marked imbalance in economic expertise emerged, as BR still lacked economists, which by the mid-1970s was working against the railway interest.

The chronological gap between the establishment of economic thinking at the Ministry and at BR meant that professional dialogue was difficult, but it seems that communication within central government was not smooth either, for instance between TRRL and DoT. In October 1977, officials envisaged some kind of collaboration between DoT economists, TRRL and BRB, to move the APT project forward, but

> no organisation was formed ... it would have been a very uncomfortable combination too! ... an exercise of this kind does have political and administrative and technical components, and economic components, and it was a series of failures to have a meeting of minds ... the great difficulty was I think, the difference in background was so great, people spoke to one another, without really realising that there were hidden assumptions which made the conversation mean

[141] Interview with former BRB Chairman.

[142] Interview with former Permanent Secretary, DoT (3).

[143] Ibid.

[144] Interview with former Under-Secretary (Railways), DoT.

[145] Interview with former senior TRRL/DoT scientist.

different things to different people. So it looked as if they were communicating when they actually weren't.[146]

To sum up, those involved in the APT project had very diverse professional backgrounds. Although in theory this could have been a factor of mutual enrichment, in practice it made for a fragmented policy network, often dominated by internal politics which had a deleterious effect on the development stage.

C. The fluctuations of central government suppport

In the previous section, we saw how part of the decision-making environment gave rise to difficulties in the development of the ambitious APT technology. These were mainly of an industrial, professional, financial and methodological nature. The political context for its part was highly conducive to the venture, but did not remain so. The project, initiated under Labour, survived several changes of government and was finally shelved by the Conservatives. The first phase, between 1966-1973 benefitted from a number of favourable factors, including strong ministerial and departmental support; MoT officials seized the opportunity to modernise BR in a far more pro-active fashion than one might have expected. Support gradually dwindled between 1973 and 1981, a period of delays and uncertainties. After 1981, the project became increasingly disconnected from the concerns of the Thatcher government and from BR's perceived needs.

(1) Initial enthusiasm (1966-1973)

The initiative for the Advanced Passenger Train came from `the "gang" at Derby and the Ministry were happy to go along with it'.[147] The two-year gap between the original proposal in November 1966 and the agreement by the BRB and MoT to fund the research in November 1968 was caused by `difficulties ... of two sorts really. The first one was how much money was worth putting into it and the other one, opposition from the traditional engineers who said ... "It doesn't work" ... on the whole [MoT officials] were more keen to break the traditional mould than the actual traditional engineers in BR itself.'[148] A new Deputy Chairman had just been appointed at BR and one MoT official `largely persuaded [him] that if the railway's future, apart from the grant-aided railway, was to depend on their InterCity service, they needed new technology to achieve higher standards and it would be a great mistake not to back the work that was being done at Derby! I mean I was very impressed by it, my Ministers were very impressed by it, I think I had a

[146] Ibid.

[147] Interview with former Head of Research (1), RTC, BR.

[148] Interview with former Head of Research (1), RTC, BR. He added that `it was certainly true ... that the officials in the Ministry were keen to try and see where the technology could be more usefully exploited.'

considerable say in persuading him to go on.'[149] Indeed the matter was so contentious that one APT senior scientist thinks it had to be raised at Cabinet level: `It was a Cabinet decision ... we got support at Cabinet level because the British Railways Board itself was lukewarm'.[150]

The innovative APT engineers had found kindred spirits in central government: `at that time we had some very forward-looking people in the Ministry of Transport on the scientific advisory side;' furthermore there was strong support in the ranks of administrators: `There were a number of civil servants who also were pretty fed up with the British Railways Board in the sense that they regarded them as irresponsible in a way ... basically there was no commmercial outlook'[151] and they saw the Research Department as a factor of change. Relations between BR Research engineers and Transport civil servants were good; one APT scientist thought that `there's absolutely no doubt that they championed what we were trying to do'.[152] One Transport official recalls that `the APT was a technological leap forward towards the solving of our particular problem which almost in a nutshell could be described as the west coast main line ... a railway line as unlike the bullet line as it would be possible to contrive ... The west coast main line was a horror! ... we had concluded that straightening [it] ... wasn't open to us'.[153]

Although according to one official, `it was never a ministerial involvement ... really, I mean Ministers were persuaded but it wasn't them who pushed for it',[154] the Transport Minister Richard Marsh `really was a good supporter of it in the early days', the pound for pound agreement was done `with his encouragement and support ... He came up to the Derby Labs a number of times and fired up the people there with his enthusiasm, he was that sort of chap!'[155] The Conservative Minister for Transport Industries (1970-1974), John Peyton, also `strongly supported the APT project'.[156] One administrator remembers `going to Derby every few months ... and liking going there because I found it an inspirational place. It was a place where everyone felt they were doing

[149] Evidence from former Permanent Secretary, DoT (3), then in a more junior post. A government scientist corroborated this: `it is my impression ... that approval was rammed through; the Ministry became convinced that the Advanced Passenger Train was a good thing to do and persuaded ... the hard-bitten engineers of British Rail ... that [it] ought to be tried ... In 1972-73 I perceived that the MoT was keener on APT than the people at the centre of British Rail.' (Interview with former TRRL/DoT scientist.)

[150] Uncorroborated evidence from former Head of Research (2), RTC, BR.

[151] Interview with former Head of Research (2), RTC, BR.

[152] Ibid.

[153] Interview with former Under-Secretary (Railways), DoT.

[154] Interview with former Permanent Secretary, DoT (3).

[155] Interview with former Head of Research (1), RTC, BR.

[156] Interview with former Head of Research (2), RTC, BR.

something positive'.[157] It is fairly easy to understand why government scientists were enthused by the project, but what about the generalists? Perhaps `Part of the reason for this ... was that the economists in Marsham Street had softened up the administrators to being receptive to technical thinking and the scientists were saying very strongly that this looked as though it'd work at least for Britain.'[158]

What made it possible for government to virtually impose the decision on the Board was a provision in the 1968 Transport Act whereby it `reserved to itself decisions belonging to Research and Development. In other words the Board could be overruled and that was always a protection'.[159] This statement clearly maps out the line of demarcation: MoT and BR Research on the one side, the Board (at the very least its more traditional members) on the other.

The Joint Steering Group's supporting mechanisms, such as JRDC (which followed a bi-annual cycle) and JRDWG (which met monthly) proved to be a useful arrangement (the R&D programme was to run until March 1978 but was eventually extended);[160] one Head of Research found it `valuable ... for both parties and we had to agree on a programme and the amount of money that should be allocated to the different bits of it, so it drew the Ministry into being associated with the success of the programme'; at that stage, the Ministry and BR `were partners in trying to develop the concept.'[161] One Transport official felt that `In principle there is a lot to be gained in the joint approach and my objective ... was to get as close as possible to my opposite number in British Rail'.[162] The `interim rail strategy of 1973' intended to have 120 APTs in operation by the end of 1981.[163] The change in government in 1970 had no discernible effect on the project. So how do we account for APT's ability to obtain government funding in spite of previous relatively low levels of investment into the railway?

Firstly, the objective was ambitious and promised noticeable change to rail transport, which made it a very attractive proposition in political terms: the new train was to become `the general high speed train for the whole of British Railways'.[164] That objective was being pursued by

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[157] Interview with former Permanent Secretary, DoT (3).

[158] Interview with former senior TRRL/ DoT scientist.

[159] Interview with former Head of Research (2), RTC, BR. The Act required the Board `to take such steps as appear to them to be practicable and desirable for promoting ... research on lines settled from time to time with the approval of the Minister' (Transport Act, 1968, HMSO, Chapter 73, Part IV, par. 45, p. 67).

[160] BAM (1977 Part II).

[161] Interview with former Head of Research (1), RTC, BR.

[162] Interview with former Deputy Secretary (BR Policy), DoT.

[163] Select Committee on Nationalised Industries, First report, *The Role of British Rail in Public Transport*, vol. I, session 1976-77 (London: HMSO), p. civ.

[164] Interview with former APT Project Manager, BR.

scientists with a `new attitude to engineering', a good track record and a certain `glamour': `after all there had been quite a few successes in the aircraft industry'.[165] The technical complexity of the project did not deter politicians from lending it their support; if anything it was felt as attractive: `It was the desire of the government at that time ... to try and bring British Railways into the 21st century ... We'd gone through the Modernisation Plan of 1955 ... it coincided ... with the Harold Wilson statement'[166] (on the technological revolution).

Secondly, the rail sector seemed more promising than it had been for some time: `passenger traffic grew by nearly 5 per cent a year during the late 1960s, and revenue by over 10 per cent a year. In 1969 for the first time passenger traffic yielded more revenue than freight, a landmark in the history of the system.'[167] Ambitious claims made by the railway were taken at face value by officials and the media: in 1972, it was stated - in the usually sober pages of *The Times* - that the first version of APT would `run at 155mph, although 185mph and even 250mph models could follow once the commercial case for such speeds is proved.'[168] APT as initially conceived, was `a bright idea by some very talented engineers' but `the *rigour* of the whole project was not satisfactorily established. ... it was enthusiasm that was driving it rather than cold-headed evaluation.'[169] There does not appear to have been a fully worked out strategy: APT `was more of a gleam in the eye ... it was sort of out there ... and if it didn't work, "Well, too bad, speeds will come back down to whatever they were, 90mph"...'[170] The point about enthusiasm (made over and over again throughout the interviews) gives us an important clue: for what is enthusiasm if not a quality required of *politicians*? That is to say, politicians want to see quick results and are more likely to be swayed by the promise of a spectacular breakthrough than by a long haul programme methodically pursuing a less ambitious goal.[171] A corollary of this was that `In order to get funding to do anything, we had to sell the idea and to that extent, it was oversold right at the beginning ... if you didn't have a strong sales pitch, to try and sell the idea, it was difficult to get support.'[172] Bargaining between BR and the Ministry was conducted on the mode of persuasion rather than on `rational', technical grounds.

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[165] Interview with former Director of M&EE (2), BRB.

[166] Interview with former Director of M&EE (2), BRB.

[167] *The Times: Special Report on passenger services* (17/03/1972).

[168] *The Times: Special Report on passenger services* (17/03/1972): p. III. 155mph is about 250km/h, 250mph is 400km/h.

[169] Interview with former APT Project Manager.

[170] Interview with former Principal Private Secretary to Minister of Transport (late 1960s).

[171] The same former APT Project Manager said: `it was this vision of something extraordinary ... which would have caused a fair amount of attraction to the government.'

[172] Interview with former Head of Research (2), RTC, BR.

Thirdly, APT promised to bring all the benefits of high speed travel on a shoe-string so to speak: `The APT was to be Britain's way round having to invest in new and straighter track.'[173] Whereas the conventional method of modernisation, electrification, was costly because it affected *fixed*, costly capital equipment as well as requiring new rolling stock, and involved retraining the workforce, the APT method was to change only the rolling stock: `The whole thrust of the APT, the thing that we were constantly being reminded about was that ... you would not have to reconstruct the infrastructure and therefore the investment was going into the train and not into the infrastructure ... if you have to modify the infrastructure, it becomes *hugely* expensive and I think that was a unique kind of selling-point of the APT'.[174] Clearly that argument was a weighty one in DoT's dealings with the Treasury.

Fourthly, the APT concept was derived from an important technical breakthrough in the mid-1960s concerning `hunting' (the unstable vibration of wheel-sets at high speed, leading to derailment), which had been a total barrier to commercial rail services above 160km/h: `there'd been various people who'd come up with kind of empirical solutions, which were good and worked, but nobody actually had a fundamental understanding. Now Alan [Wickens] cracked it and demonstrated ... it by building wagons which could run at extremely high speeds ... That brought ... an enormous amount of credibility to this new little Research Department and then the realisation came that if we can do this to wagons, we can do it for passenger trains and here lies the basis for making an enormous leap in speed'; both the BRB and MoT `had seen a big breakthrough in the application of aerospace technology to railway vehicles' and thought: `we really are on the dawn of a new era for railway technology'.[175] Most importantly, that first achievement of the years 1964-1966 was followed up by more; throughout the first half of the 1970s, the project was demonstrably successful: `Initially, progress was rapid; the ... APT-E train was completed in 1972 and from then till 1976, undertook a series of impressive trials, raising the British speed record for rail to 245.4kph in the process.'[176]

(2) Fading fortunes (1973-1981)

The R&D process was down-scaled in 1973-1974. It is difficult to establish which of the BRB or the Department was most active in this respect. In 1973, DoE wanted to order a large number of prototypes (10) and to provide 80% of the funds but `the BR Board were not prepared for such a substantial commitment'[177] because of the ongoing work on HST. It would seem that the

[173] Correspondence with former Chief Scientific Officer, MoT.

[174] Interview with former APT Project Manager, BR.

[175] Ibid.

[176] Potter (1993): p. 148.

[177] Potter and Roy (1985), p. 40.

Board actually turned down an offer of public funds, which was `typical ... of the relations between the Board and the government. Often there was ... a kind of battle ... they wanted to score points ... indulge in these silly games. Whereas if they'd had some kind of strategic view ... people on the Passenger Business understood this but the Board was somewhat remote'.[178] Although by December 1973 `the necessary financial backing [had] been agreed in principle ... by the government',[179] the whole negotiations took over a year to come to a conclusion, mainly because of delays on the departmental side.[180] In January 1974, the BRB submitted a proposal to construct 4 prototypes but following the election of a Labour government `the whole APT programme ran some risk of being scrapped altogether due to a squeeze on railway investment'.[181] In its submission to the new Labour Transport Minister (Fred Mulley), the Department `acknowledged that, since the development of the APT had long been encouraged by the Department and previous Ministers, it was inconceivable that the Government could at that juncture discontinue support for the project.'[182]

Yet at the same it was recognised that `agreement to build the prototypes would make it difficult to draw back from further expenditure in due course ... Major doubts were expressed about the Board's forecast of a 3-fold increase in revenue on the WCML between 1973 and 1986 resulting from electrification and the introduction of the APT'; as a result the submission concluded in favour of a `limited decision' and when the BRB were given authority to build 4 prototypes in July 1974, `they were told that the approval carried no commitment to proceed to full-scale production.'[183] Senior BR figures have pointed out that the scaling down from 10 to 3 prototypes completely altered the fate of the project: the minimum number actually needed to operate a service properly was 8;[184] the decision to go for 3 meant in effect that it could be sidelined. Central government prevarication, combined with misgivings of the more traditional BRB members, diluted the impetus of the project. From then on, BR modernisers struggled to keep APT alive.

Central government had been unwilling to commit itself fully to the project in 1974, and from around 1977 official support appeared to wane. Despite this the train continued to be developed under the Conservative government elected in 1979, partly owing to the good

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[178] Interview with former Head of Research (2), RTC, BR.

[179] `APT programme moves ahead after searching reappraisal', *RGI* (Dec. 1973): p. 471.

[180] Departmental responsibility for the delays was acknowledged within the Deparment; see Notes on Meeting with Secretary of State of 12/07/1975, BAM (1978 Part III).

[181] `Prototype APTs take shape at Derby', *RGI* (Jan. 1977): p. 27.

[182] DoT memo, *Background to APT* (issued 10/05/1994).

[183] Ibid.

[184] Interview with former Head of Research (2), RTC, BR.

performance of the railway as a whole: `passenger mileage [in 1979] was the highest recorded since 1961, when the rail network was 30% bigger' and the Chairman of BR felt able to speak of `a renaissance of the railways worldwide'.[185] Also one APT-P set a new British speed record (260km/h in December 1979). But there were serious difficulties.

In December 1975, the APT Team won the MacRobert award (considered the Nobel Prize for engineers) for its work on suspension design, an integral part of the APT project; at the prize ceremony, Dr Jones warned the audience that APT needed more cash `running into tens of millions', whilst the BR Chairman remarked that Britain `was ahead the rest of the world ... in rail technology. There was great enthusiasm abroad for the BR developments but, ironically, not apparently in Britain itself.[186] Another complaint aired by railway chiefs was the unpredictable nature of government policy: at the end of 1978, the Chief Executive wrote that `We have over 10 years experience of the development of APT, painfully acquired through a period of fluctuating railway policy and financial status within the national economic scene.'[187]

Perhaps these judgements were somewhat unfair on the Railways Directorate, which had fully backed the BRB's application for a loan from the EIB and managed to overcome Treasury opposition: in one letter to a Treasury official, a DoE official stated that `whatever the investment ceiling, the initiative for BR's investment priorities must be with BR' and turning down the application would `cast doubt on the Government's attitude to the APT development project and we see no reason for doing this'.[188] Similarly in the autumn of 1977, whilst one official thought it `highly desirable' to defer a decision on production APTs by one year (from September 1978 until autumn 1979), another stressed that the Department did not wish to `convey the impression to the Board that we were beginning to take a view against APT'.[189]

At first, the Treasury seems to have played a neutral role: `I am not aware that they were specifically ill-disposed to APT. On the other hand I couldn't say that thay were in any way enthusiastic ... They were very much more concerned about the general finances of British Rail.'[190] But as time went by, the Treasury began to stress the need to keep projects such as APT `under constant review in the light of changing circumstances'.[191] By 1978, financial restrictions imposed

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[185] Peter Parker, *1994*, the first Lubbock lecture on management (Egham: Maurice Lubbock Memorial Fund, 1980), p. 15.

[186] *The Times* (03/12/1975).

[187] BRB, Chief Executive memorandum, *Advanced Passenger Train: the evolution of a policy for a West Coast Main Line service fleet* (31/01/1978), p. 4.

[188] DoE letter (31/03/1976), BAM (1977 Part I).

[189] DoT draft minute, 30/09/1977 and letter, 05/10/77, BAM (1977 Part II).

[190] Interview with former Deputy Secretary (BR Policy), DoT.

[191] Railways Directorate draft brief (31/03/1976), BAM (1977 Part I).

in the wake of the IMF intervention were having an effect on the Departmental outlook: one Transport official wrote that `Cost reduction and the more efficient operation of the present system would be the right emphasis for research over the next few years.'[192]

At the same time, the APT-P programme was characterised by numerous delays, which in the long run harmed official perceptions of the project. By June 1977, officials were expressing deep concern and by the end of 1978, BR acknowledged that 3 years had been lost through delay. Industrial relations within BR were one cause: the first test phase of APT-P was disrupted by a number of industrial disputes between September 1977 and February 1979.[193]

Technical difficulties were a second cause of the delays. The possibility of an APT overturning in high winds on the windswept WCML gave rise to a great deal of correspondance between DoT and TRRL in 1977: a meeting at Marsham Street on 13 May 1977 concluded that `technical success [was] by no means assured.'[194] By August, it had been decided to seek an `independent check on BR's evaluation' of aerodynamics in strong winds by making use of facilities at the Meteorological Institute, the National Maritime Institute and the Royal Aircraft Establishment.[195] One DoT official was anxious not to encroach on the BRB's responsibility for safety but felt the involvement of the Chief Scientist in this case was justified.[196] In 1979-1980, technical difficulties led to `a rolling programme ... to modify all vehicles.'[197] The introduction of the prototype into passenger service, scheduled for October 1980, had to be cancelled owing to tilt problems. Breakdowns and system failures were such a common occurence that `The project was in real danger of losing momentum and the support of the government, the public and even some sections of BR Management was now in jeopardy'; the situation became so precarious that the Board wished for `a very competent, nationally-recognised engineer to come and have a look'.[198] They `took the unprecedented step of calling in an outside consultant to report on the engineering viability of the project.'[199]

The report by the consultant, Ford & Dain, found the project to be sound in technical terms and led to a new date being set for the introduction of the prototype into commercial passenger service (7 December 1981). The inaugural APT run covered the Glasgow-London route in 4h

[192] Letter from R G S Johnston (06/03/1978), BAM (1978 Part III).

[193] There were 44 industrial disputes between June 1978 and March 1979 (Hughes, 1988, p. 54-55).

[194] See BAM (1977 Part II).

[195] Letter from W J Reiners, DoT (11/08/1977), BAM (1977 Part II).

[196] Note on joint meeting at BRB Headquarters (02/11/1978), BAM (1978 Part III).

[197] Boocock and King (1982): p. 35.

[198] Interview with former APT Project Manager, BR.

[199] Williams (1985), p. 83.

14mn, setting a speed record for paying customers. Two days later however, the worst December weather conditions for thirty years exacerbated existing technical problems and created new ones; the second and third runs were embarrassingly delayed, amidst much publicity. The fact that BR decided to go ahead with the runs in spite of the most unfavourable weather conditions is in itself an indication of how much pressure management was under at the time. Following this disastrous launch, the train was withdrawn from passenger service.

The future of APT was tied up with the progress of electrification but `the Government was keeping a tight grip on the electrification purse strings'.[200] Electrification was proceeding at a slow pace, because of the high capital costs it incurred and the reluctance of successive governments to bear them: e.g. the WCML programme of electrification launched in the late 1950s was only completed in 1974. DoT acknowledged that APT was connected `not just to Inter-City strategy but the infrastructure upgrading and electrification strategies as well.'[201] If APT was to be British Rail's new all-purpose train, it would need to run on ECML, the electrification of which was clouded in uncertainty. It was all the harder to justify a new electric train when such a relatively small percentage of the network had been electrified.

Perhaps this explains why as late as December 1976, a *diesel* APT was being talked about, both within and outside DoT: `an opportunity may exist for developing a diesel APT'.[202] By January 1978, the BRB had approved an £80,000 feasibility study for a diesel APT, on the basis that it would form part of the jointly funded research programme. This proposal was approved by JRDWG;[203] but design work on a diesel APT was only taken to a preliminary stage and by 1982 had been suspended; two senior APT engineers pointed out that `Providing the proposed electrification of the Inter-City network is authorized, there will be no case for pursuing the diesel APT further.'[204]

Thus APT was intimately linked with a railway strategy - electrification - that had already suffered many delays at the hands of ministers. One commentator felt that `APT's future on British Rail seems now to hinge on authority for more electrification.'[205] The joint study of electrification being undertaken by the JSG was based on the assumption that `the Board's investment programme

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[200] Freeman Allen (1978), p. 102.

[201] Letter from K Peter, RB Division (21/12/1976), BAM (1977 Part I).

[202] Ibid., p. civ.

[203] JRDWG, `7th Report to the Steering Committee', BAM (1978 Part III).

[204] Boocock and King (1982): S34.

[205] Freeman Allen (1978), p. 112. The HST train on the other hand was compatible with all parts of the network and proved itself very quickly; for a long time, HST services were at the top of the world railway league table as regards the number of kilometres travelled at high speed.

is unlikely to accommodate major electrification for 10 years or more'.[206] In 1982, BR's Director of Engineering stated that `APT continues to be central to British Rail's Inter-City strategy and is expected to provide 60 to 70 per cent of passenger services on the planned electrified network we are all so anxiously awaiting.'[207] In 1983, a statement by the Head of BR Research, Alan Wickens, confirmed this view: `The timescale for large scale service application of APT is difficult to estimate depending as it does on the policy to be adopted for future electrification of British Rail and the general level of railway investment in Britain.'[208]

The link between APT and the electrification programme is not universally acknowledged at BR however, even at senior level. Many respondents had not been aware of one: `I don't think the APT was regarded as part of an electrification programme. It was a form of traction.'[209] Another respondent thought that `it was simply a question of the West Coast main line. We weren't really interested in promulgating electrification'.[210] It follows that the development of the new train was perhaps not always placed within a more comprehensive, consistent framework, in which an electrified railway would be portrayed as commercially desirable. The formulation of this sort of strategy would have required the input of railway economists, of which BR was lacking.

Concerns regarding the commercial viability of an APT fleet had also arisen by 1977. DoT felt that BR had overestimated the increase in traffic and revenue to be expected and wished to make use of TRRL expertise, in order to check the validity of BR's forecasting techniques. Following a review meeting on 12 September 1977, one official described the picture of APT's commercial prospects as `chilling' and the Board's plans as `overprovision'; as a result, he asked for a study of travel times to be carried out within the Department to have a better basis to judge BR's claims.[211] In January 1978, a TRRL official wrote that `it had not been quantitatively demonstrated that the investment in APT would pay off in revenue terms'[212] and pointed out that the study carried out by IWPICT in 1970 was now outdated and its forecasts had been proved false. Doubts concerning the market share that APT could secure were fuelled by the `experience of the WCML electrification scheme where traffic and revenue estimates had not been fulfilled.'[213]

Also by December 1978 the Board advised a revised configuration of the APT production

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[206] Letter from R G S Johnston (06/03/1978), BAM (1978 Part III).

[207] Ian Gardiner, quoted in Hughes (1988), p. 58.

[208] Wickens (Jan.-March 1983): p. 104.

[209] Interview with former Director of M&EE (2), BRB.

[210] Interview with former Head of Research (2), RTC, BR.

[211] Letter from J K Welsby, ECRPG (13/09/1977), BAM (1977 Part II).

[212] Letter from Dr Hitchcock (30/01/1978), BAM (1978 Part III).

[213] Joint meeting at BRB Headquarters (02/11/1978), BAM (1978 Part III).

train,[214] which represented a significant change in commercial policy and called into question the validity of previous policy. DoT's fears were that the BRB saw APT `primarily in terms of its operating advantage and with a much poorer concern for its commercial prospects.'[215] Clearly sponsoring department and sponsored industry were not debating the project using the same parameters. Perhaps this explains why there existed such an enormous discrepancy between the fleet sizes recommended by BR and DoT. In 1977 DoT made use of a TRRL model to estimate the number of train sets required to run London-Glasgow services and concluded that only 8 sets, rather than the 60 originally envisaged by BR for a full WCML fleet, would be required.[216] But BR planners, by 1980, still felt that `To replace all daytime trains out of Euston except those to North Wales ... requires around 60 APTs' and proposed `to seek authority in principle for about 60 trains, rolling the programme forward each year by firm authorisation of 15 to 20 depending on evolving technical and market experience and the finance available.'[217] How could such basic disagreement be solved? According to one DoT official `it seemed to be resolved basically by a sort of a political power struggle rather than by technical argument ... whatever TRRL might have said, the higher ups in the Department of Transport didn't wish to be seen to be taking on advice from other sources, didn't wish to be seen to be relying on TRRL.'[218]

Another factor holding up the project was BR's lack of autonomous resources. The parallel development of HST absorbed a large part of the resources available. The Department acknowledged in 1978 that the APT programme had slipped both because of the higher priority assigned to HST and because of `shortages of skilled manpower'.[219] Yet `there were funds for the development of the P-trains that were not used ... it was done too much on the cheap and when it was then put into service, there were failures ... people at the top got very impatient ... they put it into service prematurely in the worst possible conditions.'[220] Underspending in the last phase of the project was the result of the squeeze on public expenditure starting in 1976; savings were sought across the board somewhat over-zealously at times: by 1978 *under*spending within the framework of jointly funded railway research was a worsening trend; the total underspend for 1977 was

[214] BRB, Chief Executive memorandum, *Advanced Passenger Train: the evolution of a policy for a West Coast Main Line service fleet* (31/01/1978), p. 5.

[215] Background note on APT, BAM (1978 Part III).

[216] See also: TRRL Report LR 607, TRRL Report SR 308 (D A Walmsey, *A fleet-size model for Inter-City services*, 1978).

[217] Campbell, BRB (May 1980): p. VII.

[218] Interview with former senior TRRL/DoT scientist.

[219] Notes in connection with Parliamentary Question 1546/77/78 by R Atkins M.P. (July 1978), BAM (1978 Part III).

[220] Interview with former Head of Research (2), RTC, BR.

£1.138m, out of a Joint Research Programme totalling £3.009m.[221] This meant that BR was failing to take full advantage of the government support that was available.

(3) Final pressures (1981-1985)

By the time of the Ford & Dain Report (1981-1982), concrete results were demanded both by Transport officials and `the Board [who] were looking for quick results or else':[222] returns on the initial investment had to materialise. APT was made more reliable and saw passenger service for a few months (from August 1984) but in the meantime, market conditions had so altered that the APT design no longer corresponded to BR's perceived needs.

The first Thatcher government was intent on transport privatisation, deregulation and the phasing out of public spending on railways to the largest possible extent. Coach travel was boosted by the Transport Act, 1980 (deregulating the express coach industry), and was feared as a potentially very powerful competitor in the sector of inter-city travel (which had not been the case when the project was launched); and between 1979 and 1982, BR's investment programme was cut. The rules of the InterCity game were changed by government with no apparent concern for the effect this would have on existing plans; although `there was a recognition in the Department that this was going to be jolly difficult for the railway to manage ... the Treasury had probably insisted'.[223] As a result, the new APT Project Manager was asked in 1983 to carry out a review of the strategy for high speed trains on WCML in order to `determine whether the P-trains [were] in fact ... the things we should actually build for serial production'.[224]

In 1977 the BRB had been set the target that InterCity should cover its allocated costs by 1981, but this was to be dependent on the government adopting a `policy of growth for the business through investment'[225] which had not materialised. The APT project had been relocated within the InterCity sector and now the government demanded that all public funding for the sector be phased out. In the new inter-city market APT no longer was a viable proposition:

> The thing that really stopped it was the fact that there was a lot of pressure on the InterCity business. The government gave us ... a new set of objectives. One of them was that the InterCity business not only got to break even but got to produce ... a real rate of return on its assets ... people ... began to realise that what was coming out in terms of the likely cost of these animals ... was not going to help them on the road to this total viability ... so it really was this new focus on

[221] JRDWG, `7th Report to the Steering Committee', BAM (1978 Part III).

[222] Interview with former Head of Research (2), RTC, BR.

[223] Interview with former Permanent Secretary, DoT (3).

[224] Interview with APT Project Manager.

[225] BRB, T R Barron, *Inter-City Policy* (Feb. 1977).

commercial objectives that killed it in the end.[226]

BR's high speed policy, embodied in the May 1971 document, *Inter-City Passenger Business: A Strategy for High Speed*, was consequently overturned in 1984, when another BRB policy document, *InterCity into Profit*, stated that `increased speeds are not an immediate priority' for BR. The weight of ministerial, particularly prime ministerial, opinion had overpowered the Board's (and DoT's) attempts at spreading electrification, not to mention APT.

The abandonment of the project to introduce APT services on WCML was also partly brought about - paradoxically - by the decision (22 July 1984) by Transport Secretary Nicholas Ridley to approve the electrification of ECML, billed as `the largest electrification project ever authorised in Britain.' The Board had for several years been attempting to get DoT approval to electrify ECML: `it was about the fourth attempt, and they got it ... There was a package which was electrification of the route *and* the provision of new traction and rolling stock ... When the electrification came through, it was all hands to the spades on the East Coast. The West Coast Main Line, frankly, got forgotten at that stage. All the resources had to go in the East Coast Main Line.'[227] BR resources could only deal with one major programme at a time and the long-awaited approval of ECML electrification (first planned in the late 1950s) was another nail in APT's coffin.

Looking at the question from a larger perspective, one former departmental scientist's perception is that `At the root of the issue as compared with developments in France is the relative government subsidies to BR and SNCF ... the latter has always been far more generous'.[228] One Chairman thought that `The APT had been ... steadily under-resourced'; although for the first few years BR was years ahead in the railway world with its sophisticated research, the APT's `development was harassed and inhibited by "all the changes in investment policies"'; there had been a mismatch between the high aspirations of the research team and the quality and quantity of resources devoted to the project: `There is no point in wishing for the moon and not willing the resources'.[229] A former Chief Secretary of the Railways Board held a similar view: APT `missed the market' because it had been too long in testing, which was due to the fact that not enough resources had been devoted to it; for `at the end of the day, the Treasury dominated relations between government and railways'.[230]

Comparisons between APT and the Japanese Shinkansen, French TGV and Italian Fiat tilting train would be unfair for a number of technical reasons, but as two BR engineers pointed out during a Labour term of office, `all three projects demonstrate a level of single-mindedness on the

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[226] Interview with former Vice-Chairperson (1980s), BR.

[227] Interview with former APT Project Manager, BR.

[228] Correspondence with former Chief Scientific Officer, MoT.

[229] Parker (1989), p. 273.

[230] Interview with former BRB Chief Secretary.

part of the respective authorities from which Britain could learn a lot.'[231] The 1974 decision to avoid commitment to full-scale production typified the approach of British central government to long-term railway projects: whilst support for R&D of the Advanced Passenger Train was granted because it constituted a `key research project', this in no way implied `commitment to full production'.[232] This `wait-and-see' approach was detrimental to the project; one APT engineer at a joint meeting reviewing the progress of the prototype train stressed that

> it was important not to underestimate the psychological effect of the Government giving its wholehearted support to the project, which would help the recruitment of good quality staff and facilitate dealing with suppliers. It would be better for the entire project to be given early authorisation and then this withdrawn if APT-P trials proved unsatisfactory, than to give authorisation in a piecemeal fashion.[233]

Conclusion

There were several factors behind the failure of the APT project to move into production phase and it is not my purpose here to provide an exhaustive explanation, which would take us beyond the confines of this work. What this case study shows is an illustration of themes developed earlier: the lack of firm purpose and long-term commitment in public policy, together with a marked tendency to let the market decide, as opposed to planning transport development; an overwhelming emphasis on financial costs (and this long before 1979), with an attendent disregard for wider social and economic costs; a lack of departmental interest for forecasting future needs and distrust of such forecasts when attempted by others, even within central government; the near-absence of a common referential framework between traditional senior railway managers, research engineers, government officials and politicians.

APT was an instance of pro-active departmental behaviour. One Transport official who participated in the whole venture expressed regrets: `I've learnt my lesson ... I have ever since then taken the view that it is a mistake for a Department to press something unless it is confident that the management already back it ... I have since felt that it was a mistake on my part to have pushed them because ... I think it was never a priority of the Chairman.'[234] Another remarked that the Department provided `political support with ministers ... we backed the APT project. So when it ... didn't really achieve all it was hoped, people working with me were criticised as much as British Rail. It was a great disappointment.'[235] MoT had taken the lead and had been powerful enough to

[231] Boocock and Newman (1976), p. D171.

[232] Background note on APT, BAM (1978 Part III).

[233] Dr Boocock at meeting DoT/BR (13/06/1979), BAM (1978 Part III).

[234] Interview with former Permanent Secretary, DoT (3).

[235] Interview with former Deputy Secretary (BR Policy), DoT.

press on with the project, but unable to enlist the support of wavering Board members, and later to overcome political (in the narrow, ministerial sense) pressures. The project, launched in 1968 under a Labour Government, was nearly cancelled in 1974 under the following Labour Government; this, according to one senior engineer showed that `Our politicians are completely inconsistent, they think they can turn things on and off'.[236] The high politics of the day had a decisive impact on the Railways Board's policies.

The long lead time necessary for such an innovative technology could not be reconciled with the short-term financial constraints that so dominated the referential framework. It cannot be over-emphasised that this domination was not simply the product of Thatcherite policies, or even of the Labour government slashing public expenditure in 1976 following the sterling crisis. Did the alternance of political parties in government play an important role? `Not on a practical basis, no' replied a former Head of BR Research, who went on to say: `I suppose you could say in broad terms, the Labour government was more in favour of public transport and the Conservative government was more in favour of private transport ... The road lobby was extraordinarily, is, extremely strong. So it didn't really mean much ... which government was in power.'[237] Another railwayman thought that politicians `make noises when they're not in power ... but when they're in power, they all have the same pressures on them and the same attitudes emerge to some extent', the latter being that `at the end of the day, they're all about the public purse. That dominates, what money can the Exchequer raise and how do you spend it ... therefore the public purse creates the attitudes that they then can adopt!'[238] Both Labour and Conservative government policies towards the railways were tightly constrained by Treasury influence. One former Conservative Minister echoed this feeling: `We're much too inclined to look for short-term results and not worry about the long term', adding that the country was `really structurally wedded to the short term' both because the Treasury's `principal concern is with, very much with current affairs, short term things' and because politicians `are looking to get re-elected next time'.[239] In other words, financial and political imperatives were dominant and both were inherently short term.

Recent developments tend to show that the overall strategy was sound: Potter and Roy have showed that tilt technology has matured and is becoming widespread in Europe; from being `innovative', it has become `state-of-the-art' technology; the Swiss are currently developing a design for Swiss Railways and a growing market is anticipated for tilting trains.[240] APT was an attempt on the part of the railway to engage in strategic long-term thinking and innovative technological

[236] Interview with former Director of M&EE (2), BRB.

[237] Interview with former Head of Research (1), RTC, BR.

[238] Interview with former Vice-Chairperson (1980s), BR.

[239] Interview with former Minister of Transport (1).

[240] S Potter and R Roy, *The Development of High-Speed Trains* (forthcoming).

development which could not be accommodated within a basically short-term referential framework and was shackled by the problem of the railway's insufficient autonomous resources. Long-term political and financial commitment, involving reliable central government support (directly or indirectly) was a requirement which could not be fulfilled in Britain.

2. TGV: A FRENCH STATE *GRAND PROJET*?

TGV is considered by some as one in a series of State-sponsored `*grands projets*' (or `*grands programmes'*), defined as projects where `national interest' is at stake, `a large number of industries or firms' are concerned, which have `abilities' but not sufficient resources or else lack initiative.[241] One participant in the TGV project however violently rejected the idea that it could be called a State project; it was `purely' an SNCF project, `for which SNCF simply implored the State to give it permission to do it'; it was `not a State-sponsored' but a `State-authorised' programme.[242] One civil servant concurred with this view, saying that it was `an SNCF great programme, a great programme of the nation', not of the State.[243] What are we to make of this contradiction? Although the objective of this section is not to ascribe paternity to one agency rather than to another, the depth of State involvement with the project throws some interesting light on the French public policy referential framework.

Since the TGV project was a fully integrated new track - new rolling stock project, it is somewhat artificial to discuss the train (in this chapter), in isolation from the infrastructure which it was meant to use (discussed in next chapter). Separating out the two is to a large extent dictated by the British case studies, where new rolling stock developments took place separately from, and long before, new infrastructure was seriously envisaged, but it also helps to separate the two strands of the TGV `story': technology policy issues, from issues of infrastructure planning. This section follows the same pattern as the previous one. In the first part, I provide a brief chronological overview of the R&D phases; this is followed by a presentation of the decision-making context; the third and last part is an account of how State support began to be mustered in the early stages.[244]

[241] Interview with former adviser to President Pompidou.

[242] Interview with Head of Rolling Stock, SNCF.

[243] Interview with former Head of Transport Division at SAEI, MdT.

[244] As regards both this section and the section in Chapter IV on the TGV line, I owe an immense debt to the pioneering, very detailed research carried out in France by Jean-Michel Fourniau over the past decade.

A. Phases in the Research and Development Process

The first phase began in the 1950s, for the TGV project was partly the outcome of a long, internal, continuous process of improving rail speeds, and partly the result of external events which acted as catalysts. The research proper spanned the years 1966-1971, with development taking place from 1972 until 1978.

(1) In pursuit of higher speeds

In the mid-1950s higher speeds became the concern of several railway engineers. Experiments with existing rolling stock broke the world train speed record in 1955 (331km/h). It became apparent that railway technique had not been pushed as far as it could go. But speed was of interest mainly to technicians in the Rolling Stock department, who liked technical records, whereas commercial managers were more concerned with comfort and reliability. Furthermore rail speed limits had always been the province of Transport Ministers, even in the era of private railways; the maximum speed had been set by the ministerial decision of 30 July 1853 at 120km/h and there it remained;[1] ministers refused to raise it - even for experimental purposes - until 1966 (on safety grounds), so that research into high speeds was conducted in the late 1950s and early 1960s by SNCF covertly.

Two powerful incentives to carry out further research into high speeds combined: firstly, the development in Japan (`Shinkansen' train, launched in October 1964) and other countries, of new rail technology threatened to upstage SNCF internationally; secondly, the revolutionary *Aérotrain* (Hovertrain) was a potentially dangerous competitor (the concept of a hovertrain, under discussion in the private engineering company *Bertin & Co*, was gaining ground in government circles). Therefore in July 1966, an integrated Research Centre was set up, inspired from similar developments abroad (Britain's RTC at Derby in particular) and from the nationalised electricity network's own in-house research centre, which had proved very successful[2].

The TGV concept had emerged in Robert Geais's study (*Le Transport T.G.V.: Réseau du Nord de la France*) in December 1965, for Paris-Lille and Paris-Brussels services, drawing on the help of a technical division (DETMT), which had produced the first technical draft project for a 240km/h `turbotrain' (2 December 1965). From then on, SNCF worked on three parallel projects: improved services with conventional designs; improved conventional electric locomotives (`Capitole') and eventually the novelty of turbo-traction; the new, high speed train project proper, involving the option of a purpose-built track, which is the subject of this section.

(2) The Research Phase

[1] Source: *La vie du rail*, Spécial record du monde, No 1785 (19/03/1981): p. 17. On some sections, 160km/h was allowed.

[2] Jean Bouley, former SNCF Head of Rolling Stock, speaking at AHICF Conference (31/03/1994).

At the beginning of 1966, SNCF engineers took the initiative to develop a new type of train, using gas turbines originally designed for aircraft. To this end, they sought help from aeronautics specialists in the Air Force: following a meeting between two senior SNCF managers and a civil servant from the Technical Services Division of the Air Force, the *Délégation générale à l'Armement* (DGA, Ministry of Defence) offered SNCF the use of an aircraft turbine. Thus `Turmo III' (Turboméca), began to be tested on 29 July 1966 under DGA sponsorship, only days before the SNCF's new Research Centre was officially up and running. Throughout the research work, SNCF made use of institutes that carried out research for the aeronautics industry, and were either part of universities or ministerial services.[3] As one railway manager put it: `We did not build an SNCF wind tunnel, every time we can use the research resources of others, we do so of course.'[4]

From December 1966 onwards, the new Research Centre was officially in charge of the project to develop high speed trains, known as `Project C03': `Project C03 comprised 4 sub-projects and required the setting up of 15 teams bringing together over 100 people, both from the Research Centre and from central divisions and from SNCF regions.'[5] It answered directly to the Director General and as such was guaranteed a high profile. There were no direct links between the person in charge of Project C03 and DTT: `There were no organic links ... the Ministry people quite rightly respected our autonomy.'[6] There were informal links however. As one official recalls, SNCF Research had been `instructed not to pass on any papers, any memos, outside SNCF ... so for a long time with Fontgalland, I was kept informed but on a wholly verbal basis'[7] (in 1967-1968); SNCF felt compelled to inform its sponsor department as `Fontgalland thought that he really ought to have support from some quarters!'[8]

On 23 March 1967, SNCF appealed for tenders concerning experimental rolling stock based on turbotrain technology and at the beginning of 1968, a technical research programme concerning all aspects of high speeds was launched. Several train designs were used for that purpose; a modified railcar, TGS, was fitted with a turbine engine and showed promising results, breaking a world record on 20 June 1967[9] (252km/h). The following year, on 12 March, the

[3] Interview with railway engineer. For instance, SNCF made use of ONERA (*Office national d'études et de recherches aéronautiques*), a research unit of the Ministry of Defence, for some aerodynamics research.

[4] Interview with former Deputy Director General, SNCF.

[5] Guibert in 1972, cited in Jacq and Fourniau, `Dialogues socratiques autour de la genèse du TGV', *RHCF* (Paris), No 12 (forthcoming, September 1995).

[6] Interview with former Head of Research, SNCF.

[7] Interview with former Head of SCF, MdT. B de Fontgalland headed SNCF Research.

[8] Interview with former Head of SCF, MdT.

[9] Jean Avenas, `La grande vitesse: atout pour la SNCF et pour l'industrie française du matériel ferroviaire', *La vie du rail*, Spécial TGV, No 1682 (25/02/1979): p. 4. According to people involved in these developments, the success of TGS kick-started the process that was to lead to the implementation of the TGV project.

Minister allowed SNCF to order two experimental trainsets (TGVs 001 and 002). These were ordered in July 1969, one being designed with a tilting body.

Whilst turbo-propulsion was being researched, it was also decided by SNCF management to look into electric traction,[10] but results were not to be published. The pragmatic decision to keep the `electric option' open was already present in the project in 1967. A research programme into the difficulties of tapping electric current at high speed began in July 1969, the very month when TGVs 001 and 002 were ordered.

In 1970 the tilting train project (TGV002) was abandoned for `SNCF recoiled at the expense of the device balanced against its benefits. The French estimated that it added 15% to the capital cost of a new car.'[11] As a result, only one train (TGV001) was now on order. It is interesting to note that although tilt technology was pioneered in France (1969-1971, with a view to speeding up the Paris-Strasbourg service), development did not go beyond fitting two *Grand Confort* coaches. In fact, SNCF decided to conceal the idea: `We really buried the issue successfully; at the Ministry, when they did not want TGV, they would say: "You did involve yourselves with tilting trains, didn't you?" "We did but that is really too complicated..."'.[12]

(3) The Development Phase

The development phase began with the production in March 1972 of experimental TGV001 which, after several months of trials, was shown to the Transport Minister on the Landes line. The first political decision was taken on 25 March 1971, when a *Conseil restreint* on transport chaired by Prime Minister Chaban-Delmas approved the proposal to run TGV services on a new Paris-Lyon infrastructure in principle. It took three years for the decision to be confirmed, when on 6 March 1974, the go-ahead for the construction of the TGV line was given by a *Conseil des ministres restreint* chaired by President Pompidou.

Two pre-production TGVs (01 and 02) were ordered on 12 February 1976, and eighty-five standard trainsets on 4 November 1976, to be delivered between 1979-1982. There had been no prototype phase between the experimental train and the two pre-production trains, though the latter underwent extensive testing.

TGV trials focused a great deal on reaching record speeds, despite the fact that it made little economic sense to operate TGV services at speeds close to 400km/h. The `political' dimension of the speed trials was apparent in *Opération TGV 100*. On 15 February 1980, SNCF launched a scheme to reach a speed of 100m per second (360km/h). A new world speed record (380km/h) was set in the presence of secretly forewarned journalists, on 26 February 1981. Thus SNCF asserted its technical prowess in the face of past and present political hostility. For, as the following section

[10] Fontgalland: `The electric option had been retained right from the beginning' (1988, p. 200).

[11] Freeman Allen (1978), p. 81.

[12] Interview with former Head of Rolling Stock, SNCF.

will show, the context in which the project was launched was far from favourable.

B. The decision-making context

This section is organised around the same themes as its corresponding section in the British case study. The political element was very unfavourable, whilst the other elements were mostly propitious or at worst indifferent.

(1) The political environment

The mid-1960s have been described by the first head of SNCF Research as `sad years' for SNCF, the years of `the irresistible rise of Air Inter' (domestic airline), which from about 1965 began to attract first-class train passengers in droves.[13] In the words of one engineer, `Distinguished economists ... and even fellow P&C engineers all said: "The railway is finished"'; as early as 1955 to 1960, this was `the leitmotiv of the industrial development programmes'.[14] Preparatory committee work for the Vth Plan took no interest in faster rail travel: a 1964 report on prospects for the railway by 1985 (*L'orientation générale des activités de chemin de fer à moyen et long terme (1985)*) concluded that there would be no need for an improved train until after 1985.

There was intense competition between air travel and first-class rail travel, with politicians in power generally favouring the former because of its more modern appeal, at a time when the key concept of socio-economic development in France was `modernisation'. For the same reason, the *Aérotrain* was greeted with enthusiasm by some sections of the political and administrative elites. The newly-created Ministry of *Equipement*, following the lead taken by its Minister (`Mr Pisani took a great deal of interest in these innovation issues'), showed `a very strong interest for anything to do with innovation, research'[15] and as a result of the initiative taken by SAEI's Deputy Head,[16] a Research Unit was set up within SAEI in 1967. Its first achievement was the creation of the Ministry's in-house research centre (*Institut de Recherche des Transports*, IRT); the second was to encourage new transport technologies through its New Transport Modes programme: its task was `to finance transport innovation, of which benefitted ... the Hovertrain', amongst others.[17]

[13] Fontgalland (1988), p. 196.

[14] Interview with former Head of Research, SNCF.

[15] Interview with former Head of SAEI, MdT.

[16] The *Service des Affaires Economiques et Internationales* of MdT was a horizontal unit which dealt with transport economics matters; `the originality of the SAEI was that it was a unit, not a division ... therefore directly responsible to the Minister ... this gave it a different ... outlook. It did not have to administer.' (Interview with former Head of SAEI, MdT.) `DTT was used to working in close partnership with SAEI'. (Written answers by former Head of SCF, MdT.)

[17] Interview with former Head of SAEI, MdT. SNCF Research had direct contacts with IRT, with which it occasionally carried out joint research: e.g. on 12 December 1968, MdT signed a contract requiring IRT, together with SNCF Research, to build a mathematical model for the computation of *Aérotrain* costs (technico-economic

At MdT and IRT, `people dealing ... with research-development thought that the *Aérotrain* was a very good method ... a promising trail'.[18] This high-technology means of transport would relegate national railways to the `second division' of transport, for coupled with the modernisation drive was a strong disdain for the railways, viewed as a symbol of a more archaic age.[19] One Transport official, writing in the P&C engineers professional newsletter, declared: `SNCF is a powerful, venerable dowager, a weighty machinery which unflappably pursues its technical, administrative or financial course, from which it is difficult to divert it, be it to restrain its lifestyle or to modernise its equipment.'[20] TGV was not viewed as a technological innovation but as a `classical train that went faster than others' and `did not fit into the framework of innovation policy.'[21]

SNCF was challenged from all sides: was it actually capable of competing with road and air, and of technological innovation? The recently created DATAR (*Délégation à l'aménagement du territoire et à l'action régionale*, the Prime Minister's agency for regional planning and development) in particular was a powerful force against railway development and took the side of *Aérotrain*. In December 1967 it was decided by a CIAT (interdepartmental regional planning committee) to build a 10-km experimental line near Orléans, for *Aérotrain* testing. Others within the Transport administration sided with SNCF but were helpless against Hovertrain and its powerful backers: `DATAR was behind decisions but then it was for ministries to execute ... I was the one who dealt with the tender for the Orléans infrastructure, we did not believe in it at all! But we had to make a deal ... there was the DATAR egging us on'.[22]

In short, the railways were by no means in a powerful position when the TGV idea was first mooted. But they were not defenceless either: they had the capacity to respond quickly to challenges, such as a ministerial initiative by Edgard Pisani (*Equipement* Minister in 1966-1967). He was shown the new potential of the railways (during an official visit to the South-West) and was so impressed by SNCF's demonstration and the advanced state of its research that he raised maximum commercial rail speed to 200km/h[23] and gave the enterprise six months to come up with

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model).

[18] Interview with former SAEI official. The project was supervised by DTT, with the help of an interministerial committee comprising civil servants from Industry, DATAR etc.

[19] Fontgalland speaks of `multiple, orchestrated attacks' against SNCF in the postwar period (1988, p. 206).

[20] Gilbert Dreyfus, `Les transports: perspectives techniques et économiques', *Bulletin du PCM*, No 6 (Paris: June 1967): p. 23.

[21] Interview with former SAEI official, MdT.

[22] Interview with former Head of SCF, MdT.

[23] A former Deputy Director General of SNCF recalled (interview) that `the *Contrôle des Chemins de fer* division within the Transport Ministry `had an absolute right over railway safety ... it was it that set speeds'. He also gave an account of how higher speeds were finally allowed: in 1966, there were discussions between railway

a viable high speed service.[24] Development of the `Capitole' train was speeded up (testing had begun in 1964) and the outcome was the `Capitole' service between Paris and Toulouse, launched on 28 May 1967.[25]

SNCF's unenviable position in political terms was due to a backlash, as the former SNCF President Louis Armand `had got everything he wanted as regards rail reconstruction for ten years' during the postwar reconstruction period and it was felt at CGPC that `SNCF [had] behaved as an imperialist power'.[26] But as in the `imperialist' past, there were connections with the political world, and a habit of working hand in hand with officials from MdT, that could still be exploited. SNCF's President, André Ségalat `was acquainted with everyone, he knew everything' in government; he wielded `an enormous amount of political and administrative influence'.[27] A former Deputy Director General described him thus: `He absorbed the technical realities we gave him and transformed them, made them understandable for the people in government. He did not like us to have contacts with them. He did not like that at all ... He kept for himself the absolute monopoly of relations with politicians'.[28] Even senior railway managers were not allowed to cross ministerial doors. Another SNCF chief stated that Ségalat

> knew all the politicians of the Fourth Republic and part of the Fifth Republic's ... Here we put our finger on something which is not usually said in books, namely that there were between SNCF and politicians, because of ... the tradition of having a President who came from State *Grands corps* and had played a para-political role at the top, it was of having already prepared the bridges that allowed mobilising actions.[29]

Having been convinced at an early stage by his Director General, Roger Guibert, of the validity of the work being carried out by SNCF Research, he put all his weight behind the project.

Lastly, government industrial policy throughout the period was not fixed. The initial

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management and Lacarrière, the head of DTT; `We were trying with many a contortion to extract the 160 [km/h] from him ... I crossed swords with Lacarrière. He did not want it, he did not want it! He would say: "Really, what is the point? ... For speed, there are airplanes!" ... During the meeting, Edgard Pisani, who quite liked me ... turned towards me ... "So Hutter, don't you think it's a bit damned stupid!"'

[24] As recounted in Lamming, *(La grande aventure du) TGV* (1987) and confirmed in interviews. A letter from the Minister of early April 1966 acted `as a detonator': it enabled SNCF to set up its research centre (Jean Huet, former SNCF Director, speaking at AHICF Conference, 31/03/1994); also `Pisani's letter led to the creation of Capitole in 1967' (Walrave, former SNCF economist, at the same conference).

[25] When Capitole trains were about to reach the 200km/h threshold, a loudspeaker would proudly inform the passengers of the fact. This has more than anecdotal value, since it was part of a drive to modernise the image of rail travel.

[26] Interview with former Head of SCF, MdT.

[27] Interview with former Head of Research, SNCF.

[28] Interview with former Deputy Director General, SNCF.

[29] Interview with former Head of Rolling Stock, SNCF.

success of *Aérotrain* took place within the framework of de Gaulle's deliberate new policy of `giving France the means of its strategic independence through a strong scientific and technological base.'[30] But President Pompidou reformed de Gaulle's policy, which he re-directed towards supporting industrial applications, rather than fundamental research, in order to `seize the discoveries of research and seek to domesticate them, make them usable, and act in such a way as to make them serve people, rather than have people serve them.'[31] This emphasis on controlling technological development was also part of SNCF's approach and was vindicated under Pompidou, who ultimately approved TGV. The simultaneous demise of *Aérotrain* (in 1973) and success of TGV under Pompidou marked a shift back to applied research.

(2) Appraising and financing new technology

Project C03 did not enjoy a smooth run in the decision-making procedure. It was appraised on several occasions and found just enough support at critical moments for its funding to be approved (this section will only deal with the beginning of the appraisal process, as most of it was concerned with infrastructure rather than rolling stock and will be dealt with at length in Chapter IV).

Many respondents stressed that `TGV would not have been created had it not been for the Hovertrain, which was seen as a threat'.[32] This statement is to be understood in the context of a wider renewal of State activity, taking place from the early 1960s, which emphasised action-oriented State agencies and prospective planning, and favoured high technology:

> It was a sort of network of prospective administrative services: so there was around the General Planning Commission, which at the time, really, was very powerful ... DATAR ... SAEI ... and then there was the Forecasts Directorate at the Finance Ministry ... [those] were a little bit like itching powder to other administrative services.[33]

Studies done by SAEI and its support for the Hovertrain forced the national railway to react and adapt, by devising a long-term strategy.

Another element which entered into the appraisal of the project's merits was the potentially widespread application it could receive: `So we had to get the project accepted by the Minister without him speaking a great deal about it ... I told him: "We must add a second project, the tilting train, so we can say this is not just about Paris-Lyon but it's for everyone, it's to improve speeds on

[30] Bernard Esambert, *Pompidou, capitaine d'industries* (Paris: Odile Jacob, 1994), p. 172.

[31] Esambert (1994), p. 85.

[32] Interview with former Head of SAEI, MdT. Also: `*Aérotrain*'s great merit is already, whatever its success, to have spurred on the railway technicians, to have made them fear new competition' (P&C engineer and Roads official Gilbert Dreyfus, June 1967: p. 24.)

[33] Interview with former Head of SAEI, MdT.

other lines".'[34] This argument was pushed by SCF, even though SNCF itself did not hold much faith in the tilting version (TGV002), which was soon dropped.

A third element was of a psychological nature. TGV R&D was taking place whilst the Ministry and the railways were engaged in discussions about the Reform of SNCF (1966-1970). Given the number of people who needed to be convinced, DTT's position was `precisely to bring up SNCF psychology. It was the only area where we could pull out a strong enough argument, by saying: "You wish to reform SNCF ... but if there are only closures and restricted services in perspective, you're not going to motivate many..."'[35] A letter from the Minister, Jean Chamant (13 August 1968), stated that `launching a sizeable operation could win over all railwaypeople and facilitate the review of the Convention'.[36] The argument had a very objective basis, namely the programme of systematic closure of secondary (`Omnibus') lines scheduled to begin in 1970, and involving the transfer of services to coaches; 7,000kms of lines were due to be affected and there would be job losses. TGV `brought a positive element to a reform that was really very negative'; conversely, speaking of TGV in psychological terms `was then practically the only way to try and speak of it, as one encountered extremely negative opposition.'[37] Retaining SNCF's goodwill mattered to government; avoidance of open conflict had been an important element of the referential framework at all times, but particularly so in the wake of the May 1968 unrest.

As regards financing, it appears that it was never a thorny subject as such: during the R&D phase, the project was funded by SNCF's Research Budget and Ministry of Finance approval of the budget was only necessary for the overall amount; officials did not go into the details of research programming. `We never lacked financial means' declared one senior SNCF manager; research was financed out of the undertaking's `normal investment budget'.[38] The then Head of Research (technical) recalled that he `prepared the annual research budget. I asked ... the technical divisions what they needed and I put forward a research budget that integrated the needs of the Rolling Stock Division, of the Fixed Installations Division, and others.'[39] Research programmes carried out by SNCF Research were deliberately financed through `internal' resources: when the undertaking began to have a research policy, `they did not seek public funds, for a very simple reason, which is that they wished to keep control of the game. They considered that if they requested public funds,

[34] Interview with former Head of SCF, MdT.

[35] Interview with former Head of SCF (MdT), convinced that this was also the view of President Ségalat.

[36] Letter quoted by Pierre Protat, former Head of SCF (MdT), speaking at AHICF Conference, (31/03/1994). He was referring to the Reform of SNCF then being negotiated.

[37] Interview with former Head of SCF, MdT.

[38] Interview with former Head of Rolling Stock, SNCF. Financial concerns were hardly ever mentioned in interviews and in primary literature, and never as unsurmountable obstacles.

[39] Tessier in Jacq and Fourniau (forthcoming, September 1995).

the public authorities would therefore be driven to having a voice in the strategy ... TGV ... SNCF really made it *its* baby, they were not keen for the public authorities to meddle too much, notably the sponsoring division.'[40]

Although there was no need for formal authorisation from Transport or Finance as regards research,[41] there was for the construction of equipment; ministerial approval for the manufacture of two experimental TGVs was secured in March 1968. The eighty-five production trainsets themselves were provisionally ordered by SNCF on 12 February 1976 and the order approved by FDES on 4 November 1976. The total cost for TGV rolling stock was FF3.5bn, at 1981 prices (again the bulk of financing questions related to new infrastructure and is discussed in Chapter IV).

(3) The international environment

TGV at first was to be powered by a gas turbine, but an electric solution was also explored. For instance in April-May 1971, a study on the economics of electric v. turbine traction was carried out by M Walrave at SNCF, which pinpointed the threshold above which electric traction became more economical; the Director General decided to shelve the study for fear that it would play havoc within the railway; `SNCF's official doctrine' remained centred around the turbotrain, even though many were by now in favour of an electric solution.[42]

Events leading up to the Council of Ministers of 6 March 1974 are worth recounting: following the December 1973 oil shock, SNCF's President resolved that he would press for an electric TGV,[43] as this might be a more politically acceptable solution. The decision was not an easy one as both the general public and policy-makers had been `sold' the idea of a turbotrain, which had a modern ring to it, and turbo-engine manufacturers were very keen to develop a new market; also `the electrotrain as such, [SNCF] did not like it that much'[44] because additional electrification costs would have to be incurred and because there were added technical complications. Furthermore, Ségalat had already had the greatest difficulty convincing the Minister of Finance, Giscard d'Estaing, to accept the development of TGV in its turbotrain incarnation; with this new choice of traction, he would have to plead the cause once more, to the same obstructive Minister: `Well, he did go back to see Giscard, he spoke for the electrotrain TGV ... and Giscard let the first TGV happen, that was Paris-Lyon.'[45]

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[40] Interview with former Director of IRT.

[41] `We would send a letter to the Ministry to warn them that from then on, it would be like this, but that's all.' (Interview with former Deputy Director General, SNCF.)

[42] Michel Walrave, former SNCF economist, speaking at AHICF Conference (31/03/1994).

[43] Interview with former Deputy Director General, SNCF.

[44] Ibid.

[45] Ibid.

The oil crisis had a particularly strong reverberation in France: it was felt to threaten national independence. There was a political fixation with energy dependency and a government-approved turbotrain would set a bad example to the French population.[46] Any savings in energy derived from oil were to be encouraged and an energy-savings programme was duly approved at the 6 March Council, in which the railways, thanks to TGV, would play their fair share.[47] The rapid expansion of the civilian nuclear programme was also taken during that Council meeting.[48] Was there a link between the approval of Project C03 and the electro-nuclear programme? `Oh yes there was, yes! There is an absolute link!'[49] A subsequent President of SNCF also established the clearest of linkages: `The French Government, having courageously started a policy of French energy independence with the launching of the programme for nuclear power plants, adopted at its Council of 6 March 1974 the TGV programme within the framework of this policy.'[50] The case for an electric TGV was all the stronger as it had the backing of the EDF lobby, which saw SNCF as a potentially sizeable and dependable customer:

> [The] government was rushing headlong into nuclear power and ... we would get a good deal from EDF because EDF likes customers who consume large quantities ... at night ... in summer ... the crisis helped us inasmuch as we said: "We can get a passenger from Paris to Lyon in two hours, using up the consumption of a moped, but from a nuclear source. So it was an easy plea to make and which carried the decision to electrify.[51]

In this light, it is not surprising to find that the person that SNCF's President approached in February 1974 in his search for official support, was Jean Blancard, the Government's newly-appointed Energy Delegate, and long-time policy actor in the field of nuclear power;[52] Ségalat imparted to him the difficulties he was experiencing in getting the project approved and Blancard agreed to try and get the Council of 6 March to authorise it.[53] Nor is it so astonishing that the

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[46] Dr Clive Lamming, speaking at AHICF Conference (31/03/1994).

[47] There was moreover a precedent in that the State had actively encouraged electrification as early as the 1920s and 1930s. Unlike in Britain therefore there were no institutional prejudices against an electrified railway.

[48] Six new tranches of 1000 Megawatts were to be launched in 1974 and seven in 1975 (Esambert, 1994, p. 240).

[49] Interview with former Deputy Director General, SNCF.

[50] Pélissier (1984), p. 6.

[51] Interview with former Head of Rolling Stock, SNCF.

[52] In 1961, Blancard chaired the Committee for Industrial Plant (*Comité de l'Equipement industriel*) at the *Commissariat à l'Energie Atomique*; from 1968 till 1974, he was a member of the Atomic Energy Committee at the Ministry of Industry; and from January 1974 until 1975, he was the chairman of the Consultative Commission for the production of electricity of nuclear origin.

[53] J Blancard in his brief but seminal account: `Comment fut prise la décision de construire le TGV Sud-Est', in *Réalités industrielles* (October 1990), p. 15.

crucial decision concerning TGV was taken during a Council dealing with energy issues, which took a number of important decisions regarding national energy policy (the first two have already been cited; a third one concerned the intensification of oil prospection). The TGV project `was put across as an "energy" issue':[54] studies showing that energy consumption per traveller/km was far smaller with TGV than with either car or airplane were produced and the fact that an electric version would only `use nationally-produced energy - non-imported'[55] was heavily stressed. The oil crisis was a `veritable push in the right direction' and meant that SNCF was able to gain `a certain number of supporters' for the electric version.[56] Ségalat managed to get his point across that the new electric train would increase national independence in the energy sector[57] and by doing so, built a case that was politically unassailable (national independence was one pillar of the referential framework). The initiative to go electric was the railway's, but officially the decision was a political one: President Pélissier in later years spoke of the `decision taken at government level to use electric energy'.[58] Thus the revolutionary turbotrain was quietly turned into a classic electric train and last-minute changes to the external design had to be made in order to accommodate overhead lines.

(4) The industrial environment: railway manufacturing

The railway industry was in a fairly poor shape in the late 1960s. It was `very fragmented and shaky, we all wondered whether they were going to have to close down';[59] it was used to small production series for the overseas market and worked in very close partnership with SNCF, its main client together with RATP (the Parisian transport operator). One SNCF engineer, who later joined the engineering group Alsthom, recalled that `when [he] was ... at SNCF, there were ... constantly colleagues from Alsthom talking things out in the office', and as regards TGV rolling stock, `the industry and SNCF work in very close symbiosis'.[60] A `system ... of technical partnership ... has always existed between SNCF engineers and rail industry engineers', as embodied for instance in `joint project teams'.[61] The information prospectus produced by the French Railway Industry Federation, FIF, refers to `an extraordinary labour of partnership between

[54] Interview with manager at New Infrastructure Division, SNCF .

[55] Pélissier (1984), p. 13.

[56] Interview with former Head of Transport Division at SAEI, MdT.

[57] Lamming (1987), p. 35.

[58] Pélissier (1984), p. 7.

[59] Interview with former Head of Rolling Stock, SNCF.

[60] Interview with former SNCF engineer.

[61] Interview with former Head of Mechanical Engineering, SNCF.

SNCF and all interested industrialists' having made TGV possible.[62] This sentiment was echoed by the Head of SNCF Rolling Stock: `the construction of TGV sets would not have been possible without a French railway industry both competent and strong'; French manufacturers were `inured to taking risks', `quick to invest' and their industrial strength branched out down to the level of contractors in a way which was `fully adjusted to the technical and financial demands of their national user.'[63]

It was an unequal relationship however, as SNCF had a monopoly of initiative: little research was conducted by the manufacturers themselves. SNCF acted as the `project manager ... an extremely demanding project manager ... which somewhat reduced its suppliers to the condition of vassals.'[64] Thus TGV was wholly designed by SNCF itself but was built by private firms. What was the factor which presided over the choice of Alsthom as the main supplier of TGV sets, when in 1975 SNCF appealed for tenders `in which the whole of the French railway industry took part'?[65]

> The official answer was costs but Alsthom, well we saw to it that they were first ... We knew that to make something like that which was really quite on the cutting edge, there were technical capabilities only at Alsthom ... Alsthom did practically what we wanted them to do as they knew that losses on the first 80 trainsets so to speak would be made up for with the following 800...[66]

Such a mark of trust was only possible in a stable policy environment. SNCF took great care to provide each firm with enough orders to keep them going: on the one hand, `SNCF cannot say I give everything to one and the others will die', because it `needs the competition' and `SNCF encouraged things so that on the large [TGV] market to come, the whole of the railway industry would be kept alive'; on the other hand, manufacturers shared out the work between themselves `so to speak under the aegis of SNCF', so that ultimately the tender was hardly carried out along the lines of a truly competitive international tender.[67]

From the late 1970s, a process of concentration took place in the private railway industry: `The State encouraged [concentration in the railway industry], maybe misguidedly, thinking that on the international scene, large companies export more than several small and medium-sized ones.'[68]

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[62] FIF prospectus, *Qu'est-ce que l'industrie ferroviaire?* (Paris: undated).

[63] Jean Bouley, `L'heure des grandes options: les innovations essentielles apportées par le matériel Paris - Sud-Est', *RGCF* (Paris: December 1976): p. 753.

[64] Interview with former Deputy Director General, SNCF.

[65] R Garde, `L'architecture générale des rames TGV', *RGCF* (Dec. 1976): p. 764.

[66] Interview with former Head of Rolling Stock, SNCF.

[67] Interview with former SNCF engineer.

[68] Written answers from former P&C senior engineer, MdT. `A committee, chaired by Esambert, from Pompidou's Private Office, was asked to examine the conditions for concentration. It obtained some results, the main one being the specification of a single range of electric locomotives and the scrapping of one model of diesel locomotives.' (Written answers from former Head of SCF, MdT.)

The 24 September 1967 Order set up a new legal framework for companies, `GIE' (*Groupement d'intérêt économique*) which involved fiscal benefits and was part and parcel of a `distinct strategy favouring concentration.'[69] In 1972, several railway manufacturers, e.g. Schneider, took advantage of the measure to set up Francorail GIE. SNCF had two main suppliers until the smaller one (Schneider, the second largest industrial group in railway construction) was taken over by the larger one in 1986 (Alsthom, a subsidiary of CGE - *Compagnie générale d'électricité*). Alsthom became the world leader in railway construction and the sole national firm facing SNCF.[70]

Both under De Gaulle and Pompidou, industrial restructuring was encouraged through large State orders which could only be fulfilled through the standardisation and the production of large quantities of a given good. SNCF followed suit even before TGV:

> SNCF set the cat among the pigeons by demanding long production runs ... By bending the rules in a way that I do not know very well because I benefitted from it without having actually negotiated it with the sponsor, we managed to make long term deals, although French law requires *annual* investments, as with the State budget. Eventually allowances were made for long term deals ... over a ten-year period![71]

This was the case with an order for 3000 `Corail' carriages, a totally unprecedented event. This trend in public procurement was actively encouraged by the State, because it was seen as a means to secure the wide industrial base that, in the French referential framework, was viewed as necessary for national prosperity. The Corail and TGV contracts, both very substantial, were instrumental in the concentrating of the industry under the leadership of Alsthom; they guaranteed regular, solid financial income, with low profit margins, which was was typical of State guidance in public service industrial sectors during the VIth Plan, aiming at the creation of large industrial groupings.[72]

The partnership between SNCF and manufacturers extended to the promotion of the industry abroad by senior railway managers.[73] The fact that a *public* undertaking was openly championing *private* manufacturers was viewed as perfectly proper since it was for the benefit of the railway sector as a whole.[74]

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[69] A. Rowley, `La modernisation économique de la France', in *De Gaulle en son siècle*, III, La Documentation Française (Paris: Plon, 1992), p. 177.

[70] HCSP (1986), pp. 148-149.

[71] Interview with former Head of Rolling Stock, SNCF.

[72] Correspondence from Fourniau (2/06/1995).

[73] One SNCF President stated: `SNCF, as in the past, will take all possible steps to promote abroad French railway technology.' (Interview with Pélissier, *La vie du rail*, Spécial record du monde, No 1785, 19/03/1981, p. 5.)

[74] `Some years, exports amounted to up to 47% of total turnover.' (Source: FIF prospectus.)

(5) The professional dimension

SNCF Research brought together two groups of specialists: rolling stock engineers, egged on by the performance of the Japanese Shinkansen train and the possibility of a German train running at 200km/h (announced at a professional convention in 1964 in Munich); and managers with a background in economics who wished to develop new ideas as regards services (light, frequent, fast trains); the alliance of these two groups overcame sceptical managers in the Operations Department[75] (the presence of economists in the TGV team is a crucial point, developed in Chapter IV). Technical specifications were laid in accordance with very precise requirements from the marketing managers. For the first time at SNCF, a new train was deliberately and systematically tailored to the commercial needs of the railway.

President Pompidou was `truly convinced that France needed an industrial base', a conviction, a `faith' even which he shared `with the people who had graduated at X, and who filled government and industry'; when he decided to authorise a programme such as TGV, one could speak of `an act of faith'; many `shared the same faith and that helped a lot.'[76] In these few words, one encounters an inescapable dimension of French State practice: the integrated nature of the policy-making elite. The world of transport policy-making was a fairly small one. The fact that the great majority of SNCF senior engineers and senior Transport officials were *Polytechnique* graduates, and many belonged to the same *Grands Corps* (mostly P&C but also Mines) meant that they spoke `the same language'[77], that is held the same basic assumptions about public policy, used the same methodological tools to argue their cases, and shared the same referential framework on the whole.

One should not assume however that centralised training led to the formation of an homogeneous elite. As regards SNCF, it is both true that a large number of the most senior positions were traditionally held by P&C engineers *and* that the P&C Corps as a whole became a hindrance to railway development in the 1950s and 1960s: SNCF was subjected to attacks `By the road lobby, the oil lobby and in particular by P&C engineers ... We had an enormous amount of wrangling with the P&C Corps ... they design the motorways.'[78] P&C engineers at SNCF `stood apart' because they `were seconded from the P&C ... [they] had an SNCF status'; as a result, the ideas of SNCF engineers were less influential within professional circles than those of non-seconded P&C engineers; furthermore, there were `never more than a few dozen' seconded P&C engineers in the top echelons of SNCF, a `tiny minority' in relation to the number of P&C engineers in charge of roads within the *Equipement* divisions (both at the Ministry and at decentralised State

[75] Correspondence with Fourniau (2/06/1995).

[76] Interview with former adviser to President Pompidou.

[77] Something pointed out by several interviewees.

[78] Interview with former Head of Research, SNCF.

agencies in the *départements*).[79] All the same, lines of communication between all P&C engineers were informal and numerous.

Having discussed the various dimensions of the context in which decisions concerning Project C03 were made, all of which except the political context were favourable, I now turn to the process of gaining State approval.

C. Project C03: a difficult launch

Most respondents emphasised the importance of *Aérotrain* as a powerful incentive to innovative action at SNCF. What is less often mentioned is the fact that the undertaking managed to get involved in *Aérotrain* research at an early stage, encouraged by its Director General, Guibert: SNCF was the main shareholder of SEA, therefore sitting on its board, and lent it a disused railway line. This strategy of involvement enabled the railway undertaking to demand that it be allowed to pursue its own high speed research, and this was allowed since `no-one believed in it'.[80] Although both Project C03 and the Hovertrain constituted technological challenges, with no guarantee that they could be turned into economically viable means of transport, a great deal of faith was placed in the latter (strongly supported by two successive heads of DATAR, Olivier Guichard and Jacques Monod, both influential political figures), at the expense of the former. In spite of the serious technical problems that it encountered, `the government kept pushing, pushing, pushing, ... for it was a so-called finest jewel of French technology' and critically, Bertin `had recruited as No 2 a towering personnality from the oil industry, an X too naturally ... he knew everyone!'[81] When it came to allowing SNCF to order prototypes, in 1969, `the *Aérotrain* did everything it could to get the Transport Minister to refuse, for this was an investment approval, agreement from the Ministry was necessary ... it was snatched *in extremis*'.[82]

A second obstacle were various plans for the short or vertical take-off and landing aircraft (ADAC): in 1970 `The air transport circles were fiercely stirring and demonstrated that the vertical take-off aircraft would manage to solve the issue.'[83] But plans for ADAC proved to be short-lived.

The third obstacle was distrust of SNCF. In some political circles, the TGV project was reportedly described as `hare-brained'.[84] The most notable opponent in the early research phase was

[79] Interview with former Head of Research, SNCF. For instance in 1978 there were a total of 967 P&C engineers in employment (source: INSEE/Dominique Quarré, *Annales statistiques de la fonction publique 1945-1969-1989*, Paris: INSEE, 1992, p. 95).

[80] Interview with former Head of Research, SNCF. He also thought that `The Minister must have given a little push in the right direction by telling SNCF: "Become a member of the Board." That is very likely!'

[81] Ibid.

[82] Ibid.

[83] Diary entry quoted in written answers from former Head of SCF, MdT.

[84] Interview with former SNCF engineer.

the then Prime Minister, `Couve de Murville, who felt a stubborn distrust towards "engineering and prestigious investments" of SNCF.'[85] His opposition was such that when SNCF requested approval for the experimental TGVs in 1969, MdT officials sought to circumvent him; in the diaries of one official, the 14 March 1969 entry reads: `The construction of two experimental turbotrains has been authorised by the Minister (Chamant). Lacarrière and I had to go and get round him in the evening so that he would sign the D.M.[86] without referring to the Prime Minister, by explaining to him in particular that those machines will not leave the factory for two years.'[87] It was apparently `the first time ... that the administration was acting illegally and unfortunately it had to be done almost secretly.'[88] According to another civil servant, this tactic was dictated by the fact that

> SNCF was ill-considered in many right-wing political circles. Hence the desire not to make it look as though the decision to build two prototypes was a major State decision. Many technical research decisions are taken in this way in France. It may look `technocratic' and as though going against democratic control ... but the benefit is that it takes the heat out of relatively minor decisions.[89]

This statement expresses one element of the referential framework, namely the avoidance of open confrontation.

One SNCF manager summed up the situation thus: `the State did everything it could to *discourage* this project ... it repeatedly delayed decision-making by requesting additional information, ... expert opinions, by taking interest in other projects such as *Aérotrain*'; moreover, `everyone was against TGV, no matter which party they belonged to'.[90] The Transport Minister took the following drastic action in 1970: `Mondon confirms to DTT that he forbids SNCF from continuing its propaganda in favour of TGV - Hutter must cancel his conference at Saint Etienne'.[91]

Were Transport officials, on the other hand, wholly on the side of SNCF? Until about 1968, DTT seems to have had strong reservations about TGV. It was also in charge of the rival Hovertrain project, which it supported. By 25 February 1969, the departmental attitude was described thus by a senior official:

> Meeting of the Le Vert Group with Legrand (DATAR) who supports *Aérotrain* to the hilt - I see Le Vert before the meeting to inform him of Transport's position: open mind as regards studies and experiments, no a priori judgement or scepticism. SNCF must be allowed to pursue its research during the VIth Plan, it is

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[85] Written answers from former Head of SCF, MdT.

[86] Ministerial decision.

[87] Quoted in written answer by former Head of SCF, MdT.

[88] Interview with former Head of SCF, MdT.

[89] Written answers from former P&C senior engineer, MdT.

[90] Interview with Head of Mechanical Engineering, SNCF.

[91] Extract (23 April 1970) from diary of former Head of SCF (MdT), quoted in written answer.

one of the main psychological outlets in the face of the drastic cuts it is going to undergo elsewhere.[92]

SNCF had by then the tacit support of the sponsoring authority - resting on the psychological argument discussed earlier - at least at the administrative level.[93] Also the success of new, fast `Aquitaine' and `Etendard' rail services, coming as it did during the early R&D of TGV, played an important role in making the objective of higher rail speeds a commendable one in the eyes of State officials.[94]

As regards technical detail, MdT relied on its research agency, IRT, to vet some of SNCF's proposals. With IRT, according to an SNCF engineer, `the relationship was one of step-by-step follow through. Thus regarding technological choices which we had made and may have surprised the Ministry, IRT was asked to contact us ... the Minister's mind was set at rest when he knew that we agreed, which was always the case'; the engineer in charge of rolling stock for instance had to present his technical choices to IRT, something which he experienced as being before a `tribunal'.[95] This close scrutiny meant that railway engineers were not able to embark on over-ambitious developments. On the other hand, IRT had its own `pet' projects (e.g. the SENF braking system) which it failed to impose on SNCF.[96]

Conclusion

Although the political class has been eager to take the credit for the technological success TGV undoubtedly has become, it cannot really be claimed as a classical *grand projet*. It is true that Edgard Pisani, in his brief term as *Equipement* Minister, gave a decisive push in the direction of higher speeds, but he did not create SNCF's ability to produce and test high speed trains, or the organisation's resolve and institutional capability to see the project through. His role can best be described as that of a catalyst for a long-standing ambition of SNCF engineers to show how much more the old railway could achieve. If anything, Bertin's *Aérotrain* was the State's transport *grand projet*, receiving both political support and State funds. In his book on Pompidou's industrial policy, Esambert barely mentioned TGV, a glaring omission reflecting the fact that the new train

[92] Written answers from former Head of SCF, MdT. Another former Transport official stated that `SNCF, at a moment of crisis and transformation, needed a great mobilising project: the project played that role very well and enabled railwaymen to regain their pride.'

[93] Michel Walrave, former SNCF economist, spoke of a `benevolent complicity' on the part of the Ministry (speaking at AHICF Conference, 31/03/1994).

[94] `By 1970 French Railways had a dossier of evidence that higher speeds pay dividends' (Freeman Allen, 1978, p. 78).

[95] Interview with former Head of Rolling Stock, SNCF.

[96] Correspondence with Fourniau (2/06/1995).

was not a political priority at the time and cannot be claimed as such even today.[97]

TGV however is considered a *national* project by senior railway engineers inasmuch as it involved sizeable `budgetary commitments' and was `extremely structuring from the point of view of the [national] territory'.[98] Another SNCF respondent added to these two features `the impact on the development of the undertaking itself'.[99] In the referential framework of many SNCF people, the importance of the project both for the nation and for the national railway was an important assumption.

TGV can only be viewed as a *grand projet* inasmuch as it was `a particular instance of integration of policies in industry, technology, competition and public procurement'.[100] This integration did not take place as a result of a deliberate, comprehensive ministerial initiative but rather flowed from institutionalised practices which encouraged systematic, medium to long term thinking and the pooling of resources. As with a number of other successful projects in France, `a homogeneous elite (often a product of the *grands corps* and combining technical, supervisory and managerial functions) was able to rally a high status personnel around the values of progress, the entrepreneurial State and national independence.'[101] In the end, mobilisation around such referential values was enough to overcome any political or financial reservations that the public authorities might have had.[102]

[97] Esambert (1994), p. 187.

[98] Interview with former SNCF engineer.

[99] Interview with Head of Mechanical Engineering, SNCF.

[100] Elie Cohen interviewed in *Le Monde* (23/02/1993): p. 2.

[101] Ibid.

[102] From 1983 onwards, TGV technological development did become truly State-sponsored: research programmes were launched by the Industry Ministry. The current TGV NG programme (*Nouvelle generation*), which aims at travelling 1,000kms in 3 hours, was launched in 1990 as a joint operation bringing together GEC-Alsthom's Transport Division, SNCF, the ministries of Research, Industry, *Equipement* and the Agency for Environmental Protection and Energy Conservation. These programmes have forged a durable partnership between public research laboratories, SNCF and private railway manufacturers (Fourniau, Nov.-Dec. 1994).

3. COMPARATIVE ANALYSIS AND CONCLUSIONS

Both the APT and TGV projects were launched in 1966, at a time when there was a great deal of interest for R&D in new forms of inland transport technology at central government level in both countries: hovertrains and short / vertical take off landing aircraft were being developed on both sides of the Channel under ministerial sponsorship. The R&D phases of both APT and TGV were carried out almost exclusively by the nationalised railways themselves, for both operators had the necessary know-how and a tradition of in-house innovation, although SNCF involved private manufacturers to a far larger extent. A third similarity concerned the nature of the planned service: `There is no question of introducing the APT ... as a luxury businessman's service like the Trans-Europ Expresses ... it will probably carry both first and second class passengers from the outset';[1] TGV for its part was meant to `democratise speed', unlike previous express services, which were first-class only; in both cases, reservation of seats was to be made compulsory. A fourth similarity lay in the strategic aims of the projects, which were to enable a declining railway to compete with road and air transport: `BR's aim is to use APT to dominate the passenger market on all inter-city routes as well as generating a large volume of new business';[2] SNCF also aimed at increasing its market share.

However, the two case studies presented in this chapter contain many striking differences, not least in their outcomes. Analysing the reasons for BR's failure to implement a highly innovative high speed rail policy, and SNCF's corresponding success, would entail discussing points outside the scope of this study (such as railway industrial cultures and innovation management). At any rate, the case studies are *not* intended to provide an explanatory framework for public policy outcomes. They are points of entry into the public policy referential frameworks of the two countries.

A. Aspects of the projects

(1) The projects' objectives

The TGV project was mostly commercially-driven (`an economist's invention')[3], whereas the APT project mainly rested on a technology pull (`a scientist's train'). In Britain, the technology was the driving force, the approach being `scientific', and the emphasis on returning to `first principles';[4] whereas in France, transport objectives dominated the thinking of those involved in the project and the approach was `economic' (for full discussion of the economists' input, see Chapter

[1] *The Times: Special Report on passenger services* (17/03/1972): p. III.

[2] Ibid.

[3] Phrase used by several speakers at AHICF Conference (31/03/1994).

[4] The design speed of `250 didn't come out of a rational analysis. 250 was an aspiration which then got supported by some subsequent arguments ... of course you can construct arguments to prove anything you like!' (Interview with former APT engineer.)

IV). Thinking on the British side focused on technological development *per se* and on the international market for rolling stock, i.e. on an *invention* and a commercial *product*. At first, it was not known on which trunk lines APT might be used to best effect, for the project began as a `generic' research programme: `this breathtakingly original vehicle had been conceived in the highest hopes. It was to be the British solution to a need recognised worldwide for a second generation of fast trains to succeed the high-powered diesel and to compete with the airways.'[5] In the British referential framework, it was conceivable to think of APT as a potential scientific breakthrough on a world scale, whereas in France, the project was first and foremost an attempt by the national railway to modernise its appeal and compete more successfully with air and motorway travel in France itself. Only secondarily would TGV, running on French railway lines, be a `technological showpiece' for French industry.

The fact that international trade issues occupied a more prominent place in the British referential framework than they did in the French is perhaps not surprising as France was still a relatively closed economy in the 1960s and early 1970s. Britain for its part had long been a free-trading nation and officials were used to thinking in international terms. Also selling APT technology would have benefitted the Exchequer, whereas selling TGV trains would `only' benefit private manufacturing companies.

Time and time again, respondents in France have stressed that Project C03 was viewed by its proponents as a transport *system* (the `TGV system'); it was not simply a product to be sold or the solution for one given transport corridor: `We did not seek to optimise on Paris-Lyon, we really optimised the system ... I wish to insist on the fact that we followed an overall approach which we called system-approach.'[6] Although the system has over time turned into a successful product on the export market, the primary purpose was the radical transformation of inter-city transport, not just between Paris and Lyon, but on other trunk routes as well. The new technology offered a radical, commercial solution to broad transport issues. Hence the services of both engineers and transport economists were enlisted on an equal footing. Potter and Roy have pointed out that APT for its part was a particular example of a more general phenomenon: the `reliance in Britain on simple "technical fix" innovations rather than considering how the whole *system* can be improved'.[7] The training of the leading members of the TGV team and of those at MdT who approved the new technology goes a long way towards explaining the `system' approach; for they were *polytechniciens* almost to a man, which means that they were trained to apply science and to manage rather than to research. The British researchers on the other hand had varied backgrounds, some in engineering, some in science, and had gained their degrees in various universities around Britain, whilst transport officials were mostly classically-trained.

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[5] Parker (1989), p. 271.

[6] Walrave (SNCF) in Jacq and Fourniau (forthcoming, September 1995).

[7] Potter and Roy (1985), p. 61. See also the Finniston Report (*Engineering our future*, London: HMSO, 1980) which bemoaned the lack of integrated planning in the UK's engineering industry.

Although I have begun by stressing the highly commercial nature of Project C03, such commercialism was combined with a strong public service ethos. Indeed TGV aimed both to capture (high-spending) business passengers from the airlines *and* to `democratise speed' (SNCF slogan), by providing both first and second-class accommodation (previous fast trains were first-class only) and with seats on TGV being priced at the same levels as seats on conventional trains. The public service element must be understood in conjunction with the *grande école* training. Technical transport literature continually stressed the dual nature of SNCF - as a commercial carrier and a public service undertaking - and the fact that policy-makers ought to seek ways to fulfill both tasks without unduly stressing one at the expense of the other. On the British side, the commercial remit of the railways had been heavily stressed since the Transport Act, 1962 and attempts to re-introduce social criteria were seen as the preserve of the Labour Party. The conception of the railway as a public utility was generally not stressed, either by BR or the Department. But neither was the commercial approach immediately and wholeheartedly embraced by railway management except in its financial component of strict limits on expenditure. Paradoxically, financial preoccupations at the inception of, and throughout the APT project did not turn it into a full-blown commercial proposition.

The new technology was expected by Transport officials of both countries to improve railway finances, but in France this was heavily stressed both by officials and railway chiefs, whilst in Britain `the fact that it was important for the "finances", was something obvious, but we didn't go around ... it wasn't stated, it wasn't overstressed.'[8] Similarly, deliberately increasing passenger rail traffic was not a clear objective on the DoT side, at least at the beginning of the project.[9] To sum up, Project C03 had clearly stated objectives and limited technological ambitions whilst APT was both more adventurous and unfocused.

(2) Financing and appraisal

How do we explain that the British Transport Ministry should have agreed to partially finance a high-risk project, when SNCF had to finance all of the (safer) TGV R&D itself? To phrase the question in those terms is misleading because the funding and budgeting arrangements were so very different. BR was wholly dependent on public funding and internal revenue for all its investment programmes; as the latter generated insufficient cash, it was forced into a partnership with the sponsoring ministry. This in turn meant that there was a large degree of ministerial oversight of the APT programme. SNCF on the other hand had been more generously funded since nationalisation and after the Nora Report was encouraged by government to raise capital on the private financial markets, which meant that it was not strapped for cash. And in the field of research oversight, SNCF benefitted from a wider degree of autonomy, since railway management

[8] Interview with former Deputy Secretary (BR Policy), DoT.

[9] Interview with former Principal Private Secretary to Minister of Transport.

was left to allocate approved funds internally as it saw fit through its Research Committee. The question of resource availability can be illustrated by the two following examples: firstly, when SNCF engineers launched their research into gas turbine propulsion, they chose to experiment with helicopter power units, because they were believed to be the best in technical terms; BR Research for its part examined a number of `gas turbines ... small automotive engines being preferred to large and *expensive* aircraft or helicopter power units' (my italics).[10] Secondly the shift from turbo to electric traction had an adverse impact on APT because it established a link between the project and electrification, itself a controversial policy area. The shift from turbotrain to electric TGV had no discernible effects on the fortunes of Project C03 as electrification was already established as a worthwhile object for the network as a whole within the Administration and even among politicians (electrification was equated with modernisation, always a desirable good in the French referential framework).

Close, formal links between BR Research and MoT necessarily existed (Joint Steering Group) because of direct state funding in the project. In contrast, there were no formal links between SNCF Research and MdT: the functional research units, and from 1966 the Research Centre, enjoyed sufficient autonomy to be able to conduct quasi-secret research in the early 1960s into high speeds, and in the early 1970s into the electric option. There were however, *ad hoc* links with the Ministry's research establishment, IRT (which were not constraining), just as BR Research had some contacts with the MoT's establishment, RRL. Overall, SNCF Research enjoyed a far greater degree of budgetary and institutional autonomy from its sponsoring ministry than did BR Research.

As regards appraisal, in France the non-financial dimensions of the TGV project were critical. It was possible for SNCF to obtain State approval for a costly project on the grounds that it would benefit the undertaking itself, the whole network and have social and economic, as well as financial, benefits (the latter being heavily stressed). Again the new train was viewed as part of a system, and repercussions on the whole system were therefore assessed as well as appraisal tools would allow. In contrast, APT services were assessed as a product for a single main line, in isolation from the rest of the network, the economy and local communities. Where the French practice was to look at the national economy as an integrated whole, the British practice was to assess each case on its own merits.

In France as in the UK, officials from the Railways Directorates relied on the railway operator for much of their information. This situation of quasi-monopoly did not pose any serious problems on the French side, where SNCF was only too eager to prove its case on the basis of precise data and where administrators (particularly from Finance) did not hesitate to demand information they felt was needed, directly from SNCF. But DoT was somewhat short of expert information and was not able to force it out of the undertaking. No independent technical or economic audits into APT were demanded by DoT after the 1970 IWPICT Report, in spite of

[10] `APT programme moves ahead after searching reappraisal', *RGI* (Dec. 1973): p. 469.

growing doubts. One railway engineer pointed out that because officials `weren't highly technically qualified, there was an element of trust there'.[11] An official felt that `There wasn't really a technical basis other than "It is my professional opinion that" to the British Rail proposal. They didn't like to see their technical knowledge or understanding challenged and ... they didn't propose to expose it to challenge. They may have had for all I know, a lot of detailed calculations and modelling behind it but they certainly never showed them.'[12] The Department did not engage in cross-examination or openly seek second opinions: `the whole Whitehall process points towards a kind of associative regime within which opinion is formed by going around getting as many cross-bearings as you can before anybody forms any opinion. Then you set it all down and add it all up and you say "Right, what it comes to then is..., this is all OK by everybody" - except those who've got to find the money for whom it is too expensive.'[13] It simply was not done to seek second opinions, whereas in the French State apparatus, the role of experts in State or para-statal agencies was precisely to check the validity of public undertakings' claims, e.g. in economic or safety matters.

Safety was left to BR unless grave worries arose, in which case the Department's Chief Scientist became involved on an *ad hoc* basis; alternatively, BR might call in an independent consultant. The French Transport Ministry exercised continuous *a priori* control of safety matters through its in-house Technical Security Division. In October 1977 DoT frustration (officials wanted APT to succeed but had misgivings about its commercial prospects) led to their considering a comparative examination of APT and the TGV project; the idea was to look `at the Paris-Lyon situation for pointers to the likely outcome of the APT service'.[14] But this was at a time when the French high speed link was only under construction and was not due to open for another four years. What was available at the time were results of extensive market research conducted by SNCF and scrutinised in depth by French Transport and Finance officials, precisely the kind of data with which BR, according to the Department, was not always forthcoming. One government scientist thought that administrators `were aware - as indeed we were all aware - there had been market studies of the Paris-Lyon route which had not been paralleled in the same way. To put it bluntly, SNCF had economists who had done economic studies. British Rail did not have economists and was not doing economic studies, and what was wanted I think was ... to try and use the SNCF economic studies as a guide.'[15]

Discussions of a technical nature had pride of place in French State practice, but not in British practice: in the French technico-administrative elite, a great deal of faith attached to

[11] Interview with former APT Project Manager, BR.

[12] Interview with former senior TRRL/DoT scientist.

[13] Interview with former Under-Secretary (Railways), DoT.

[14] Departmental meeting (7/10/1977), BAM (1977 Part II).

[15] Interview with former senior TRRL/DoT scientist.

technical studies, and there was strong interest for prospective medium to long term studies, whilst on the British side, methodologies used in technical studies tended to be found wanting and there was a keen awareness of the fine line between the technical and the political. Long term predictions were dismissed as too uncertain.[16]

In short, appraisal of APT was wholly of a financial nature; as regards the more technical and economic aspects, officials relied almost entirely on the judgement of BR.[17] In France on the other hand, appraisal was both financial and economic, and occasionally technical; SNCF claims were not taken on trust alone.

(3) Nature of the projects: scientific or engineering pioneers?

Two high speed projects were necessary in the UK because one of them (APT) was a technological gamble and the other one (HST) served as an `insurance policy', a transitional design; only one major project was pursued by SNCF in the conviction that it would rapidly be viable technically speaking. This begs the following two-fold question: what made it possible for an ambitious, high-risk project such as APT to be approved, then continued in spite of serious technical setbacks, all this in a context of financial stringency, whilst SNCF - which enjoyed greater autonomy and resources - was `only' allowed a comparatively safe approach based on proven technology? In other words, was there something about the French State which enabled it to restrain the (presumably) natural, professional ambitions of its railway engineers when British central government could not, a situation all the more paradoxical as French engineers were apparently so much more influential in the policy process than their British counterparts? And a related question was suggested by the comment of a former MoT scientist on the future of tilting trains in Britain: `I fear this may become yet another example of the British "disease" of being first in with the ideas, but last into operation, buying from overseas.'[18] What prevented innovative ideas from being made operational?

We can begin to address this central paradox by examining the professional standings of engineers on the one hand, scientists on the other. The prestige of engineers was not very high in Britain (see Chapter II),[19] but that of scientists was significantly greater, stemming from a long tradition of scientific experimentation, a duality of status perpetuated by a long history of scientific

[16] One was reminded of Churchill's aphorism: `It is always wise to look ahead, but difficult to look farther than you can see.' (`Sayings of the Week', *The Observer*, 27/07/1952.)

[17] Interview with former Deputy Secretary (BR Policy), DoT, who also underlined the `element of trust'.

[18] Correspondence with former Chief Scientific Officer, MoT.

[19] Curiously, this applied even *within* the railway industry itself. One BR Chairman is reported to have said that `Engineers should be on tap and not on top'. (Interview with former Head of Research (2), RTC, BR.)

breakthroughs.[20] When the APT project was launched, `at that stage the Chief Scientific Adviser had a considerable standing'.[21] One MoT scientist found joining MoT in 1968 `very rewarding in that I was very much welcomed by the administrative staff right up to the Under Secretary and even to Deputy Secretary level'.[22] This was not the case with engineers; one former British Minister of Transport observed that `Engineers make decisions in France, they occupy places of power. Here engineers sit down below the salt ... sit way down the table and speak when they're spoken to!'[23] The recourse by BR Research to aeronautics specialists was also significant: in the 1960s, the British aircraft industry was the second biggest in the world and the prestige of aeronautics engineers/scientists was high. The fact that the APT concept had been initiated by experts from this industry strengthened the submission for public funds. Moreover the programme was launched at a time when `science-based industry' was being promoted at the highest political level.[24]

The APT concept `emerged from a programme of *fundamental* research into railway vehicle dynamics which required the solution of several theoretical problems'; it `was not solely a response to a commercial market opportunity'[25]; furthermore the development of the concept itself `required a "scientific" approach involving much prior calculation, modelling and simulation, plus laboratory and full-scale experimentation' before an attempt could be made at actually producing a train.[26] The BRB Member for Engineering and Research pointed out, `APT is not just another train, but the first of a series designed quite literally from first principles'; he also stressed that `this fundamental approach takes time, a fact that is well appreciated in the science-based industries and is now becoming so in railways.'[27] APT was viewed as part of the international race between scientific nations, a project that scientific advisers to the Wilson Government thought worth

[20] Incidentally, this type of dichotomy, between `pure' and `applied', `intellectual' and `practical', was until very recently echoed in the hierarchy of the British Civil Service, in which there was a clear separation between `intellectual' (policy advice) and `mechanical' (executive) duties, going back to the Northcote-Trevelyan Report of 1854.

[21] Interview with former Head of Research (2), RTC, BR.

[22] Correspondence with former Assistant to Chief Scientific Adviser, MoT.

[23] Interview with former Minister of Transport.

[24] Phrase used at 1967 Labour Conference speech by Prime Minister Harold Wilson, quoted in Wilson (1971), p. 435. Wilson `had made the whole country aware that it needed more scientists' (Barbara Castle, *Fighting All the Way*, London: Macmillan, 1993, p. 338).

[25] Interview with former APT Project Manager, BR.

[26] Potter and Roy (1985), p. 17.

[27] Dr Sidney Jones in `APT: the market and the product', *RGI* (Dec. 1971): pp. 4-5. As one mechanical engineer put it, `As a research project APT was unique, stimulating progress in *knowledge* in practically every field of railway *science* ... As a result it has advanced railway technology generally.' (My italics.) (In discussion of Boocock and King, 1982: p. S23.)

supporting to start with:[28] Labour M.P. Ronald Atkins described APT as an `invention' and wished Britain to `reap through exports the rewards of British inventive genius'.[29] Similarly, the Department was aware that APT `was tackled right from first principles ... it was jumps ahead'[30] and viewed the new train as `an ingenious solution' in the country with the oldest railway, made up of `cheaply and piecemeal-built routes'.[31]

The scientific approach of the APT team was not one, however, that could be easily comprehended or accepted by managers who had risen through railway ranks from an early age: `In the railways', bemoaned a railway scientist, `you could talk to people at quite senior levels ... they didn't know what you were talking about, with notable exceptions.'[32] Transport officials on the other hand were more amenable to the scientific approach (which carried more credibility), but because they were mostly classically-trained, they had to rely on the judgement of Government scientists: `The scientific civil service input to that was to bring to bear the tutored perspective of the scientist on the solving of scientific problems' and its influence must have been `considerable' because their confidence and judgement convinced DoT to press onward; `To find that their view accorded with the layman's appreciation of what he was being told ... their input [was] significant.'[33]

There was no common technical culture binding together British research scientists, railway engineers and civil servants. In France on the other hand, there existed a common, broadly technical (though not strictly speaking `scientific') culture both in railway engineering circles and in the Administration. TGV exemplified an engineering approach which sought to `stretch' existing technology; this approach was favoured both by railway engineers and departmental officials over a more innovative one.[34] TGV engineers have repeatedly stressed that they did not want to make `a scientist's train'; whatever check on `natural' engineering ambitions there may have been was actually self-imposed.

French engineers exercised self-restraint for pragmatic reasons: they were keen to get tangible results quickly and were all too aware that rail travel was no longer favoured in high places. In both national railways, a fairly cautious approach to technological innovation was favoured, because railway engineers wanted something that would work; but in the British case, it

[28] One BR chairman (Parker) quotes another (Marsh) as saying that `Britain was probably eight years ahead of any other railway with this sophisticated equipment.' (In Parker, 1989, p. 272.)

[29] Oral answers, *Hansard*, Vol. 953, No 147 (5/07/1978), 429.

[30] Interview with former Under-Secretary (Railways), DoT.

[31] Background note on APT, BAM (1978 Part III).

[32] Interview with former Head of Research (2), RTC, BR.

[33] Interview with former Under-Secretary (Railways), DoT.

[34] The tilting TGV option was abandoned in 1971 because it seemed too risky to SNCF engineers.

was for several years competing with a more adventurous, scientific approach. The research scientists' allegiance was mainly to the project itself, the `invention': the `APT project is unusual in that it was derived from a research programme ... rather than being a design project to fulfill an industry need ... When a group of people are brought together in this way, there is often a strong team feeling with loyalties to the project rather than the company.'[35] French State engineers had a strong loyalty to the *national* railway as a whole.

The reasons for SNCF's cautious approach were also partly sociological: there was in France in the postwar period an

> institutional and sociological, cultural and political split which set against each other the worlds of intellectuals, scientists and left-wingers on the one hand, and of industrialists, the military and the public authorities on the other ... the Polytechnique school was on the side of the second pole. Having to provide the cadres of the State and firms, it advocated `applications' and national defence but was not taken in by the mystique of `pure and disinterested research' then claimed as the norm by university lecturers.[36]

Unlike the APT researchers, trained in the sciences (in particular physics), TGV engineers had mostly been trained at State engineering schools, where the curriculum included transport economics. SNCF engineers tended to refer to each other as either `technicians' or `economists', all the way to the two Deputy Director Generals, one of whom traditionally represented the technical divisions, whilst the other was in charge of more economic and commercial matters.[37] One railway engineer stressed that `We must fulfil the objectives ... not only in technical terms ... but also in economic terms. This is the price to be paid for the railway's credibility.'[38] The TGV team was made up both of technicians and economists: `above all we sought to identify the main technical elements and the main economic elements and to make explicit the relationship between the two.'[39] Therefore TGV's operational speed was determined at a very early stage by SNCF economists on the basis of what constituted the economic optimum and was technically achievable.

APT's speed, in contrast, was determined by BR scientists solely on the basis of what was technically feasible. The APT team focused on technical issues; the interaction between researchers and commercial management was so minimal that `to a large extent the design speed arose out of the development of [the] suspension design in the first place';[40] moreover the design speed `was

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[35] Ledsome (Feb. 1981): p. 106.

[36] Pestre (1994): p. 345.

[37] Interview with former Deputy Director General, SNCF.

[38] *La Vie du Rail*, 'Spécial TGV' (25/02/1979): p. 9.

[39] Walrave in Jacq and Fourniau (forthcoming, September 1995).

[40] Potter and Roy (1985), p. 23. They also say that `It almost seems as if the design engineers, having shown that 250km/h was technically achievable were unwilling to accept anything less, even though no commercial case existed at the time for such a speed' (p. 52).

well above anything that the marketing management of BR could evaluate and their eventual "design brief" was little more than a modified version of the existing APT specifications!'[41] Even with the most central feature of the project, the commercial side of the railway had very little input.[42] Later, BR commercial models established that in Britain it was not commercially viable to run services faster than 225km/h; the drive to produce a 250km/h train was therefore not based on economic analysis. BR scientists and engineers, with their specialised training and little or no background in transport economics, made the initial judgements regarding initial APT design specifications, whereas TGV specifications were the result of interaction between `technical' and `economist-engineers'.

Until the early 1980s, BR was dominated by specialised engineers in many respects. Although it has been argued that `the APT was organised on a multi-discipline project team basis',[43] the team specialists all belonged to scientific/engineering disciplines, unlike the TGV team specialists. One official put it succintly: `there was a powerful engineering tradition in BR management and a non-existent economic tradition and that's really what the problem was.'[44] The internal shift towards a more market-led business took place at a later stage at BR than it had at SNCF, where such a shift was greatly facilitated by the fact that French engineers were already versed in economics and management through their broader State-sponsored training. This is somewhat ironical as government pressure to make the railways pay for themselves began to be applied earlier in the UK (1961) than in France (1969).

BR's more adventurous approach was not a handicap however in terms of gaining central government approval. It seems that in this respect, BR research engineers and influential sections within the Department, together with ministers, shared the same assumptions. The wholly different approach to high speed train technology was connected to the fact that TGV was basically an SNCF project whereas APT was a joint railway / government programme. Partly this explains why the decision-making processes unfolded along such divergent paths.

B. The projects in terms of decision-making

It is also possible to gain an understanding of the British and French referential frameworks by comparing the two processes of pioneering technology in terms of policy-making dynamics. In both countries in the late 1960s, modernisation and new technology were important parts of the political agenda, therefore the more influential state agencies tended to appropriate the

[41] See Potter and Roy (1985), pp. 24-25, 31.

[42] Although there was a shift from 1976, away from the organisation of the railway along functional lines, towards a commercial structure, with Peter Parker's policy of `sector management', this came too late to have a positive impact on APT and during the transition period was actually quite disruptive.

[43] Potter (1993), p. 149.

[44] Interview with former Permanent Secretary, DoT (2).

more high-tech, prestigious options (Concorde is perhaps the best known example). They were willing to embrace technological challenges, MoT with APT in Britain (MinTech with Tracked Hovercraft), the powerful DATAR with *Aérotrain* in France, whilst declining public undertakings were anxious to follow relatively safe, `engineering' options, as was MdT, which pursued its traditional policy of encouraging existing rail technology to be gradually stretched. APT was practically imposed onto a reluctant Railways Board in 1968 by a forward-looking and enterprising MoT during the negotiation and passage of the Transport Act, 1968, which was meant to open a new era for the railway. MoT officials were highly supportive of the modernisers within BR and took a leading role, whilst MdT officials were not immediately convinced by the TGV team and subsequently took a supporting role.

The above contrast can be explained in terms of two opposed types of innovation, `institutional' and `operational', as argued by Jacq.[45] The first type was promoted by politicians on the basis of a new technique that was expected to solve a host of problems and favoured spectacular technologies (one entered the domain of political `fiction'); for politicians will tend to resort to engineering or scientific `genius'. On the other hand, `operational innovation' concerned itself with the more mundane development of a whole system on the basis of existing technologies (one explored further the present technological `reality'). The specificity of the TGV project lay precisely in that it was almost totally divorced from the world of politics and was developed under the aegis of the railway operator and with its own funds, with the discreet support of officials at the Railways Division. APT in contrast was a joint BR/MoT project, was directly affected by high politics of the day, dependent on funds from government and egged on by Transport officials.

In both countries, government approval was only given - or due to be given - after successful trials of the new trains; ministers wanted to see concrete results before committing themselves to a high speed fleet. But the decisions to go into production did not take place at the same stage in the R&D processes. In Britain, the public authorities declined to commit themselves to the project in 1973-1974 after the successful experimental APT trials and eventually requested that the prototype trains operate successfully in passenger service before taking a decision on the production phase, which for DoT was to involve a trial fleet of eight APTs. In France, there was no such requirement and in fact no prototype phase: the TGV project moved straight from the experimental train phase (TGV001) to the pre-production phase (TGVs 01/02), when the designs that had been agreed with manufacturers for the fleet of eighty-five trainsets were thoroughly tested. There was both a greater amount of trust in the railway operator and its ability to get private industry to deliver, and a greater ability of SNCF to reorientate government policy.

As regards outcomes of the decision-making processes, in France the final outcome was the approval of the project very much as presented at the outset in 1966. No compromises (albeit a great deal of patience) were necessary to reach agreement with the public authorities. The original features were not lost in the maze of negotiations, appraisals, and expert opinions because railway

[45] Jacq and Fourniau (forthcoming, September 1995).

managers and engineers had built a very strong case drawing partly on themes that the State was then favouring. In Britain, the original objective was lost sight of during the decision-making process; the final outcome in 1984 was the abandonment by the BRB of significantly higher speeds as a goal. Although the design of APT was found to be basically sound by the independent Ford & Dain reports in 1982, BR was not allowed the time to iron out the remaining technical difficulties. This was essentially due to a lack of agreement on the means to attain common objective between BR and central government and to the fact that either political will or Treasury strictures could relatively easily overrule railway management or Transport officials. The abandonment of the High Speed Policy was all the more striking as senior figures in the Department had hoped that APT would represent a new departure: `That was certainly the way I wanted to develop the policy. I was terribly anxious that British Rail should "take off".'[46]

The French railways obtained the outcome which they favoured not because they could impose it forcefully, but because they were able to win over crucial decision-makers one by one, starting with their sponsoring ministry, and this for three reasons. The British railways eventually failed to have their high speed policy validated, even though they had strong departmental backing for most of the life of the project. There were also three reasons for this state of things. I would now like to analyse all these reasons in turn, as comparatively as the subject will allow.

Firstly, SNCF presented their case in terms that were rationally unassailable within the existing referential framework, using methodologies developed within ministerial agencies (CBA). BR for its part sought to present the APT project in terms that would chime with governmental concerns, but ultimately the case for it could only be fully developed by including non-financial criteria; these however were not consistent with a referential framework that was dominated by short-term public spending considerations, and were not viewed as legitimate. Also network benefits could have been emphasised but such a comprehensive approach to appraisal ran against incremental practices. The case for APT was thus truncated and not as convincing at it potentially could have been. Moreover, DoT was not fully convinced of the validity of the railway's forecasting techniques and considered that the BRB were not very forthcoming about their methodology.[47] Partly for this reason, the Department felt unable to give their full backing to the Board's commercial plans and in 1977 requested more time from the Secretary of State as regards the decision to go into series production; it was not a question of bad will on the part of the Department (for the project was backed at very senior official level during the prototype phase) but rather of a feeling of uneasiness, which had no equivalent on the French side.

Potter and Roy have argued that `the case for evaluating state transport investments on a systems basis, evaluating the overall effect upon the ease of travel, efficiency in the economy,

[46] Interview with former Deputy Secretary (BR Policy), DoT.

[47] Departmental meeting (14/10/1977), BAM (1977 Part II).

energy consumption etc., is intellectually strong.'[48] This would account for this approach's appeal to French policy-makers, who will tend to look for `best' solutions with a strong rational basis; and once a `best' option has been adopted, it will be adhered to through thick and thin precisely because it is perceived (or at the very least portrayed) as the most rational one. On the British side, there were too many competing constraints for a strong case to be made: political and financial imperatives meant that a sustained, well-funded R&D programme could not be legitimated over a long period of time. One BR Chief Engineer remarked that British decision-making was too `emotional' whereas French decision-making appeared to him to be more `logical'.[49] A BR scientist stressed the idea that the APT concept had had to be `sold' to decision-makers in order to attract funding, and `to that extent, it was oversold right at the beginning.'[50] The (political) bargaining between British railway undertaking and central government was conducted in a mode of persuasion, whereas discussions between French railways and State officials were highly technical or economic right from the start.

Secondly, SNCF pursued their objectives - which they had defined themselves - with sheer determination and persistence, with negligible internal opposition; and the fact that the turnover of personnel involved in the project was low made continuous lobbying more effective. On the other hand, the ranks of BR engineers and the Board were divided over the need for APT; the project did not act as a focal point for lobbying action and much of the original impetus was thus lost; in 1968 the Board was unwilling to commit itself to a high-risk project and was coerced into supporting it in the late 1960s and early 1970s by a Department that had the power and the will to do so.

Thirdly, SNCF senior management enjoyed privileged access to the State apparatus through their President, Ségalat, and at lower levels by virtue of belonging to a fairly integrated elite that span public and private industry, the civil service and political circles. The `bridges' between administrative, political and technical elites mentioned by one respondent were part of a tradition which had a two-fold effect: it facilitated decision-making by maintaining close professional contacts and spreading new ideas between all interested parties; and it made it possible to mobilise key actors when the need arose. In Britain, the arm's length relationship between public corporation and sponsor ministry, together with the disparate nature of the administrative, political and technical elites, made it all the more difficult for new transport concepts to circulate among decision-makers and for a common understanding of the issues to emerge. As a result, BR remained throughout the decision-making process in a position that required repeated compromises, and eventually the BRB's half-hearted commitment to a high speed policy was dropped in 1984 when departmental backing for it had all but disappeared. By the early 1980s SNCF had moved from a position of relative weakness to one of relative strength. As the next

[48] Potter and Roy (1985), p. 62.

[49] Interview with former CM&EE, BR.

[50] Interview with former Head of Research (2), RTC, BR.

chapter will show, by 1993 BR had not at all improved its bargaining power in transport policy-making circles.

C. Substantivist v. procedural approaches

Padioleau, building on the work of Mongin, contends that public action can be of two basic kinds: either substantive or pragmatic.[51] `Substantive' public action revolves around the following features: `professional corps of civil servants ... guided by the long term'; normative principles (such as the respect of citizens equality) which directly regulate policy content; resources in terms of authority, financial and technical means; production - often directly - of tangible policy objects (such as rules, plans, infrastructures, community amenities); the use of `legal, technical and scientific reasoning allowing the discovery of the common good, or if one prefers, the general interest of potential public actions.' To sum up, it claims to be `rational, voluntarist, formalist, coherent and comprehensive.' Furthermore, `the actors agree on the substance of the objectives of action and on modes of implementation', belonging as they do to a homogeneous community of beliefs and interests. Substantivist policy-making relies heavily on the perception of a broad consensus and can blossom in a stable - or very nearly stable - environment. It requires from policy-makers the feeling that they are working in a known and controllable universe, that problems can be precisely delimited and that optimal solutions are available through the application of technical and scientific resources. Such a stable and knoweable world was felt to be in existence in the late 1960s, the tail end of the *trente glorieuses* period of economic growth and social progress in France.[52]

`Pragmatic' policy-making is, in Padioleau's view, a great deal more prone to disorderly compromise, relies on procedural rules to regulate the relationships between actors, and implementation does not necessarily conform to original plans. It takes place in a turbulent environment devoid of certainties and replete with anxiety. In such an unknoweable - because ever changing - world, technical studies are worth little; no methodology is felt to be sophisticated enough to deal adequately with issues; more studies are always needed, data always insufficient. The focus is on inadequate procedures (methodological tools) rather than on substantive policy objectives. With this approach, public action is contingent and success always in doubt (one could add that this approach is essentially sceptical). Consensus is not a given, but has to be built up,

[51] The following quotes and much of the analysis come from the stimulating article by Jean-G. Padioleau, `L'action publique: du substantialisme au pragmatisme', in Ministère de l'Equipement, du Transport et du Tourisme, *Techniques, territoires et sociétés*, issue on `L'argument écologique et l'aménagement', No 22-23 (juin 1993): pp. 89-95; I am greatly indebted to the insights of the author of the above piece. The distinction is usefully discussed in Philippe Mongin, `Modèle rationnel ou modèle économique de la rationalité?', *Revue économique: Rationalité et comportement économique*, Vol 35, No 1 (Jan. 1984): pp. 9-62. He himself draws on H A Simon, in particular `From substantive to procedural rationality', S J Latsis (ed.), *Method and appraisal in economics* (Cambridge: CUP, 1976).

[52] This perception came out very clearly in many of the interviews.

which is where procedural matters become all important: all parties must be satisfied that they can have their say and frank discussion of contradictory interests has to take place in order to enable the emergence of a collective settlement. Electoral pressures play a prominent role. The issues at stake are not susceptible to `solutions' but can only be settled by accommodating conflicting viewpoints; as a result, settlements are always of a fragile nature and may soon be disrupted.

To sum up, whereas in the substantive approach the single, overarching common good is equated with policy content, the pragmatic approach sees the common good as an outcome of procedures involving legitimate debate. As a result, the latter is greatly concerned with the formulation of rules allowing divergent interests to act together as far as is possible, and the existence of public, debating institutions that can produce collective agreement and eventually action (at one end of the spectrum, Parliament and its heavy emphasis on matters of procedure, at the other `Question Time'-format programmes on radio and television involving ordinary people and/or generalists - not experts - engaging in open debate). Pragmatic public action is essentially pluralist and bases itself on *principles* (e.g. `due process'), whereas substantivist policy rests on *concepts* (e.g. `general interest'). The substantive policy-maker is essentially a *decision*-maker basing decisions on reason and imposing them if need be with the backing of hierarchical authority; in the pragmatic case, he/she also has to *plead* a case and use persuasion, which will win others to the cause.

The term `pragmatic' is not wholly suitable for our purposes: the substantivist approach displays a great deal of pragmatism inasmuch as it cares little about the means, as long as they achieve the desired policy objectives. Padioleau's pragmatic approach is only pragmatic within its own conceptual universe, which posits the collective reconciliation of divergent views as desirable; but this in essence is a procedural concern and I will henceforth refer to this approach as `procedural'.

I established that financial constraints and political imperatives were prominent in the British referential framework, whereas technical and broad socio-economic preoccupations informed the French referential framework. Financial matters may be considered matters of *procedure*, that is funds have to be used in the way agreed at the outset, using fixed, established means; projects have to conform to set financial objectives (Required Rate of Return) irrespective of their nature; Treasury financial orthodoxy dictates that public enterprises be funded either publicly or through internal revenue. And politics on the Westminster model relies heavily on procedural rules and on the conduct of proper debate, with a heavy emphasis on the way decisions are made and on accountability. Technical matters on the other hand are matters of *substance*, that is to say a substantial product results directly from technical choices, which can be discussed and changed as the project progresses. Similarly the socio-economic approach is concerned directly with the impact of decisions and not at all with the way they are arrived at. My contention is that

the British referential framework was basically procedural, whereas its French counterpart tended to be substantivist.[53]

In this light we can understand the fact that SNCF's original plans were eventually implemented in full and with only some minor modifications, whereas BR's were gradually altered beyond recognition. Solutions in Britain were chosen because they were `satisfactory' to all concerned rather than because they obeyed a strong internal logic. Striking examples of the need for accommodation were provided by two former Transport officials. The first one explained the two-year delay between BR's proposal for APT R&D and its approval by government: `it just got lost in the system and probably on the basis of the sort of minimal questioning ...: "Is this a reasonable proportion of your research budget? And is that in turn a useful proportion of your total spend?" ... It was going through the motions really, in order to say "Well you know we did look at it"';[54] the second official defined the basis of the Treasury's philosophy: `The argument that I had to make was getting a fair share of the cake'.[55] Now `reasonable proportions' and `fair shares' are somewhat subjective matters (even matters of precedent) that do not necessarily correspond to objective needs. It did not matter that funds were not needed at a particular time in a given area, `powdering up' was necessary, as a former Minister put it: `You have a certain sum of money, then there's a whole lot of people sitting around the table and there's a share out! Nobody's powerful enough to say "Well you're not gonna get anything!" ... the system doesn't work'.[56] In the (Conservative) Minister's mind, this was due to public ownership, which was about little more than `dishing out money'. The French conception was that you should rank projects in order of merit, using CBA for instance, in order to focus investment where it was felt to be needed and to achieve priority objectives; effectiveness was more important than the satisfaction of all interested parties. Thus the fleet size put forward by BR (sixty) was a major bone of contention with DoT, whereas SNCF's submission for eighty-five TGVs was approved without a hint of acrimony.

The distinction between `procedure' and `substance' also casts an interesting light on the public / private spheres divide in the British and French referential frameworks. In Britain, railway nationalisation had been very comprehensive, deliberately including both the operating and manufacturing arms of the railway companies; as a result, both the operation of rail services *and* the manufacturing of railway equipment were in the hands of BR, as if the whole rail sector had to be a public `monolith'. In France, a sizeable private industry worked in tandem with the operator, SNCF; a situation of mixed private-public partnership prevailed. In fact, 49 % of SNCF was

[53] Needless to say, neither framework was *wholly* one or the other. Procedural and substantive elements could be found in all of the case studies, but I have found that the underlying approach was significantly biased.

[54] Interview with former Principal Private Secretary to Minister of Transport.

[55] Interview with former Deputy Secretary (BR Policy), DoT.

[56] Interview with former Minister of Transport.

actually privately-owned until 1983 but this was felt to be a non-issue since the State detained the majority stake. As a result of these divergent configurations, APT was designed, built and financed by public means and organisations (the only exception being some private sub-contracting by BR), whilst TGV was designed by the national railway, built by private companies and financed both through SNCF's research and investment budgets, and through private loans.

In fact, the combination of public and private resources can be viewed as a characteristic feature of French *grands projets*: they are `fully successful because the State pursues a policy of offensive protectionism, because it prefinances industrial development, transfers the results of public research, provides outlets through public procurement, enables the writing off of investment through long production runs, makes development easier by putting the means of the regal State at the disposal of the national champion, whether public or private.'[57] There was no sign of State predilection for public firms: what mattered was the technological objective, not the channels through which it was to be achieved. The other distinguishing feature of a *grand projet* is that it is part of a national strategy in a given sector. In the TGV case, the strategy was to make the railway an efficient component of a truly competitive transport sector.

Similarly, the positive embrace of CBA within the framework of the French case study was an instance of the substantive approach, and the preference for MCA in the British one was symptomatic of the procedural approach, and this not just at departmental level. Peter Parker objected to CBA because it posited that there is a single, best solution, whereas `in sectors such as transport ... there are often several objectives in potential conflict'; furthermore, choices in transport spending `should be quantified as far as possible (and no further).'[58] This contrasted with the French drive to quantify as many variables as could be managed in the 1960s and 1970s, and support for CBA on the grounds that it would be the best available way to obtain the highest returns for the community in the broadest sense. Parker supported MCA, as suggested by the Leitch Committee,[59] `where the interests of the banker (Government), the transport user, those who have to live or work alongside the road or railways, people concerned with indirect effects and those interested in the impact on things of intrinsic worth are all explicitly recognised and the effects of the scheme on them as individuals or groups quantified as far as possible.' In his view it was essential that all interested parties should have a say and `that various choices in spending within the transport sector should be freely exposed to public debate ... In a word, then, more accountability.' This approach clearly bore the imprint of the democratic ideal, and stood at odds with the French technocratic approach, which favoured `rational' decisions taken by State-trained professionals at the service of the Nation.

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[57] Elie Cohen interviewed in *Le Monde* (23/02/1993): p. 2.

[58] All quotes in this paragraph from Parker (1978), pp. 14, 18.

[59] In the *Report of the Advisory Committee on Trunk Road Assessment* (London: HMSO, 1978).

Conclusion

Project C03 was an engineering project dominated in equal measures by economic and technical considerations whereas APT was a scientific project labouring under strong financial constraints and wholly dependent on political goodwill. Even among the APT engineers at an early stage, it is clear that financing was a constant preoccupation. In France on the other hand, such a preoccupation was conspicuous by its absence; there was almost a sort of distaste for financing matters, as though once a goal had been established as legitimate, means should effortlessly be found. Which is to say that policy substance was paramount. The higher status within policy elites, of science in Britain and of engineering in France, was also an instance of the procedural / substantive divide. The scientific approach is nothing if not based on proper scientific procedures (cf. the `experimental method'); the focus is on methodology; moreover the outcome of fundamental scientific research can never be predicted confidently and serendipity is elevated to a principle of action. Engineering on the other hand is heavily object-driven; it is sometimes the case that a technical device works and is used although the engineer lacks a full understanding of exactly why it does. The focus is on technical efficiency.

As regards relations between railway and state, one finds strongly differentiated elements of trust throughout the two case studies: throughout the R&D of APT, there was an almost total absence of full-scale, external economic and technical audits, which is particularly striking when one notes that the economics of the TGV project were thoroughly scrutinised twice in the space of four years,[60] that IRT and the MdT's safety engineer had their say on the engineering side, and that SNCF carried a deliberate and intensive policy of demonstration runs for V.I.P.s designed to prove their technical prowess. In the technical field, SNCF had to prove itself to some extent, whilst BR Research was left to `get on with it'. As regards funding however, SNCF appears to have enjoyed an amount of trust (with wide room for maneuvre within its allocated budget) which was denied BR Research, whose budget was defined down to relatively small items. Thus the relationship between British Transport Ministry and railway undertaking was arm's length only as regards technical aspects and until the late 1970s also as regards economic aspects. But when it came to financial oversight the relationship was very close indeed.

Today the use of tilting trains is rapidly increasing in Europe. Some have argued that a second phase of fast train development is beginning to emerge, which has a potentially greater impact than the first phase (building dedicated high speed tracks) because tilting trains have much wider applicability (they can be used on secondary, regional lines, as well as main trunk lines).[61] In this light, BR Research's innovative project based on APT was sound; but it did not fit in the time frame of British policy-making. The mismatch between industrial and central government practices

[60] A full account of these reviews is provided in the next chapter, as they relate to the new *infrastructure* proper rather than to the new trains themselves.

[61] Potter and Roy (forthcoming).

was fatal to the project.[62] SNCF's innovative strategy was successful partly because it could be accommodated within the referential framework of French public policy-making; there were enough commonalities between railway operator and State practices.

The British and French high speed train policies were informed, ultimately, by two different sets of dominant conceptions: in Britain, the dominant politico/financial rationality meant that the project had to conform to expectations of high financial returns for a minimal amount of investment and that ministerial action foiled it in the mid-1980s (political decision to alter the inter-city transport market). Political and financial imperatives did not necessarily point in the same direction (hence the use of a slash). In France, what Fourniau has called a `technico-economic rationality' meant that a united front of railway chiefs and Transport officials was able to convince officials from the Finance Ministry, together with politicians, that TGV, although relatively expensive, was sound in wider economic terms. Technical and economic imperatives were in practice mutually reinforcing (hence the use of a hyphen). The British politico/financial rationality went hand in hand with a procedural approach whilst the French technico-economic rationality was the expression of a more substantivist philosophy of public action.

[62] Marsh (who experienced life both as a Minister and as a Chairman of BR) makes a similar point in his *Politics and industry: the great mismatch* (London: the Hansard Society, 1979).

CHAPTER IV
PIONEERING HIGH SPEED RAIL INFRASTRUCTURE IN BRITAIN AND FRANCE (1965-1993)

It is today argued that `The unprecedented growth in road and air traffic during the 1970s and 1980s has in fact improved the environment for high speed trains.'[1] SNCF was able to make the most of the opportunity, with for instance its passenger traffic on the Paris - South-East axis increasing by 81% between 1980-1989.[2] BR on the other hand ceased to view much higher speeds as a policy priority on the main trunk lines from the mid-1980s, when the APT project was shelved. The rationale behind APT - avoiding the construction of new track - was proved to have been correct when BR faced severe difficulties as they set in motion schemes for new, high speed infrastructure between London and the Channel Tunnel.

This chapter begins with a section on the high speed line (LGV, or *Ligne à Grande Vitesse*) built between Paris and Lyon following successful tests of TGV and which was designed specifically to carry TGV services. This follows up the TGV case study, focusing on the infrastructural dimension of Project C03. As pointed out earlier, the separation between train and track which I have made runs counter to the logic of Project C03, an integrated train/track project, but is a necessity imposed by the British case studies, in which improvement of rolling stock and of permanent way were divorced from each other. The section on LGV develops the economic dimension of Project C03, which was of necessity only briefly touched upon in the preceding chapter. The second part of this chapter deals with attempts by the British Railways Board to obtain approval for a high speed link between the Channel and London, first in the early 1970s, then from 1987. Comparative analysis follows, highlighting the main differences between the referential frameworks of public policy in the two countries. As in Chapter III, interviews with policy-makers have provided a great deal of material, which has been incorporated mostly without being qualified but should not be treated by the reader as proven fact.

1. TGV - SOUTH EAST: THE FRENCH STATE IN ACTION (1969-1978)

The favourable decision regarding the construction of a new (the first new line since the late 1920s), radically improved rail link, when cheaper, piecemeal alternatives were available, and had been studied, is all the more surprising. It is a testimony to the power of technical and administrative elites to convince at best indifferent politicians of the necessity of an ambitious project. The decision-making process regarding the new line officially began in 1969; by 1978, it can be said that the project could no longer be curtailed, although in the meantime it had nearly come to a halt on several occasions.

[1] Whitelegg *et al*, *High Speed Trains*, (Hawes: Leading Edge, 1993), p. 222.

[2] Ibid., p. 229.

The new line dramatically increased the quality of services on what was already SNCF's main trunk line: between Paris and Dijon/South-East, there were in 1970 a dozen daytime services, and many night trains; with TGV about fifty services on `ordinary' days, rising to seventy on Fridays, were scheduled from the opening.[3]

A. Political fortunes

(1) Thinking in terms of new infrastructure

There was a great deal of opposition to SNCF's high speed plans from DATAR, who backed *Aérotrain* and the idea of a Paris-Lyon hoverline. Once this idea had been abandoned, DATAR argued that SNCF's project for a new Paris-Lyon rail infrastructure ran counter to principles of regional planning; it would turn Lyon into a suburb of Paris and further reinforce the already bloated capital. But this argument was hardly convincing and ironically, it was DATAR which `focused interest in working on high speeds and encouraged a more aggressive style in the nationalised company.'[4] Thanks to *Aérotrain*, the concept of building new infrastructure could not `logically' be dismissed out of hand. Also, `Bertin brought the idea of a specialised line ... Another idea that Bertin brought was the separation between passenger and freight traffics, which internally we would not have dared to do right from the start'; and he stressed the importance of speed and frequency.[5] All these features of the future TGV services were thus legitimated at the outset by virtue of their having been seriously examined by some State agencies in connection with the Hovertrain. There was one positive element in the political context of the mid-1960s: `generally speaking, the public authorities considered that there were prospects for the development of land transport for passengers. ... There was a sort of national consensus on the development of land transport.'[6]

In May 1968, an internal SNCF report on the proposed new line was drafted, leading to the first official contacts on the matter between SNCF and the Minister of Transport, Jean Chamant, in August 1968; in his letter of 30 August to the Minister, SNCF's President also presented the new, more commercial direction SNCF was taking. The presence of these two items in the same letter was not fortuitous; a new, high speed line was presented by SNCF as being the best, maybe the only way, to modernise its lacklustre image, and to become a more profitable concern. From then on, the Paris-Lyon project was presented as a token of SNCF's willingness to become more commercial.

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[3] Jacques Florence (Deputy Transport Director, SNCF), `Les ruptures dans l'exploitation du réseau SNCF avec l'arrivée des TGV', *RGCF* (01/1994): p. 8.

[4] Beltran (1993): p. 34.

[5] C Mignot, in Fourniau and Jacq (forthcoming September 1995).

[6] Marcel Tessier (SNCF Research), in Fourniau and Jacq (forthcoming, September 1995).

(2) Political phases: from indifference (1969-1971; 1971-1975) to intervention (1975)

At the very beginning, MdT reacted `very badly' to SNCF's proposals but after a while, `It seemed to us ... that this was SNCF's true vocation at the close of the century. ... The first economic intuitions ... showed us that there was a sizeable market.'[7] The appraisal studies soon carried out by official working groups also convinced Transport officials that SNCF had a good case.

The first step in the policy process was for SNCF to get its project included in the VIth National Plan: in December 1969, a working group chaired by Roger Coquand began to examine the project within the framework of the VIth Plan preparatory studies. The report by the Coquand Group was submitted in December 1970 (*Etudes de transports terrestres à grande vitesse sur l'axe Paris-Sud-Est*); it was broadly in favour of the new line, having counter-checked the detailed figures put forward by SNCF. It was on the basis of this report that the transport committee of the Planning Commission adopted P-S-E as `priority action No 4'.[8] This favourable decision, according to a former DTT official, was not overly difficult to obtain because `we managed to convince a fair number of people, well the Minister, and the Planning Commission too, that SNCF's work was reliable.'[9]

This decision was not universally popular: two months after the Coquand Report was submitted, a complement to it was released, which established a linkage between the construction of the new line and the saturation of the old one (forecast for 1978). Such a clear linkage had not been part of the original report, which had considered the project on its other merits. The effect of the linkage was to lengthen the timetable leading up to the opening of the line. It was a direct result from pressure exercised by Finance, whose position was to question the urgency of the project: they considered it a `still premature project' and proposed `that its realisation be postponed to the VIIth Plan'.[10] Thus the new line could now hardly be considered a `priority action'.

The next stage of the decision-making process was a decisive one, but fell short of the railway managers' expectations. On 25 March 1971, a *Conseil restreint* chaired by Pompidou approved the Paris-Lyon initiative in principle but also linked the construction of the new line to the saturation of the existing one. It was reported that several ministers had objected to the project: the Finance Minister (Giscard d'Estaing) `demanded that the national undertaking "absorb its deficit before launching such an ambitious programme"'; the Minister of Works (Guichard) considered that the Rhin-Rhône canal was more important; the Mayor of Dijon and Environment

[7] Interview with former Deputy Director, DTT.

[8] CGP, *Rapports des comités du VIe plan, 1971-1975: transports intérieurs* (Paris: La Documentation française, 1971), I, p. 56.

[9] Interview with former Deputy Director, DTT.

[10] FAM, Secrétariat général du gouvernement, le Conseiller pour les Affaires économiques, *Compte-rendu de la réunion interministérielle du Mercredi 10 Mars à 15h* (1971), p. 3.

Minister (Poujade) requested a different route in order to preserve the economic and environmental interests of Burgundy; finally DATAR `was particularly critical of "that rich country's project".'[11] With this `in principle' decision, SNCF was allowed to continue planning for the new line, but was given no specific commitments. In an annex to the law approving the VIth Plan, the prospect of P-S-E was simply mentioned.[12]

The second political phase (1971-1974) was fraught with difficulties and the years 1972-1974 have even been called `a time in the wilderness'.[13] Three years elapsed between the decision `in principle' and the decision to go ahead proper. 1973 began with an apparent setback for SNCF: on 27 April, the FDES' Committee No 8 was asked by the Finance Minister to set up a working group in order to bring up to date the various data; Paul Le Vert was to chair it.[14] He was, like the chair of the previous group that had examined the project (Coquand), a P&C engineer; he had held a number of government posts in the transport sector, both in France and abroad. His appointment as the chair of a Finance committee may have been prompted by the fact that in 1967, he had been instructed by the then Transport Minister, Pisani, to follow up SNCF's projects concerning high speed travel and that he had concluded in his Report that high speed was an attractive idea but was too costly. This time however, he was progressively convinced by SNCF's economic arguments: in July 1973, the Le Vert Report was published, updating the Coquand Report and recommending the opening of the line in 1980. Internal governmental opposition to the project continued unabated: between November 1973 and March 1974, a parastatal engineering consultant, BCEOM, examined it at the request of DATAR but confirmed the conclusions of the Le Vert Report.

One official heavily emphasised the point that, in March 1974, the energy crisis had been used by French policy-makers to carry through the LGV decision, along with one or two other difficult measures; international events were used to buttress projects that lacked support, both within the government and within public opinion.[15] The March 1974 decision was also the product of intensive lobbying by SNCF. President Pompidou, a well-known car enthusiast, was won over to the idea, partly thanks to the close personal links between himself and SNCF's President, Ségalat (which dated back to the days when they were both members of the *Conseil d'Etat*) and partly because he was `modernity-conscious'.[16] He decided to approve the link against the wishes of the

[11] As recounted by Jacques Habert, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4605.

[12] Annex B9 of the *Loi d'approbation*, 15 July 1971.

[13] Avenas (1979): p. 4.

[14] FAM, Letter from Finance Minister to Le Vert (27/04/1973).

[15] Interview with former head of the *Département Transport*, SAEI. Another measure taken in this manner was the imposition of speed limits on French motorways, which safety experts had been pressing for but had been politically too unpopular to even consider; the measure was approved as a means of reducing car fuel consumption.

[16] In the words of Michel Walrave, former SNCF economist, speaking at AHICF Conference (31/03/1994).

Finance Minister and of the Treasury Directorate, and with the passive support of the Prime Minister (Messmer).[17] The manner in which the decision was taken was characteristic of the French policy process. The Energy Delegate, Blancard, agreed with President Ségalat that he would seek

> to get [Paris-Lyon] approved by the committee, although the connection with energy was somewhat limited. ... The committee meeting lasted three hours ... At the very end of it, I made a brief presentation of the TGV's advantages, which by connecting Paris and Lyon in two hours would lead many travellers to leave their cars, to the benefit of rail. M. Messmer, whom I had forewarned in an aside, gave his agreement which the President immediately confirmed. There was no debate and the decision was recorded in the annex to the minutes.[18]

This decision was one of the very last that Pompidou took before his death. He was succeeded by the Finance Minister, Giscard d'Estaing.

Even after the March 1974 decision, the project was not entirely secure for the new President of the Republic, who had opposed it whilst he was a Minister, continued to hold the same attitude and politicians in 1974 `generally did not favour the project. Mr Giscard d'Estaing was believed not to be in favour of TGV, and ... the Interior Minister ... Mr Poniatowski, was also not very much in favour of TGV. And in fact the question arose at that time of knowing whether some people would dispute the decision on TGV'.[19] Following a phase during which ministerial indifference had prevailed and government input had been reduced to agreeing to a project devised without its initial backing, a political intervention took place in 1975 following SNCF President Ségalat's retirement.

His successor, Jacques Pélissier (formerly Prime Minister Chirac's *Directeur de Cabinet*), took up his post in September 1975 and was immediately made to understand by the new President of the Republic that the project (which still required a DUP Decree) should be quietly dropped.[20] Giscard d'Estaing saw as a transport priority the extension of the motorway network (accordingly on 29 November 1975, the Planning Council launched a 1.800kms motorway-building programme.)[21] Furthermore, `he held such a deep distrust towards the railway corps that he might have preferred more brutal methods to reduce SNCF to far more modest activities.'[22] Yet Pélissier did not cancel the project and that same month for the first time the government committed itself

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[17] Ibid.

[18] Blancard (1990): p. 15.

[19] Interview with former Head of Transport Unit, Budget, Finance.

[20] Evidence from interviews with former SNCF senior figure and former Minister.

[21] V. Giscard d'Estaing, *Aménager la France: textes et déclarations de Valéry Giscard d'Estaing, Bilan 1974-1978*, Supplément, No 313 of *Actualités-Service* (Paris: SID).

[22] Interview with former Deputy Director, DTT.

publicly to constructing the line. Prime Minister Chirac's Economic Revival Plan constituted a milestone in the project's fortunes: `There, the Budget Directorate pressed hard for TGV to be one of the elements ... of the reflationary policy. And at that time, as the government were looking for many projects to be implemented, and as there were fewer possible projects than what they planned to spend ... there the government for the first time explicitly, totally accepted TGV and even decided that its completion should be speeded up.'[23]

The events of autumn 1975 raise an interesting point: SNCF could not be enjoined to drop the programme publicly in the first instance, firstly because it would have represented a policy U-turn; secondly because an alliance formed by the Prime Minister, the Transport Minister and possibly the Finance Minister,[24] together with the SNCF President were able to ignore the President of the Republic's wishes.[25] Furthermore the project was far advanced. It follows that even the highest *political* authority was relatively powerless in the presence of a project with some ministerial support, itself the product of *administrative* and *technical* pressure.

But the story did not end there because, a former Minister recalls, `When we launched TGV we had many criticisms within our majority ... There were big debates in the Council of Ministers, saying "You are completely mad to go for this fad of SNCF technocrats, of engineers ... whereas if you used this money to speed up electrification, to buy modern rolling stock ... you would get a far stronger public impact than with your new line, which will be reserved to a small elite" ... there was a lot of political resistance.'[26] There had been in autumn 1976 suggestions within government circles that only part of the new line ought to be opened (those sections that would relieve the existing bottleneck) and that the new line would therefore not go all the way to Lyon, or even that it should be called off entirely. In response to these suggestions, DTT pointed out that calling the programme into question would have a number of adverse economic, financial and political consequences, far greater than the benefits, which would only be short-term financial ones.[27]

The political intervention in 1975 did not succeed in thwarting the project; like Finance's resistance, it simply delayed its completion. Given the prevailing indifference, not to say outright hostility, on the part of most politicians, how could the project be approved by government

[23] Interview with former Head of Transport Unit, Budget, Finance. Point corroborated by former Finance Minister (interview).

[24] Fourcade's role is unclear as interviews yielded contradictory statements.

[25] `The two Ministers and the Prime Minister being agreed, the President of the Republic went along with it' even though `the President of the Republic was fairly opposed to this matter' (Interview with former Finance Minister).

[26] Interview with former Finance Minister.

[27] FAM, Secrétariat d'Etat auprès du Ministre de l'Equipement (Transports), *Le T.G.V. Paris - Sud-Est* (DTT - No 76/484, 29 novembre 1976), pp. 5-6.

eventually? It was partly owing to the fact that SNCF managed to overcome ministerial scepticism by making use of several potent logics which politicians could not reprove, to which we now turn.

(3) Political rationales

In some ways, the political attempts to restrict railway development in the late 1970s were paradoxical, for railway transport had been widely perceived, both on the Left and the Right, as `an essential element of urban and industrial development'.[28] At MdT in the late 1960s, according to one official, administrators `were well aware that one way of saving the railway system was to turn it towards a high speed service'.[29] The studies carried out by SAEI, and later by Le Vert in the 1960s convinced both the Director of DTT and his deputy that within the network existed a valuable core; `there was something that was profitable, that ought to be preserved and to which [the railway] should be reduced ... be preserved and even if possible be improved, hence the idea of improving it through high speeds.'[30] As early as February 1969, the Minister's *Directeur de cabinet* pointed out that the strength of the railway lay on main trunk lines and their major branches, where it could make the most of `large passenger flows, high speeds and frequencies'.[31] The rationale for a new line according to the Transport Minister was as follows: the best policy to balance SNCF's books by 1974 was to develop profitable sectors and `The implementation of the project that has been put forward appears to extend and assert this policy.'[32]

This commercial rationale came up against the regional development rationale propounded by DATAR: throughout the 1970s, `one of the things that had aroused the most hostility towards TGV was that it reinforced the pull of the east and the south-east of France and that it created an imbalance in terms of regional planning, which was then very fashionable';[33] DATAR's view was that `The construction of the new turbotrain line comes on top of a whole series of amenities ... concerning Lyon and the South-East ... an infrastructure drive is essential for our Atlantic regions to make up for their backwardness in amenities.'[34] The Prime Minister (Chaban-Delmas) was sensitive to this argument and held `a similar reservation' as Lyon was already to benefit from other large investments; he argued that `The imbalance thus created in favour of Lyon may cause

[28] Lapautre, then *Directeur de cabinet* of Transport Minister Chamant (2/02/1969), p. 21.

[29] Interview with former Deputy Director, DTT.

[30] Ibid.

[31] Lapautre (2/02/1969), p. 21. The wording used here is the same that was used a few months later in the rather long, official title of Project C03.

[32] FAM, Jean Chamant, letter from Minister of Transport to the Prime Minister (8/03/1971), p. 1.

[33] Interview with former Head of Transport Unit, Budget, Finance.

[34] FAM, DATAR, `Note sur le projet de turbotrain entre Paris et Lyon' (15/03/1971).

difficulties at the political level.'[35] DATAR felt that the research carried out by the Coquand Group had only dealt with `the "transport" aspects of the TGV project, without attempting to measure the implications for regional planning policy'.[36]

Clearly the Paris-Lyon line did not conform to the balanced national development ethos of ministers. SNCF did try all the same to borrow elements from DATAR's discourse and to present the project as `an instrument of regional planning' and an `instrument of decentralisation' which could be used to `strengthen the influence of regional capitals and stimulate the expansion and attractiveness of medium-sized towns within their economic sphere.'[37] Thus at the launch of Project C03, the new rail link was called `Paris-Lyon' but very soon SNCF realised that if it wanted to emphasise network effects in the economic case it put to the government, a better name would be `Paris-South East', which implied that connections were improved not just between two cities, but between two main economic regions. The full title of the first official SNCF report presented to the government, *Chemin de fer et aménagement du territoire. Desserte du Sud-Est de la France à grande vitesse et fréquence élevée au moyen d'une ligne nouvelle Paris-Lyon* (Nov. 1969), demonstrated SNCF's awareness of the political context. A measure of SNCF's success was that by 1976 the Transport Minister used the same argument in a debate at the Senate: `I do stress this point ... we are not talking about a link between the Paris region and the Lyon region, but about a link which involves the whole of the South-East of France, which will then be served in shorter times'; the Minister of Works made the same point in the ensuing debate.[38]

The project did not fit in with the government's transport priorities either: `Whatever the worthiness of the project studied by SNCF, the initiation of this operation during the VIth Plan would not follow the sequence that has been established as regards transport, at the forefront of which has been placed the improvement of transport means within large urban conurbations or between those conurbations and their periphery. From this point of view, it would be appropriate to postpone the investment concerned.'[39]

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[35] FAM, Secrétariat général du gouvernement, `Compte-rendu de la réunion interministérielle du Mercredi 10 Mars 1971 à 15h', p. 3.

[36] FAM, DATAR, `Note à l'attention du Ministre' (05/04/1974), p. 2.

[37] SNCF, *Un train pour demain* (1976), p. 19. For the same reason, one of the two experimental TGVs approved in 1969 was a tilting train because it could be argued that such a train could serve the whole of France, not just Paris and the South-East. More recently, the French railway industry federation stressed that `Rail transport is a key component of regional planning policy and of cross-regional readjustment' and may foster `economic and social development' (FIF prospectus).

[38] Marcel Cavaillé, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4603; Fourcade (ibid.), p. 4607.

[39] FAM, Secrétariat général du gouvernement, `Compte-rendu du comité restreint du Mardi 16 Mars 1971 à 10h30' (23/03/1971), p. 3.

Since LGV did not conform to the political agenda and many viewed the railway as outdated, why did some people think that it should be helped to survive? From all accounts,[40] the national railway enterprise was feared because of its socio-economic weight, not least because of the large workforce it represented and the ever-present possibility of social unrest: `In 1970, not everyone liked SNCF, but at least everyone was scared of it. It was a considerable economic force and an even more considerable technical force, so much so that when SNCF decided to make the TGV, they could perhaps have said no but it would have been tricky.'[41] One official considered that `One could not think that it was the end because we had 500,000 railway workers on our hands and no government could explain to 500,000 railway workers that their profession was dead. ... Admittedly, the preservation of our system cost us dearly, but at least it is of use!'[42] The preservation of social peace ranked higher than financial stringency in the referential framework. When the project was called into question in late 1976, DTT was quick to point out, apart from the self-evident transport-centred arguments and those concerning financial implications, that a cancellation would provoke a `"blocking" reaction of the personnel of all grades and all affiliations, which considers the decision approving TGV as the only government decision embodying its declarations of principle favouring public transport and giving it confidence in its future'; the deep malaise flowing from such a decision could lead to `protest movements such as striking, and in any case to "demobilisation" likely to hinder any improvement in SNCF's situation.'[43]

Also, and much to its advantage, Project C03 was closely linked from an early stage to a particularly prominent concern in French post-war public policy: the modernisation of the public sector, itself part of a wider drive to modernise and internationalise French industry. Modernisation was viewed as indissolubly linked to increased competitiveness: SNCF should no longer be protected from its competitors, as in the past, but should seek to become a dynamic component of a competitive transport sector. The Planning Commission's report on inland transport of 1971 established a clear link between the reform of SNCF and the need for a large investment programme, for modernisation was not synonymous with cutbacks.[44] One Transport official stressed that `the project is considered, with good reason, as very significant in terms of the willingness to modernise SNCF.'[45] Within SNCF itself, it was felt that the railway had to modernise in order to remain competitive: `The design of TGV was related to a policy of railway

[40] This was apparent in interviews both with SNCF and non-SNCF people.

[41] Interview with former Deputy Director General, SNCF.

[42] Interview with former Deputy Director, DTT.

[43] FAM, Secrétariat d'Etat auprès du Ministre de l'Equipement (Transports), *Le T.G.V. Paris - Sud-Est* (DTT - No 76/484, 29 novembre 1976), p. 6.

[44] CGP (1971), p. 107.

[45] FAM, Conseiller technique at MdT, `Note' to the Minister of Transport (March 1971), p. 4.

modernisation.'[46] Discussing the fact that eighty-five TGVs were to be ordered the Transport Minister pointed out that `Although focused over a narrow period of time, this order is part of the usual orders that SNCF must put in in order to continue with the modernisation of its rolling stock.'[47] The Works Minister for his part asked the senators not to `centre [their] attention on TGV. It is not a revolution ... it is simply the modern answer put forward by a national undertaking legitimately wishing to improve operations'.[48]

The need to modernise public sector firms was also discussed by a number of public sector figures, for instance Roger Guibert (SNCF DG), one of the theorists of a competitive railway, and by railway economist Roger Hutter (SNCF Deputy DG), which rejuvenated the conception of public service.[49] It is no accident that the development of Project C03 started at the same time as the setting up of a new marketing research unit on 1 January 1967. Guibert was behind the setting up of both the Research and the Marketing Departments, each of which symbolised a new approach to public sector management. Thus TGV was meant to embody SNCF's new emphasis on offering competitive services within the public sector.

Modernisation of the railway along commercial lines did not mean that the sector ought to be totally deregulated or that the railways should receive fewer State funds, but simply that they ought to break even. The railways remained a `public service' and continued to embody a number of public service principles. One such principle was equality of users; the new service was to be priced on the same basic tariff, and to allow the same discounts, as conventional services, `although the new line brings a very sizeable improvement in service'.[50] This argument was stressed at the ministerial level in March 1971, just prior to the decision to approve the project in principle: by being affordable to the less well-off, `the project boasts a particularly positive social aspect.'[51] In a 1976 SNCF brochure, it was stated that `By offering, in 2nd class, travel times comparable to those by air, for a price that is one third of that of air travel, TGV will allow the advantage of speed to be extended to all social strata, including the least well-off.'[52] The Works Minister made the same point: `improving transport services for all French citizens', or `democratising fast transport', was a good principle, that is `putting at the disposal, not of the privileged - businessmen or people

[46] Pélissier (1984), p. 3.

[47] Marcel Cavaillé, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4603.

[48] Fourcade, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4608.

[49] George Ribeill (historian), speaking at AHICF Conference (31/03/1994). Guibert was not only a *polytechnicien* and P&C engineer, but also a doctor in Law. See his doctoral thesis, *Service public et productivité* (1956).

[50] RGCF, *Le TGV: Bilan et perspectives* (September 1983): p. 506.

[51] FAM, Jean Chamant, letter from Minister of Transport to the Prime Minister (8/03/1971), p. 3.

[52] SNCF, *Un train pour demain* (1976), p. 19.

travelling expensively - but of the whole population a means of transport in keeping with today's world'.[53] SNCF President Pélissier emphasised in 1981 that `It is certainly the first time in the history of transport that advanced technique has been made open to all passengers without restriction from its inauguration.'[54] Project C03, by emphasising that it would lead to the `democratisation of speed', exploited the egalitarian ethos of post-1789 France.[55]

To sum up, although the project did fit in with the modernisation drive, it also ran against several contemporaneous ministerial priorities. The Budget representative on both the Coquand and Le Vert working groups considers that LGV `was done by SNCF Research on the one hand and by Alsthom on the other ... It certainly wasn't a great programme of the State, which was wholly ignorant about it all! ... The State did not take any interest, basically, apart from a few civil servants at the Transport Ministry, in the technological development which gave rise to research by SNCF'.[56] The railway slowly built up support among key administrative divisions, won over the Transport Minister, Chamant (1967-1971), at a crucial juncture, obtained the backing of Prime Ministers Chaban-Delmas and Messmer, and ultimately of President Pompidou. Once the project had been given the seal of political approval in 1974, it proved impossible to challenge. This peculiar achievement was made possible by the existence of a technico-administrative arrangement that some of the decision-makers interviewed have called a *technostructure*, the subject of the section which we now begin.

B. Inside the `technostructure'

(1) An integrated project

Project C03 was designed as a system, and presented to successive governments as such. The train was designed to reach 300km/h but this was only possible because right from the beginning, the possibility of laying new, purpose-built track had been envisaged by SNCF. The line was to include new electronic signalling, as conventional visual signalling would be inadequate at such high speeds. What is striking here is the fact that SNCF felt confident that it could approach the government with a bold, relatively costly proposal for a new transport system and have a

[53] Fourcade, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4608.

[54] Jacques Pélissier, `The High Speed Train of the SNCF Paris-Sud-Est', *Rail Engineering International* (August-Sept. 1981): p. 71. One should note that Pélissier has been a close collaborator of Jacques Chirac at least since 1974 and can by no means by described as a left-winger.

[55] Indeed a mere 6 first-class accommodation only trains were ordered in 1976 for the TGV service, in contrast to the railway's former policy of `prestige' fast trains for business people, as with Capitole and TEE, which were both first-class only (Hughes, 1988, p. 82).

[56] Interview with former Budget official, Finance.

reasonable chance of success. A new line was by no means the only solution and represented a heavy, long-term capital investment yet it was retained by SNCF as the most viable option.

Not only did Project C03 integrate track and rolling stock research (the technological aspects), it also brought together the different disciplines relevant to rail travel. On 10th July 1967, SNCF's Research Committee divided the project into two separate components, technical and economic: this in itself was innovative: `to have economists in the teams ... was really a novelty at SNCF.'[57] But as Beltran has pointed out, it was not a singular occurrence in the French public sector: `Just as the economists at Electricité de France became increasingly powerful (to the point of taking command of the company), so the economists in the research department played a crucial role in the SNCF.'[58] Such close collaboration meant that it was possible to create profitable services using expensive rolling stock; by optimising all the non-technological features of the system, savings could be made which would compensate for the (unavoidably) expensive trainsets: `The point was ... to reconcile savings and performance in order to offer very high speed transport at a cost not far removed from that of existing railway material.'[59] The motorway-type layout of the track followed natural land contours, was entirely free from tunnels and considerably shortened the rail distance between Paris and Lyon: `the capital investment involved [was] only about 30% of that which would have been incurred if the conventional approach had been applied to the trace and layout.'[60] The integrated, system approach was successfully put across to administrators and ministers, partly through a continuous process of discussion and mobilisation of all available resources.

(2) Internal discussion and external consultation

From 1966 to 1969, the project was internally studied at SNCF but the new concepts were also widely discussed with a number of ministerial divisions. Project C03 comprised several sub-projects: Paris-Lyon, Paris-East, Paris-North. But studies quickly showed that Paris-East would not show sufficient returns for the railways[61] and the line to the North of Europe was wholly dependent on the construction of a tunnel under the Channel, which was far from assured. In any case, the service between Paris and Lyon had been viewed as the most promising. In August 1966, the first layout study started and by June 1967, was completed.

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[57] J P Bernard (SNCF) in Fourniau and Jacq (forthcoming, September 1995).

[58] Beltran (1993): p. 33.

[59] SNCF, *Un train pour demain* (1976), p. 13.

[60] SNCF President Pélissier (1981): p. 68.

[61] Even today, SNCF is unwilling to build a TGV line to Strasbourg but has been coaxed into such a scheme by government, for political reasons. The company is demanding public funding in return to make up for the link's lack of profitability.

Once SNCF's claims had been validated by the Coquand Committee, the Transport administration put all of its weight behind it.[62] Meanwhile the *Aérotrain* project was getting bogged down: `The day I convinced myself that Bertin would not succeed with his *Aérotrain* and I said so to Mr Lacarrière ... the both of us became convinced that SNCF must be encouraged towards that high speed objective and we insisted on putting it in the Planning Contracts and we kept telling SNCF: "Make savings faster on your secondary lines, which don't bring in any money and spend money faster on a more audacious project".'[63] The same official considered that `it was ... our role, at the sponsoring department, to try and advance faster on good subjects' and that in order to mobilise politicians, `one needed audacious objectives.' Precisely for this reason departmental officials did not stress the top speed of TGV but the fact that the time needed to travel between Paris and Lyon was to drop from 4 hours to only 2, a spectacular achievement.

In August 1968, contacts with MdT's Roads Directorate were made, to discuss co-ordination of railway and motorway layouts. This had never been conceivable in the past because of the previously differing requirements for road and rail, but one of the most radical concepts was precisely for LGV to adopt a motorway-type layout (characterised by very wide curves and relatively steep slopes). It was therefore useful to consult road experts, but things were taken one step further with the creation of a joint body, GEFAU (*Groupe d'études fer-autoroute*), on the initiative of MdT, which comprised specialists from the Roads Directorate and from SNCF.[64] On the genesis of this co-operative venture, let us listen to one of the main SNCF protagonists:

> We moved closer to the Motorway Directorate. We were lucky that the Head of Roads and Motorways, Mr Gilbert Dreyfus, was a friend of Geais [`originator'of TGV concept]. I found myself one day in a café of Avenue Mozart with Mr Dreyfus and Mr Geais. Mr Dreyfus told us: "Your idea is not bad at all, you must speak to the General Council of *Ponts et Chaussées* about it. If you have studies that need doing, we have means of study for motorway layouts, cost calculations, cost optimalisation". Hence the creation of the GEFAU group...[65]

On 27 November 1969, GEFAU's General Report was examined and approved by the 5th Section of the General Council of P&C (CGPC). This venture is viewed as an important step by railway engineers, as it validated the idea that a new railway was cheaper to build than new motorway (a rail solution costing 2/3 of a road solution for the same route).[66] In 1972-1973 estimates of construction costs for LGV were made by SNCF in agreement with SETRA (MdT's

[62] See Fourniau and Ribeill (1990): p. 146.

[63] Interview with former Deputy Director of DTT.

[64] Fourniau (1988), p. 119.

[65] Tessier in Fourniau and Jacq (forthcoming, September 1995).

[66] On the other hand, the then Head of the Roads Directorate has no recollection of this short-life group, which his department approved but was by no means a revolutionary departure (interview).

Roads and Motorways Technical Studies Division)[67] and could therefore hardly be disputed by officials. Also railway people thought they `were lucky to get the P&C engineers in on it. If they had not been in on it, we were done for. *Ponts* engineers were, really, very road-oriented. ... The alignment research unit that SNCF set up at the time ... benefitted from the experience of P&C. We had, later, the technical and moral support of the *Ponts*'.[68] Co-operation between rail and road engineers took place swiftly and does not appear to have encountered any administrative hurdles. GEFAU itself was only in existence for two years or so.

In October 1968, Fontgalland, the head of SNCF Research, announced in a professional journal for P&C and Mines engineers (*PCM*) a feasability study concerning a turbotrain service between Paris and Lyon in two hours; the article was intended to test the water. It was in the same spirit that during the first semester of 1969, the project was presented to local agencies of *Equipement* and *Aménagement du territoire*. In July, the Rhône-Alpes *Circonscription d'Action Régionale*, which comprised the city of Lyon itself, registered `great interest' for LGV. It was after this period of (entirely voluntary) consultation with the influential `players' in the field of transport, which proved encouraging, that railway managers decided to officialise their plans. By 1st December 1969, the southern part of the route had been agreed within SNCF and a single route could be presented to the government.

The delay between the first discussions within SNCF (1965) and the official proposal stemmed from the fact that it was vitally important that any new project be convincingly presented, benefit from the support of authoritative administrative divisions and include as many resolved practicalities as possible; in short SNCF needed to `impress' the administrators and the politicians.

(3) The appraisal process

In order to remedy the predicted capacity problem between Paris and Lyon, several solutions had been put forward by SNCF in its feasability study: doubling tracks in congested sections, construction of a new link between St-Florentin and Dijon, and five routes for a new link between Paris and Lyon. The Coquand (1970) and Le Vert (1973) committees studied the first hypothesis as well as the scheme for a new link.[69]

DTT did not generally have sufficient means at its disposal and therefore had to rely on SNCF expertise. But the `distrust of the public authority towards SNCF in-house traffic ... and costs forecasts' was such that experts first from SETRA, then from BCEOM (in 1974),[70] were

[67] See Comité spécialisé No 8 du FDES, *Rapport du Groupe de travail chargé de mettre à jour l'étude de transports terrestres à grande vitesse sur l'axe Paris - Sud-Est* (Paris: Finance, July 1973), p. 8.

[68] Tessier in Fourniau and Jacq (forthcoming, September 1995).

[69] See Annex 2 (SNCF statements) in Mairie de Dijon, *Bulletin municipal officiel*, Séance du 29 octobre 1973, p. 763.

[70] Interview with former SNCF engineer. SETRA was the *Service d'études techniques des routes et des autoroutes*, an MdT division, and *Bureau central des études d'outre-mer*, a para-statal engineering company, set up

called in, the latter in turn resorting to American experts, assumed to be neutral, to counter-check the figures. They were also examined by the Planning Commission and CGPC (which strictly speaking operates outside DTT but constitutes a reservoir of technical expertise within the State apparatus) and by *ad hoc* committees (Coquand and Le Vert committees). Appraisal was very searching and relentless: even MdT's figures were the subject of second opinions. Although officials at the Planning Commission generally did not initiate much policy, according to one former DTT official, `They constituted one step in the course of the decision ... Well we brought them studies, they had economists who would dissect them, criticise them ... It was an end-of-year examination for me ... It was an important place to get through, almost essential'.[71] In March 1971 `The Planning Commission [confirmed] the consistency of Transport Ministry forecasts'.[72] In 1974, it was the turn of BCEOM to examine the project and it `confirmed the conclusions of previous studies, as regards both the competitive conditions between the various means of transport, traffic perspectives, and the economic advantages of the project.'[73] It was felt necessary to scrutinise both SNCF and MdT figures out of the fear that SNCF's sponsoring ministry might be somewhat biased.

A relatively large number of criteria were taken into account during the various stages of the appraisal process,[74] which were quantified into two rates of return: the internal (financial) rate for SNCF, and the external (socio-economic, or collective) rate for the community at large. Depending on the traffic projections used, the immediate financial return in the first year added to 9.8 to 12.5%, whilst over a 20-year period it was set between 15 and 18%.[75] Therefore the scheme easily passed the 8% hurdle rate set for all new railway investments. The operating cost per traveller/km was found to be very similar to that of existing fast trains, at 7.2 *centimes*.[76] One of the financial benefits of the project was that it would bring down labour costs from 51% of direct operating costs to 35%; it could therefore be viewed as a a `productivity investment', an argument which appealed to Finance officials,[77] and was used in 1976 by DTT when the programme was

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in 1949, operated under the joint sponsorship of the *Coopération* (Overseas Aid) and *Equipement* Ministries, which provided expertise in the fields of energy, transport, land planning etc.

[71] Interview with former Deputy Director, DTT.

[72] FAM, Secrétariat général du gouvernement, `Compte-rendu de la réunion interministérielle du Mercredi 10 Mars 1971 à 15h', p. 2.

[73] FAM, Claude Collet (Head of DTT), *Note* to Transport Minister (20/05/1974).

[74] See M Leboeuf, `L'évaluation économique et financière des projets de TGV', Ministère de l'Urbanisme/CESTA, *Les aspects socio-économiques des trains à grande vitesse*, II, (Paris, La Documentation française, 1985): p. 267.

[75] Comité spécialisé No 8 du FDES (1973), pp. 16-17.

[76] P Roumeguère, `Principales conclusions ...', *RGCF* (Paris: March 1974): p. 122.

[77] Comité spécialisé No 8 du FDES (1973), p. 21.

called into question.[78] In its answers to questions by the Dijon Town Council, SNCF heavily stressed financial return rates of the different options and the fact that its chosen alignment for new infrastructure was far more profitable than any other option.[79]

The fact that financial criteria, although a major factor, were by no means the sole ones involved in appraising Project C03 is central to understanding the French referential framework. The call on road specialists in 1968-1969 (GEFAU), was particularly meaningful because they had been the first to develop `a sizeable technico-economic apparatus of evaluation' which was subsequently extended `to the whole transport field'; these `evaluation methods formalised the planning practices of the *Ponts et chaussées* Corps.'[80] They were not however forced onto the railway by roads officials, rather `The research department personnel introduced new methods, particularly those which the *Corps des Ponts et chaussées* ... had used to promote its motorway policy.'[81] It was concluded that over a period of 20 years, the collective return would be 33% (the Coquand group had found 28% in 1970).[82] One Transport official saw his department's role as `telling the truth to politicians, consequently conducting investigations into proposals, in order to demonstrate whether ... the project, apart from its technical aspect, had an interest for the country ... when we became convinced that there was an interest for the country ... we said so ... economically-speaking, it makes sense, this is what we said.'[83] Transport Ministers also used non-financial arguments: in 1971 for instance Chamant pointed out that the return rate for the community (25 to 30%) would be `far higher than that of motorway projects included in the VIth Plan , which is between 10 and 20%.'[84] In 1976, Cavaillé defended the investment on the grounds that both the financial and the collective rates of return were high.[85] SNCF for its part never failed to emphasise that `TGV [would] constitute a powerful instrument of economic stimulation at the service of the national community.'[86]

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[78] FAM, Secrétariat d'Etat auprès du Ministre de l'Equipement (Transports), *Le T.G.V. Paris - Sud-Est* (DTT - No 76/484, 29/10/976), p. 6. This memorandum stressed that the investment into LGV was expected to produce productivity gains which would improve railway finances.

[79] See Annex 2 (SNCF statements) in Mairie de Dijon (1973), pp. 764-74.

[80] Fourniau, in Offner and Trigallo (1987): p. 116.

[81] Beltran (1993): p. 33.

[82] Comité spécialisé No 8 du FDES (1973), pp. 21-22.

[83] Interview with former Deputy Director, DTT.

[84] FAM, Jean Chamant, letter from Minister of Transport to the Prime Minister (8/03/1971), p. 2.

[85] Marcel Cavaillé, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4603.

[86] SNCF, *Un train pour demain* (1976), p. 3.

One former Head of SCF argues that SNCF's knowledge of the market and of its competitors, and the quantification of diverse variables played a crucial role.[87] Economic modelling of transport demand made great strides in the early 1960s and when Project C03 was presented to the government, `the economic plans were well advanced - much more so in fact than the technological side. These economic studies were a complete departure from the usual SNCF activities. Traffic forecasts, and not actual traffic volumes on given connections, and planning in terms of travel time were entirely new.'[88] This methodological shift was accepted by the authorities, partly because they had been evolved within State agencies in the first place. DTT's opinion `also rested ... on the studies requested from those General Inspectors, Mr Coquand and Mr Le Vert, who brought to light ... the value of time for SNCF's clients.'[89] Thus appraisal methods played a prominent role in the success of Project C03. This is not surprising since the French transport sector was characterised by the `magnitude of conceptual and methodological endeavours aiming at legitimating the scientific status of large projects' appraisal.'[90]

The favoured method of appraisal derived directly from the French school of `*calcul économique*' (CE), a `formalised procedure allowing for the comparison of alternative investment solutions',[91] developed by `French-style economist-engineers', e.g. Jules Dupuit and C. Colson, in the second half of the nineteenth century.[92] Dupuit's work was the `true basis of modern transport investment appraisal methods' and the `French Engineering school of economists' pioneered the `first set of formalised public investment criteria' which was later to lead to CBA.[93] After 1945 public sector economics evolved under the influence of *Mines* engineers, in particular that of Maurice Allais's seminars at *Ecole des mines*; these engineers sought `to formalise and apply [CE] to the large public enterprises they were in charge of.'[94] Such seminars played a formative role for many policy-makers, who remember them to this day. CE techniques were then `developed and refined, in order to include ever more parameters, through the impetus given by economist-

[87] Pierre Protat, speaking at AHICF Conference (31/03/1994).

[88] Beltran (1993): p. 35.

[89] Interview with former Deputy Director, DTT.

[90] Offner and Trigallo (1987): preface.

[91] Ibid.: p. 17.

[92] See M Guibault, `Calcul néo-classique et pratiques administratives', in Offner and Trigallo (1987): p. 39.

[93] K J Button and A D Pearman, *The Practice of Transport Investment Appraisal* (Aldershot: Gower, 1983), pp. 4, 6.

[94] Guibault, in Offner and Trigallo (1987): p. 39.

engineers ... and more particularly by Ponts & Chaussées engineers'.[95] Meanwhile CE was finding favour inside the public administration, where it was used in connection with economic planning (e.g. by Planning Commissioner Massé).

CE rested on three premises: `Reality is stable and observable. The decision-maker has the power to get a system of rational preference to operate. There is such a thing as an optimal decision, objectively better than any other.'[96] With this technique, it was believed that procedures could be standardised and dissimilar public projects competing for public funds could be assessed comparatively, the ultimate objective being the search for economic optimization.[97] The setting up of SAEI (division of economic and international affairs) within the Ministry of Works in 1960 `may be considered to be the official acknowledgement of work relating to choice of plant or pricing of infrastructures, the origin of which goes back to the the nineteenth century (Dupuit, Colson).'[98] This new economic unit carried out research, made economic analyses of large investment projects involving several transport modes and collaborated closely with other State agencies within the framework of national modernisation plans.[99] One of the chief proponents of CE at SNCF, Michel Walrave, had done a stint as a civil servant in the newly-created SAEI. He took to SNCF the latest thinking in administrative circles, e.g. the concept of time savings, which had played an important role in the Planning Commission's assessment of motorway programmes. He carried out `the first application' of time values to the railways,[100] which became a standard tool of rail appraisal for State officials:

> Those were the days of triumphant technocracy, of *rationalisation des choix budgétaires*, there was some degree of naivety regarding the pursuit of economic progress ... After what had been done by Massé and Boiteux at EDF, *calcul économique* had acquired a great deal of prestige as a tool to assist decision-making. Basically, I would say that for the TGV project, all we did was to apply that approach ... We sought to have an overall approach, to rationalise - that is ... to

[95] Offner and Trigallo (1987): pp. 17-18. They also state that resource allocation became a concern from 1945 in the French public administration. Pierre Massé began to formalise issues around 1959; the new techniques were first applied to the (nationalised) energy sector, then to transport.

[96] Ibid.: p. 18.

[97] The method was not however universally acclaimed: although the Planning Commission had adopted it, the Budget Directory did not favour it as it did not fit in with its own methods, and critics found it to be overly quantitative and reductionist.

[98] C Bozon and G Gastaut, `Le bilan de l'expérience au ministère de l'Equipement et du logement, in P Huet and J Bravo, *L'expérience française de rationalisation des choix budgétaires* (Paris: PUF, 1973), p. 245.

[99] Brunot and Coquand (1982), p. 632.

[100] Interview with former Head of SCF, MdT. At SAEI, Walrave had been part of a group developing transport economics, with special reference to motorways.

> calculate everything we could - and to organise logically all the elements of analysis around a model of reasoning.[101]

In practical terms, CE methodology led to the formulation of the two rates of return detailed above: the internal and external rates, and was endorsed by the Planning Commission.[102]

The assumption that represented a radical departure from past practice was that better supply of transport services generates demand. This central assumption was accepted by all parties concerned,[103] as was its corollary that the railway should aim at increasing its passenger traffic. An econometric model developed on this premise was first applied by SNCF on the Paris-Caen line in 1970 and found to be valid. That full-scale experiment authenticated SNCF's new pro-active commercial approach. Some time later, Michel Frybourg, the Director of IRT, proposed to extend this approach: he wanted to `turn upside down the usual predicament', whereby capacity investments simply aimed at adapting the existing transport systems to needs, evaluated through demand modelling, and wished instead to work on the basis of supply modelling.[104] He therefore advocated to replace the old demand-led, reactive approach, by a supply-led, pro-active approach.

An essential element of SNCF's new approach was improvement in service quality; this was also endorsed by government officials who carried out the appraisal: `Thankfully the committee of transport civil servants (Coquand Committee) accepted that the economics be examined overall, including service quality and transport capacity, that is to say by reasoning as would a firm.'[105] Frybourg wrote in 1973: `The prime objective of innovation is the rehabilitation of public transport through the transformation of service quality in order to provide a genuine alternative to car use and open up choice possibilities.'[106] Finance Ministry officials demanded higher fares (in the shape of `supplements') but recognised that `in order to get increased fares, one has to have increased comfort.'[107]

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[101] Walrave in Fourniau and Jacq (forthcoming, September 1995).

[102] CGP (1971), p. 113.

[103] `For the Paris-Lyon new line traffic forecasting study, the studies carried out by the working groups of the Planning Commission's Transport Committee and FDES Committee No 8 ... used a traffic generation model'. (SNCF statement in Mairie de Dijon (1973), Annex 6, p. 785.)

[104] M Frybourg, `Les effets de l'innovation sur l'offre de transport (de techniques conventionnelles ou nouvelles) pour les voyageurs', *5e Symposium international sur la théorie et la pratique dans l'économie des transports: les transports dans la décennie 1980-90*, Athens 22-25 Oct. 1973 (Paris: CEMT): p. 1.

[105] Roger Hutter, former SNCF Deputy DG, written answers (29/07/1994).

[106] Frybourg (Oct. 1973): p. 25. Frybourg (X-P&C) headed a road traffic division at the *Equipement* Ministry before his appointment as Director of IRT. He has taught at CNAM, in particular a course on transport modernisation for transport professionals. Since 1985, he has been teaching aspiring P&C engineers at ENPC (course on transport innovation).

[107] Interview with Budget representative on Coquand and Le Vert committees.

Generally, the terms of the debate were transport-centred. This perhaps is not so surprising given that many of the decision-makers had attended the same lectures in public economics and/or railway management during their training as P&C or Mines engineers, and in turn had become lecturers at one or another of the *grandes écoles*.[108] They were all familiar with the same issues. Furthermore, the generation of new demand through better services was not only acknowledged by government experts, it was also seen as an opportunity to shape transport users behaviour: `The improvement of service quality is ... a means to deeply modify users' behaviours'.[109] The desire to influence the transport decisions of individuals was not confined to transport `technocrats'. Politicians also endorsed it: the 1974 decision to go ahead with Project C03 was partially taken because `It is advisable to favour the most energy-efficient transport modes and to modify the behaviour of users by encouraging them to use more widely rail transport, urban public transport, together with transport by waterways.'[110]

Ultimately, SNCF's case rested on the unquestioned assumption that to increase its overall traffic would be a good thing, both in qualitative and quantitative terms: `To think of the railway's future was to think of transporting more people. One needed to increase capacity.'[111] The rationale was couched in economic language: roads constituted a transport system, the *quality* of which decreases as traffic increases, unlike the railway, which offered a steady level of quality even whilst accommodating expanding traffic.[112] Increasing rail traffic was also a worthwhile objective for a quantitative reason: according to the Planning Commission, `the objective of increased traffic is in itself a factor leading to lower costs owing to the phenomenon of increasing returns.'[113] This

[108] A few examples: Marcel Tessier (X-Telecom, Head of Project C03, technical aspects) was teaching at ENSTA in 1973. Hubert Autruffe (Head of division at SNCF Research, early 1970s) also taught at ENSTA (1976). SNCF President Louis Armand (X-Mines) taught at ENPC as Railway Professor from 1940 (de Fontgalland, who launched Project C03, was one of his pupils in 1941-43) and at ENA from 1947. Roger Coquand (X-P&C, chair of Coquand Committee) taught at ENPC from 1953 until 1968. J Alias, former Director of Equipment at SNCF, taught the railway course at ENPC from 1968 to 1984 and was succeeded by Philippe Roumeguère (X-P&C, Head of SNCF Research's Economics Division, 1970-76). Paul Josse (X-P&C, Deputy Director at DTT, 1964-68) taught the transport economics course at ENPC from 1969 until 1985. Dobias (X-P&C, a member of the Le Vert Committee) began to lecture on passenger transport at ENPC in 1985. Finally, Claude Abraham (X-P&C, Deputy Head of Transport Minister Chamant's *cabinet* in 1967-68, Head of Transport Minister Cavaillé's *cabinet* in 1974-75), taught political economy (1966-71) then micro-economics (1972-73) at ENPC; he developed methods of evaluation of social returns for road investment. (Sources: *Who's Who in France*; ENPC, *1747 - 1992: Enseignements, modules, professeurs*, internal document, July 1993.)

[109] Frybourg (1973): p. 27.

[110] FAM, Présidence de la République, `Conseil restreint sur l'énergie du 6 Mars 1974: Extrait du relevé de décisions'.

[111] Tessier (SNCF) in Fourniau and Jacq (forthcoming, September 1995).

[112] Frybourg (1973): p. 47.

[113] CGP (1971), p. 111.

was particularly important as one objective set by the VIth Plan to the railway was the lowering of production costs. Thus one unique, economic feature of the rail network - the fact that it offered increasing returns - was acknowledged as a powerful argument in favour of expanding traffic and allowing capital investment. This broad economic rationale was seen as the only basis to achieve greater financial returns and was appropriated by Ministers. In 1976 for instance, the Works Minister established a clear linkage between `the growth of passenger traffic' and `the problem of SNCF's deficit'; France was then one of the very few countries in the world where passenger traffic was increasing and this `must be encouraged' because it would be `a step in the direction of rebalancing SNCF's operating account'.[114]

Eventually, the series of thorough appraisals and reappraisals that were carried out over the period 1969-1974 served SNCF well. They all reached similar conclusions, validating SNCF's economic case, and were instrumental in convincing Budget officials that the project was worthwhile: `those studies showed good economic and financial returns for TGV ... There was no debate, we thought those studies were accurate and they showed that it should be done'.[115] The project's economic merits carried the day.

(4) Financing the new link

The LGV project submitted by SNCF to the government in 1969 was the most expensive of a range of five options, which according to SNCF were all `equivalent as regards freeing up capacity on the existing line'.[116] Yet it was preferred to the cheaper, more piecemeal options favoured by DATAR, which would have involved either upgrading or doubling the sections of the old Paris-Lyon line that actually constituted traffic bottlenecks, at a cost of either FF816m or FF962m; those options, however, only allowed for 200km/h running,[117] and were not as profitable. The cost of LGV, at FF3607m (electrification costs included), was vastly higher than DATAR's solutions.[118] The total cost of the new link (infrastructure plus rolling stock, FF5800m), was approximatively equivalent to SNCF's investment budget for one year[119] and was spread out over a period of seven years.[120]

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[114] Fourcade, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4607. The other benefit of rail traffic growth was energy savings.

[115] Interview with former Head of Transport Unit, Budget, Finance.

[116] SNCF statement in Mairie de Dijon (1973), Annex 2, p. 774.

[117] See Senate debate with Marcel Cavaillé and Jacques Habert, Sénat, *Séance du 17 décembre 1976* (Paris), pp. 4603, 4604.

[118] Figure provided by Transport Minister M Cavaillé, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4603.

[119] Figures provided by Works Minister J P Fourcade, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4606.

[120] Leboeuf (1985): p. 266.

We have seen however that within central government opinion was divided, and one key obstacle stood out, Finance: `It was *the* difficult place, especially when the Finance Minister happened to be Mr Valéry Giscard d'Estaing ... it's always the strongest administration in France.'[121] A cautious attitude towards a costly project from that particular ministry was easily understood but SNCF argued all along that the project would be financially very profitable; its preferred option offered financial returns of over 15%, whilst the other four ranged from 2.6 to 6.7%.[122] Nevertheless it was particularly difficult to convince Finance that a policy of massive new investment was needed at a time when the Reform of SNCF highlighted the need to break even: `In France, the Ministry of Finance has always been considered to be a very powerful Ministry. It has a reputation for always saying "No", naturally.'[123] In spite of SNCF's obvious efforts to placate the concerns of Finance officials, the picture that emerges from interviews is one of implacable opposition in some quarters. This was apparently due to personalities as much as to sectoral considerations. The long-standing Finance Minister, Giscard d'Estaing,[124] was labelled `anti-industry' by one respondent, and others agreed that he had no liking for the railways. Generally, according to one former adviser to Pompidou, he did not share Pompidou and de Gaulle's tastes for large, national endeavours in the field of industry, and no such projects occured during his Presidency.[125] As for Treasury officials, `There may have been some reluctance on the part of the Treasury Directorate because ... they sought to reduce investments and the Treasury gave the nuclear programme high priority.'[126]

But even hostility from the most powerful minister and scepticism on the part of some Finance officials could not veto SNCF's project. This was partly because of the main two Finance directorates - Budget and Treasury - only one was actually opposed to the project as it stood, the Treasury, and it was the Budget that was formally in charge of SNCF matters. Treasury opposition was known at MdT as early as February 1970, when one official advised railway managers to produce a marketing study `so as to convince the Treasury'.[127] One former Head of SNCF Research alluded to tension with the Treasury, whose representative on committees was `odious and fiercely against' the project.[128] The Budget representative felt that `everyone was convinced, before the

[121] Interview with former Deputy Director, DTT.

[122] SNCF statement in Mairie de Dijon (1973), Annex 2, p. 775.

[123] Interview with former Director of the New Line, SNCF.

[124] From 1962 to 1966, and again from 1969 to 1974. He was elected President of the Republic in 1974.

[125] Interview with former technical adviser to President Pompidou.

[126] Interview with former Head of Transport Unit, Budget, Finance.

[127] P Protat, former Head of SCF (MdT), speaking at AHICF Conference (31/03/1994).

[128] Interview with former Head of SNCF Research.

Coquand report, I would even say! Except the Treasury, who were always against it, who besides were against it right until the end!'[129]

At the Budget Directorate on the other hand, officials were more receptive to SNCF's claim that the way to wipe its deficit was its own business and that public enterprises needed more autonomy. For `the man within the State who defended this conception ... was the Budget Director, Renaud de La Génière. When ... the President of SNCF went to see him and said: "Here are the means to redevelop our traffic, to decrease our deficit", it caught his attention. ... the big question was: is it beneficial for the undertaking? And that was what we examined down to the smallest possible details.'[130] SNCF for its part argued forcefully that LGV would create an operating surplus which would improve railway finances. Also, La Génière understood perfectly well that LGV was an objective for the whole railway undertaking and was sensitive to that argument: in his view, `better management' of the undertaking was a valuable thing, but `better management as well as transforming the undertaking' was even better.[131] The opportunity for change must be grasped.

The Budget Directorate viewed the project favourably on the whole, but were concerned about some of the particulars. For instance, there were worries that the volume of traffic necessary to launch the service would not exist before 1980. The Budget representative in the Coquand group recalled that: `Once the group had submitted its report, I visited Mr Coquand ... I told him: "All of this is not too bad, but I don't think that the proposed date, which is 1976, represents the economic optimum." I said that personally-speaking, the economic optimum started in 1980. Until then it was premature, given the traffic forecasts. And he told me: "Indeed, there is no need to rush!"'[132]

SNCF argued that LGV possessed a large revenue-generating potential because at one stroke, the 415kms (258m.) of new infrastructure would upgrade a substantial part of the network, namely the 1,625kms (1,010m.) of lines connected to the Paris-Lyon line, the northern half of the most critical trunk line in terms of France's geography.[133] Finance officials were sensitive to this argument: what persuaded the Budget Directorate was that `it was a good deal, both for SNCF and for the transport sector as a whole ... if Air Inter was to give up its Paris-Lyon flights, it would not be negative'.[134] Although they were not swayed by SNCF's argument that the collective rate of return was extremely high (between 25-33%), for `there would not have been a favourable decision if the internal rate of return had been less than 8%', what lay behind the notion of collective return

[129] Interview with Budget representative on Coquand and Le Vert committees.

[130] Ibid.

[131] Interview with former Deputy Director, DTT.

[132] Interview with former Budget representative.

[133] See Potter (1987), p. 85.

[134] Interview with former Budget representative.

was accepted as legitimate: `Of course we were influenced ... not by the fact that there was a collective surplus, but for what it meant! It meant that people were going to save time, that played an important role in the decision naturally'; another factor was that LGV was designed to increase rail traffic tremendously, and this was a recognised objective: `It was the main objective. It was the only objective.'[135] For all these reasons, Finance did not baulk at the additional costs to be incurred when the turbotrain turned into an electric train (i.e. electrical equipment between Paris and Lyon and electrification of the Lyon - Grenoble existing line, on which TGV was expected to provide additional winter services to the Alps). The Transport Minister requested approval from the Finance Minister for these additional expenses (FF269m), pointing out that the electric solution offered better returns to the community,[136] and they were duly approved.

One practical factor made SNCF's campaign of mobilisation easier: there were direct contacts between Finance people and SNCF, both within the formal structures of committees (e.g. Le Vert and Coquand), and on an informal basis. Thus railway officers were able to put their case directly to Finance, and Finance officials had an input into the project, on points which they considered quite central, e.g. price supplements and timing, which were taken on board by SNCF. SNCF's President had contacts at the highest levels of the Finance Ministry, as we have seen. There were direct contacts with the head of the Budget Directorate's Transport Unit, for instance when one Deputy Director General of SNCF visited him at a crucial juncture and was told: `You must quicken the pace ... It is politically important to get formal acknowledgement from the government'.[137] Also during the construction phase: `I had a few telephone conversations with [him] once it had been decided to finance the operation ... from time to time he would ask me for information to find out, if you like, whether ... the estimates we had made could be adhered to or not.'[138]

How did Transport officials view their opposite numbers at Finance? `We found them somewhat obsessed by short-term considerations, but all the same, they were open to long-term arguments. We had to see them often, we had to have well-argued discussions, but well, one got there!'[139]

In theory, new rail infrastructure was to be financed by SNCF, but `In fact, no provisions [had] been made regarding the financing of new lines which are not covered by the concession granted to SNCF, and SNCF has no prerogatives in this matter, as the State may choose as it wishes

[135] Ibid.

[136] FAM, Letter from Marcel Cavaillé (17/07/1974).

[137] Interview with former Head of Transport Unit, Budget, Finance.

[138] Interview with former Director of the New Line (SNCF).

[139] Interview with former Deputy Director, DTT.

how new lines will be operated and financed.'[140] In order to win over Finance, in March 1971 SNCF announced that the new line could be built without any subsidies from public powers or local authorities. SNCF would therefore require State approval (from FDES) for loans but no additional State funds. This approach was fully justified on two grounds: the scheme was highly profitable and `One of the conditions for the agreement of the Finance Ministry on the project was just this ... that is to say that there was no budgetary cost to the project.'[141]

In order to circumvent FDES, SNCF even considered setting up a private venture. In 1971, they envisaged a private `Construction Company' made up of public works firms, banks, and local authorities; the Company jointly with SNCF itself would constitute a GIE; the advantage of such an arrangement was that none of the funds would have to be guaranteed by the State.[142] But opinion within policy-making circles was not ready for such a venture and it sunk almost without trace. Again in 1975-1976, SNCF canvassed the idea of a private company. Both Budget and Treasury officials were against `because it was clear that a funding arrangement of this type would be more costly than a traditional one, since SNCF has a very good signature and such arrangements lead to additional costs of 1 or 2 or 3% of the interest rate.'[143] The consortium of banks which showed an interest in such a venture was obviously eyeing up a profit margin but from a macro-economic point of view, a private venture `would not change the balance of savings and investment in France and therefore was a way to conceal a problem rather than solving it.'[144] Clearly the method - public or private - of turning the project into reality was not the salient point from an overall perspective, as long as financial costs were kept in check.

Much uncertainty surrounded the precise financial arrangements; the 30 March 1974 addendum to SNCF's *Contrat de programme* postponed the decision to a future covenant. Finally, the Contract for 1979-1982 `guaranteed investment levels which would explicitly include the construction of TGV South-East.'[145] With the 30 August 1978 Covenant, the State gave SNCF a concession to build and operate Paris-Lyon. It was financed by commercial loans made by SNCF

[140] Quinet (1982), p. 232.

[141] Interview with former Head of Transport Unit, Budget, Finance.

[142] See FAM, SNCF, *Note relative à une formule de financement privé pour la nouvelle ligne à grande vitesse Paris-Lyon* (26/02/1971), pp. 1-4.

[143] Interview with former Head of Transport Unit, Budget, Finance.

[144] Ibid.

[145] *Contrat de Plan Etat-SNCF 1990-1994*, p. 3.

both on national and international capital markets. A capitalisation scheme was arranged to attract foreign capital; `one third of the capital for the first TGV line came from New York banks alone'.[146]

It follows that `Generally, SNCF ... acted as would have a private operator, but with an important difference: it restricted the remuneration of borrowed funds to the minimum, given the going interests and the risks borne by SNCF'.[147] Indeed SNCF did not resort to venture capital, which is far more expensive. Thus *private* funds financed a *public* project, but on terms which were uniquely favourable, for SNCF's rating in the financial world is very high.[148] The general method of financing the high speed link exhibited a large degree of blurring between the public and private economic spheres.

Indecision surrounding financial arrangements did not prevent the project from going through the varied stages of appraisal. It was as if people proceeded on the assumption that the project must be found generally sound in the first place (the element of substance), with financing being arranged only once the proposed new line had been validated, by whatever financial means were available at that time (the element of procedure). One former Finance representative stated that, as regards private funding of LGV, `in any case that was not the sticking point! The point was to find out whether it was worthwhile for SNCF to modernise its network - was it going to add anything'.[149]

To conclude this section, I would argue three points: firstly, SNCF's main concern was not to free up capacity, which could have been achieved through piecemeal measures, but to produce a new transport system which could be a showcase for a modern, profitable railway. LGV constituted a bold but basically commercial venture. Secondly, the opposition of the Finance Minister was not sufficient to thwart the project; his arguments were eventually disregarded because SNCF's new commercial ethos was backed in some sections of Finance and by Transport officials; SNCF `realism' was ultimately validated by officials in the course of searching appraisals and re-appraisals. Thirdly, `the traditional pair in railway innovation processes, Transport administration - operator, worked to promote TGV against other segments of the State, which were little inclined to

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[146] Dobbin (1993): p. 131. The TGV network is now receiving two and a half-time as much funding as between 1985-1989. In some cases (where financial returns are not high enough) regional authorities have been asked by the State to contribute to the creation of new high speed links, in partnership with SNCF and the State.

[147] G Mathieu (Head of New Infrastructures and High Speed, SNCF), *Le schéma directeur des liaisons à grande vitesse*, p. 9, SNCF, Paris, paper presented at Sixième Journée scientifique AHICF (30/03/1994).

[148] The `French railways benefit from ... a lower cost of capital because investors recognise SNCF as a state-protected monopoly that would never be allowed to default.' (*The Economist*, 29/10/1994, p. 30.) In fact, `SNCF has one of the country's best credit standings in the international financial markets because of the government's guarantee ... The government guarantee brings the lending rate down by about one point.' (B Gérardin, `France', in Economic Research Centre, *Report of the 81st Round Table on Transport Economics: Private and Public Investment in Transport* (Paris: ECMT, 1990): p. 25.

[149] Interview with former Budget representative.

allow large investments at a time when a policy of balanced accounts was being implemented.'[150] The `technostructure' served the railway well; it managed to rally round some politicians (`Once again, Transport Ministers ... did not have many ideas'[151] but their officials did) and bypassed or neutralised indifference and opposition of a *political* or *financial* nature. One respondent remarked: `This is precisely what is interesting in this matter. It is a matter that was settled by technicians and civil servants.'[152] Not surprisingly, politicians sought to discredit the idea that the decision had been `taken in secret, under the pressure of some technostructure', which critics often put forward.[153]

C. Final stages of planning and implementation: 1974-1977

Once ministerial approval had been secured in 1974, final planning and consultation could take place. These were noteworthy for the way in which the technico-administrative apparatus - both at central and local level - had a dominant voice, whilst local representatives were only brought into the process on the terms of the technostructure. In this section, I shall discuss in turn the four main facets of the final planning phase and of construction: administrative consultation, the public inquiry, land purchases and construction issues. It has proved impossible to keep to a strictly chronological order because some events were taking place simultaneously.

(1) The instruction mixte

The 6 March 1974 Council of Ministers decided that preliminary administrative procedures could be launched. On 18 March 1975, the *instruction mixte* procedure began; this involved the consultation of all interested government departments regarding final details of the project: Ministry of Quality of Life (environmental matters), Ministry of Culture (Division of Architecture) and Ministry of Agriculture. Before this procedure had even begun, informal discussions had already taken place and `significant modifications to the route were made', for instance avoiding the Chablis vineyards and the environmentally sensitive Serein valley.[154]

The new line disrupted the passage of road convoys to and from the Creusot-Loire plant (at le Creusot), which manufactured tanks for nuclear reactors. Road works would have to be carried out to make the new itinerary suitable for these extremely large trucks: the costs for the works `had to be borne by SNCF, which is why it was fairly difficult to secure; the task of SNCF is precisely to prevent things from costing too much and the task of other administrations was to safeguard public

[150] Fourniau and Ribeill (1990): p. 146.

[151] Interview with former Deputy Director, DTT.

[152] Interview with former Budget representative.

[153] Transport Minister Marcel Cavaillé, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4604.

[154] Paul Avenas, `Enquêtes préalables et coordination', *RGCF* (Paris: November 1976): pp. 652-58.

interests. So one of the public interests was to have itineraries for wide loads'.[155] Eventually, *instruction mixte* settled the question of which bridges ought to be raised etc, and left aside the financing, `but as it was SNCF who carried out the works ... in the end it amounted to having SNCF pay for the raising'.[156] It is interesting to note that the procedure was not halted by this financial issue and what seemed to matter most was deciding which roads the trucks should use.

Military contingency planning was part of *instruction mixte*, which `initially ... was a procedure which made it possible to designate military protective measures on structures, for example for the positioning of mines in order to blow up bridges in case of conflict ... during the construction phase one could indeed reserve the possibility of destroying them for national defence purposes. This was how *instruction mixte* originated'.[157] As well as the above measure, military contingency plans allowed for the possibility of using the rail network even if partially destroyed.

In case of conflict between sections of the Administration during the procedure, an interministerial council would arbitrate, but with difficulties of a technical nature, `technicians sort it out amongst themselves ... in the majority of cases, one manages; this particular inquiry is intended to prevent the appearance of two projects.'[158] Although the procedure only lasted just over eight months, `we arrived after discussions at compromises more or less everywhere, which eventually silenced just about all the difficulties.'[159] On 4 December 1975, the procedure was closed by decision of the Transport Minister.

During the informal discussions prior to *instruction mixte*, MdT had recommended twinning LGV with part of the A5 motorway and the Digouin-Mâcon express road, so as to minimise environmental impact (this was done for 75kms out of a total 409); and `In the same spirit, the Post and Telecommunications Ministry decided to juxtapose a telecommunications cable on the edge of the railway track' along its entire length.[160] As a result, consultation was carried out simultaneously for those three other schemes and SNCF made provisions for the purchase of additional land. It was vital that the DUP Decree for all the schemes be granted at the same time: `SNCF, yours truly, applied itself to making sure that all these matters kept in step.'[161] In parallel with the internal administrative consultation process, public consultation was also carried out.

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[155] Interview with former Head of technical security division (DTT).

[156] Ibid.

[157] Ibid.

[158] Interview with former Director of the New Line (SNCF).

[159] Ibid.

[160] Paul Avenas, `Les caractéristiques de la ligne', *La vie du rail* (Paris), No 1499 (29/06/1975): p. 15.

[161] Interview with former Director of the New Line (SNCF).

(2) Siting and the public inquiry

SNCF's feasability studies put forward five alignments;[162] the BCEOM study added two further options in early 1974. DATAR favoured a route which served Dijon (for purposes of regional development), whereas SNCF favoured the most direct route which, according to DATAR, could worsen the `centralising effects of the railway masterplan of the nineteenth century'.[163] BCEOM compared the costs of various routes but only the SNCF favoured option had been researched in depth and included a full cost-benefit analysis.[164] This dearth of detailed studies of competing options does not seem to have been an issue.

Two distinct issues as regards siting aroused controversy: the terminal (in Lyon) and whether Dijon should be on the line. Although the siting of the terminal in Paris had been very straightforward, the decision being made on purely technical grounds, the Lyon terminal for the new line was a vexed issue, with two options being considered. At the beginning of 1970, SNCF was advised by a Transport official that it ought to choose the site of La Part-Dieu for its Lyon terminal `in order to stand a chance'.[165] The first feasability study for siting the terminal there was carried out in June 1970,[166] but the final decision was only taken in 1978. SNCF's estimates for the cost of LGV deliberately did not include costs associated with a new terminal in Lyon.

SNCF engineers were absolutely determined that P-S-E should be as straight as possible, which meant that the capital of Burgundy, Dijon, would not be served (a time saving of 20mns). But Dijon stood to lose its traditional position as a railway centre, and the link did not fit in with DATAR's plans for regional development, where Dijon was officially designated a *métropole d'équilibre*.[167] Ultimately the State railway's choice was vindicated but `the then Prime Minister, Jacques Chirac [...] compelled SNCF to connect Dijon to Paris' through the connecting spur and to provide a minimum frequency of ten high speed trains a day in each direction between Paris and Dijon;[168] Dijon was appeased and an intermediate station was located at Mâcon.[169]

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[162] See Mairie de Dijon (1973), Annex 2, p. 763.

[163] FAM, DATAR, `Note à l'attention du Ministre' (05/04/1974), p. 8.

[164] FAM, J P Weiss (Groupe Etudes Economiques, DTT), `Note' for Dobias on BCEOM Report (02/05/1974): p. 2.

[165] Pierre Protat, former Head of SCF (MdT), speaking at AHICF Conference (31/03/1994). He went on to say that on 6 February 1970, a clear tactic had been defined: `associating Paris-Lyon and La Part-Dieu'.

[166] Florence (Jan. 1994): p. 6.

[167] The Dijon Town Council, having debated the line, concluded `that the proposed project does not logically pertain to the policy of regional planning' and called for `rational and decentralised planning of the territory' (Mairie de Dijon (1973), p. 758).

[168] Written answers from Maurice Lombard (Côte d'Or Senator), 17/01/1995. The Senator also argues that `Today SNCF admits that this line, which was imposed upon it by the State, against its will, is one of the most profitable of its network.'

It was felt that Lyon for its part could only gain from better transport connections but there was disagreement as to whether these should be by air or by land. On 28 September 1970, the Lyon Town Council came out in favour of the new line, and the Rhône-Alpes expansion committee thought the project interesting, albeit not pressing.[170] However `Lyon economic circles, financially very involved in the creation of the Satolas airport, did not conceal their reservations.'[171] According to Pélissier, `The reluctance encountered in Lyon was not found in any other of the towns and cities served by the TGV.'[172] This somewhat optimistic statement overlooked the fact that in 1971 the Chamber of Commerce and Industry of Paris had concluded, following a study by its transport and regional planning committee, that existing Paris-Lyon services were satisfactory and had expressed regret at the government's decision to approve the project.[173]

As regards local elite opinion in the six *départements* crossed by the planned link, reactions were mixed: some wished the line to serve their communities, others wanted to keep it at bay. At the *département* level, SNCF `only found support with representatives from Côte d'Or, Saône et Loire, Ain and Deux Savoies.'[174] Some of the local opposition outside Dijon described TGV as a `Concorde on rail'. Active opposition took place between 1973-1977 and was at its height in 1976-1977, according to Charon.[175] The press reflected local concern; according to one SNCF President, the press campaigned violently against the scheme and railway people `during that difficult period ... felt rather lonely, facing a generally indifferent public opinion.'[176]

DTT wished to adopt SNCF's route as it was, though adding a connecting link to Dijon.[177] The Minister approved this option in May 1974 and on 21 November 1974, the Finance Minister's agreement to the cost of the latest modifications to P-S-E allowed the public inquiry to proceed. At the end of 1974, the Director of DTT proposed that the statutory public inquiry be launched, a move which the Transport Minister approved. In January 1975, the Government chose the final

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[169] Interestingly enough, one Director of the new line was adamant that `Right from the start we had made provision for the spur' (source: interview). It is as though it was inconceivable that the *national* railway should succumb to *local* pressure.

[170] Jacques Habert, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4605.

[171] Pélissier (1984), p. 10. The Lyon Chamber of Commerce in particular expressed strong doubts.

[172] Pélissier (1984), p. 14.

[173] J Habert, Sénat, *Séance du 17 décembre 1976* (Paris), p. 4605.

[174] Pélissier (1984), p. 10. Deux Savoies was to benefit from the link, albeit indirectly, for SNCF planned to run TGV through services from Paris to the Alps, with trains using conventional lines from Lyon onwards.

[175] Charon (1979), p. 30.

[176] Pélissier (1984), p. 9.

[177] FAM, Claude Collet (Head DTT), *Note* to Transport Minister (20/05/1974).

layout to be submitted to the public inquiry; it was the same as that submitted by SNCF `for we had had previously a great many discussions with mayors and we had been to all the localities, to make detailed presentations ... in 2 or 3 places, we accepted to make relatively large modifications ... which therefore resulted from preliminary discussions ... having taken place for several years in advance.'[178] During the provisional consultation phase, all local authorities concerned had been asked to give their agreement in principle on SNCF's proposed best route.[179] It seems that the real public inquiry had already taken place in the period 1970-1974, in a quiet and informal way: preliminary discussions `were informal for the most part but we compelled ourselves to telling the mayors: "We're going to have a scheme for a high speed link, it will affect your locality; this is roughly the situation you will find yourself in, concerning this layout." So we systematically met all the mayors ... the General Councils, the parliamentarians'.[180] One should not assume however that SNCF representatives had a free hand in their dealings with local officials; there was a degree of ministerial control. For instance when in 1973 Dijon Town Council sent a detailed questionnaire to SNCF on the scheme, the `official replies to [the] questions [had] the backing of the sponsoring minister.'[181]

Public inquiry practices dated back to the procedure instituted by the 8 March 1810 Act, and were updated by an Order in 1958 and a Decree in 1959. These statutes demonstrated the great stability of administrative rules and safeguards; they asserted the idea that the government was uniquely qualified to determine whether a link was in the `general interest' or not, and institutionalised the State guarantee of property rights, founded on compensation and the payment of damages for expropriation.[182] Originally public inquiries were instituted as a means to protect private property; only after P-S-E had been started was environmental protection included in their remit.[183]

Prefects of the interested *départements* were sent the public inquiry files, to be displayed in every affected locality. The Minister appointed a centralising prefect (Jean Périer) on 3 February 1975, who was to collate the results of the preliminary inquiry and express an opinion. He in turn appointed the inquiring commissioner, which ensured a certain degree of pliancy. The

[178] Interview with former Director of the New Line (SNCF).

[179] Guy Verrier, `Méthodologie des lignes nouvelles à très grande vitesse', *La vie du rail* (Paris), No 1499 (29/06/1975): pp. 38-40.

[180] Interview with former Director of the New Line (SNCF). General Councils (*Conseil généraux*) are above the mayoral level in the local government hierarchy.

[181] Mairie de Dijon (1973), p. 754, SNCF replies pp. 759-87.

[182] See J M Fourniau, `Making the decision more transparent', *22nd European Transport Forum: the PTRC Summer Annual Meeting*, Warwick University (Sept. 1994).

[183] René Hostiou, `Enquête publique et démocratie', in Ministère de l'Equipement, du Transport et du Tourisme, *Techniques, territoires et sociétés: l'argument écologique et l'aménagement* (Paris), No 22-23 (June 1993): p. 86.

commissioner was `generally a civil servant, sometimes retired ... who was for instance an *Eaux & Forêts* engineer, or a *Ponts & Chaussées* engineer, who therefore already had had the opportunity to take an interest in public works in the field.'[184] On 17 March 1975, an interprefectoral order was issued, to be displayed in all interested localities and published in the main newspapers. From 7 April until 7 May 1975, the public inquiry took place (inquiries concerning the twinned road and telecom infrastructures all took place exactly at the same time).[185] Legislation set a minimum period of two weeks for public inquiries. Registers in which residents could write their observations were deposited in the affected localities. Observations could also be sent directly to the inquiring commissioner. The Inquiry Committee had two weeks to sift through the evidence and consult anyone they wished. The public inquiry from SNCF's point of view `went off in a fairly satisfactory ... way, we did not get many complaints insofar - precisely - as we had preempted [them] ... the complaints we received remained ... very limited and after the general interest inquiry, we did not make any sizeable changes to the project.'[186]

Of all the observations and criticisms made during the public inquiry, the Inquiry Committee decided to only examine those that `question the very principle of the project, that is its public utility' and the essential features of the alignment (cities to be linked, junctions towards other cities or countries, intermediary station), which is to say that criticism of alignment particulars was not taken into account at this stage but was left to the phase of preliminary studies leading to the detailed survey:[187] `modifications desired by some may lead to the protestations of others ... The Committee has therefore resolved to set aside all declarations relating to sectional alignments, leaving their authors to reiterate them during the parcel inquiry.' The Committee validated SNCF's argument that the new line met an `absolute need' arising from the congestion of the existing line and that upgrading existing track would be `inadequate to reach the objective being pursued'. It defended the need for large-scale investment on the grounds that *public* works which would be a factor of `progress in speed and comfort' could not be appraised solely in financial terms. Under the heading `favourable opinions', it listed only the opinions expressed by the Le Creusot - Montchanin Council and by the prefects of the six interested *départements*; there was no mention of the high profile debating in Dijon. The Committee drew three positive conclusions, based on arguments of service improvement, of benefits outweighing costs, and on the fact that LGV was `the most rational as well as the most economic solution to the problem'. It ruled unanimously in favour of the proposed route on 10 June 1975.

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[184] Interview with former Director of the New Line (SNCF).

[185] Avenas (1976): p. 653.

[186] Interview with former Director of the New Line (SNCF).

[187] Départements de Seine-et-Marne, Yonne, Côte-d'Or, Saône-et-Loire, Ain, Rhône, *Enquête sur l'utilité publique: avis de la commission d'enquête* (Mâcon: 10 June 1975), pp. 1-13. The information in this paragraph is derived from the report.

It was on 23 March 1976 that the scheme was granted a DUP Decree. The Council of State was the final hurdle: its specialised public works committee (*Section des Travaux publics*), which deals with legislative and regulatory matters from the economic and technical ministries, scrutinised the whole LGV file in depth.[188] This involved summoning representatives of ministries and of SNCF to clear up any points that had remained unclear, or had been raised during the public inquiry, *including* technical points. Opponents to the projects could not be received however because it was considered that they had already had their say during the public inquiry. It follows that the procedure was weighted in favour of the project's supporters, namely the Administration and the public undertaking, since they had already put their case too, but were being allowed to have the final say. The Council of State's committee, having heard all summoned representatives, would then deliberate, weighing the pros and cons of the project in a qualitative perspective. Once the Council of State had made a favourable recommendation to the government, the link was declared to be `in the public interest and urgent' by Prime Ministerial decree (23 March 1976), signed both by the Prime Minister (Chirac) and the Transport Minister (Cavaillé).[189]

In 1976, there was still a degree of public controversy surrounding the new line, concerning the DUP Decree in particular. Local protesters had taken their case to the courts and on 5 January 1977, the Council of State rejected the request to annul the Decree on environmental grounds and confirmed that the line was in the public interest.

Why was it so difficult for local opponents to the project to make themselves heard? Of course there never was a united front against the project, comparatively few people lived on the route, and the affected constituencies mostly did not have much political weight. Furthermore the State had at its disposal a most effective weapon: the concept of `general interest', to which no type of private, or particular, interest could legitimately be opposed. The regional prefect for instance expressed a `very favourable opinion' on the project, arguing that it was `destined to fulfil interests of a general order, the reality and magnitude of which cannot usefully be questioned.'[190] The Expropriation Act was adopted precisely in order to uphold the public interest (*Loi sur l'expropriation pour cause d'utilité publique*, 7 July 1833). More generally, `expropriation was founded on "the public service necessity"'.[191] The economist Bastiat put the philosophy quite succintly: `when service becomes public, all individual laws disappear, become general and melt into a written, coercive law, which is the same for everyone, which takes no account at all of

[188] I am grateful to a Councillor of State who has sat on the public works committee for many years for providing the information in this paragraph.

[189] See Secrétariat d'Etat aux Transports, `Décret du 23 mars 1976 déclarant d'utilité publique et urgente les travaux de construction d'une ligne nouvelle de chemin de fer à grande vitesse entre Paris et Lyon' (Paris: *JO*, 24/03/1976). The decree is remarkable for its succinctness (barely two columns).

[190] FAM, MdT, `Avis du préfet de la Région de Bourgogne' (20/05/1975), p. 2.

[191] Jourdan (1987): p. 105.

individual situations'.[192] Where the State could invoke the full force of the law, farmers could only invoke `good reason' or `legitimate rights' (*le bon droit*).[193] In the hallowed phrase, private interests must bow before the general interest.

The public inquiry procedure may have had all the appearances of democratic consultation, but it basically retained `its function as *a posteriori* legitimation of projects already formulated and technically complete which could only be the object of marginal alterations';[194] as one senior SNCF figure pointed out, the planning team did study a host of possible routes, `But one cannot stir all this in the public ... I could not imagine myself discussing points of detail ... in an environment of 30 screaming people, it's not possible! ... We only submitted to town halls the one route which seemed to be, let's say, the best one.'[195] The belief in the one best solution was not confined to the economists of SNCF Research but also operated at the operational management level and was vindicated by central administration and politicians, who did not publicly discuss any routes other than the one chosen for submission to the public inquiry.

(3) Land purchases and compensation

The DUP Decree stated that `The expropriations that may be necessary will have to be carried out within a timescale of eight years from the day of publication of this decree' (Art. 2), an obligation which limited blight on residents affected by the line. A `parcel inquiry' had to be carried out in each affected locality; the objective was to identify plots of land affected by the link. The expropriating party had to publicise the inquiries and notify each owner individually. The first parcel inquiries took place in July 1975; by the end of 1977, the purchase of property was virtually over for the southern part of the line, and had been carried out mostly on a friendly agreement basis. In 1978, real estate and `domanial' operations were practically completed, including the regrouping of land due to expropriation. By the second semester of 1980 all land purchases were actually completed.

As regards agricultural land, negotiations first took place between SNCF, the local Fiscal Offices (DDSF, local agencies of the Finance Ministry), and local Chambers of Agriculture and farming unions, rather than directly with the affected residents:

> the price of land was first jointly decided by SNCF, Fiscal Offices and representatives of farming professions because we wanted to avoid discussing

[192] In Bastiat, *Harmonies économiques*, Vol. 6, 4th edition (Paris: O.C., 1860), pp. 483-501.

[193] Charon (1979), p. 43.

[194] Hostiou (1993): p. 87. If changes proposed by the inquiring commissioner were substantial, a new public inquiry was necessary, which in practice meant that only small changes were allowed.

[195] Interview with former Director of the New Line (SNCF). He went on to say that SNCF did however `accept a 60 km-long rerouting in the Yonne' (note that the use of the word `accept' implies that the organisation was in a position where it felt able to refuse).

> things with each landowner without a starting point. Consequently we had meetings with the Chamber of Agriculture, wich represents agricultural landowners ... the *Services départementaux d'exploitation agricole*, which represented interested farmers as a whole, and then also the Fiscal Offices and us, SNCF. With those people we devised price scales and we said: "Well, 1 hectare of vineyard will be worth this much in Saône et Loire, 1 hectare of wheat this much in Seine et Marne, it was therefore so to speak the price around which arose ... an agreement, a preliminary agreement ...

Following these general negotiations, the business of settling each particular case could start: `In actual fact, the Fiscal Offices, DDSF, negotiated on our behalf, that is to say they would visit the landowners and tell them: "Your land is worth so much" and seeing that the landowners had agreed, SNCF would then set in motion the change of ownership.'[196] The price scales were not inflexible however; `If indeed the farmers had a particular reason (for a scale ... may be criticised), the Fiscal Services official could award a small supplement.'[197] According to Hughes, `Landowners were in most cases well compensated'.[198] If a price could not be agreed, the matter could be decided before a tribunal: in Seine et Marne, about half the purchases were settled in this way but elsewhere there were very few, isolated cases. On the whole, most purchases were settled out of court. Purchasing and compensation matters were made easier by SNCF's `systematically adopting a distance from dwellings far greater than is the case with existing lines'.[199] In fact, only about one hundred dwellings were to be situated less than 100m from the track, and about 30 less than 50m (the statutory distance for motorways).[200]

The DUP Decree specified that the owner of the works (SNCF) `will be bound to remedy the damages caused farm units' (Art. 3) and the decree of 26 July 1976 on land purchase further specified that `the localities through which the track ran could ask the expropriator ... to compensate the localities for all their damages by carrying out land consolidation. This decree or law had been taken for motorways and it was extended to the new line'.[201] But SNCF went further than the letter of the law; expropriation was carried out with the welfare of farmers in mind: `In

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[196] Interview with former Director of the New Line (SNCF).

[197] Interview with former Director of the New Line (SNCF).

[198] Hughes (1988), p. 82.

[199] SNCF, *Un train pour demain* (1976), p. 19.

[200] Départements de Seine-et-Marne, Yonne, Côte-d'Or, Saône-et-Loire, Ain, Rhône, *Enquête sur l'utilité publique: avis de la commission d'enquête* (Mâcon: 10 June 1975), p. 9. Today, local residents living less than 150m away from the Mediterranean extension to the Paris-Lyon link may request SNCF to buy up their property, or claim the loss incurred on a transaction.

[201] Interview with former Director of the New Line (SNCF).

order to avoid the departure of expropriated farmers, the principle retained was that of an overall re-allocation of land of the severed units, leading to the loss of 5% of cultivated area for each farmer.'[202]

Compensation was conceived of on a broad basis and carried out systematically. For instance, consolidation could involve farm units a long way from the line: `With a consolidation, one has to define the perimeter to start with ... one has to get to understand why in a given place, a given damage will have repercussions 3kms away from the line. Now here, the technicians from Agriculture are the competent ones'.[203] Compensation included roadworks to be carried out in order to re-establish traffic flows interrupted by the presence of new track. Thus more than 400km of road improvements were carried out.[204]

Both land purchases and the costs of consolidation were paid for by SNCF but the undertaking made extensive use, as we have just seen, of local agencies of the ministries of Finance, Agriculture and Transport. The working relationships between the various parties involved appear to have been satisfactory.

(4) Construction and first results

The first building site was officially opened near Montchanin in December 1976. During the construction phase proper, the responsibility was fully SNCF's and DTT played no role: it `gave its agreement for the project to be executed but did not intervene in the organisation of the works of any kind.'[205] The process of constructing a new railway line, which involved the use of heavy earthworks vehicles, exacted a heavy toll on local roads and this involved SNCF in litigation with local towns.

The line was opened in two phases: firstly on 22 September 1981 at Montchanin, President Mitterrand inaugurated the new train and the southern section of P-S-E; secondly on 25 September 1983, the line was completed at the scheduled time and opened in its full length. On that very day Mitterrand called for preliminary studies regarding an Atlantic LGV.

The scheme for new infrastructure that SNCF had submitted to ministerial approval in March 1975 was costed at FF2901m. The actual cost, calculated after LGV's completion, was FF2926m, at January 1975 prices, that is with an overall 1% overspend.[206] This total included land purchases and compensation, as well as construction proper. As regards rolling stock, the

[202] Charon (1979), p. 29.

[203] Interview with former Director of the New Line (SNCF).

[204] Pélissier (1981): p. 68.

[205] Interview with former Director of the New Line (SNCF).

[206] RGCF (September 1983): p. 505. This total excluded VAT and was based on January 1985 prices.

overspend was of 4.1%.[207] These figures would suggest that SNCF's calculations and the process of interdepartmental consultation had been extremely detailed and searching, something which would seem all the more surprising as costs were never the main issue. Similarly, SNCF's traffic estimates were validated by operational experience; in fact, new traffic had even been underestimated, as had revenue per passenger.[208] This perhaps is less surprising since traffic forecasts had been thoroughly scrutinised by official committees in 1970, and again in 1973. As for financial returns, the rate achieved was 15%, which tallied with the predicted rate,[209] and the prediction by the Le Vert Report that the payback period for the investment would be about 10 years proved accurate.[210] SNCF's objective of democratisation of high speed transport was also achieved, with `TGV users [from] all social strata of French society.'[211] A consequence of having reached these objectives was that SNCF's credibility was heightened.

Conclusion

In terms of State practice, the LGV decision exemplified the tendency of public policy-making in France towards compactness and centralisation. Decisions were taken at the highest echelons both of the Republic (Pompidou) and of SNCF (Ségalat). Those that were the object of a fair degree of controversy were presented as virtual *faits accomplis*: according to a former SNCF Board member, the route for the new link was `already decided in all its details' in December 1970 and the discussions around the siting, from 1970 until 1979, were `a false debate'.[212] As a number of decision-makers have pointed out, decisions in those days were `less democratic and more technocratic':[213] one former Finance official half-jokingly admitted that `all the politicians were for the Rhin-Rhône canal and all the politicians were against TGV, and [...] all the civil servants were for TGV and all the civil servants were against the Rhin-Rhône canal... There is some truth in this all the same!'[214]

[207] See RGCF (September 1983): p. 506. The trains cost 4570 MF at June 1982 prices (excluding VAT). The increase was due to technical modifications requested by SNCF.

[208] RGCF (September 1983): p. 512.

[209] See railway industry newsletter, *Solutions ferroviaires*, No 9 (1er trimestre 1994).

[210] Roumeguère (1974): p. 125.

[211] RGCF (September 1983): p. 512.

[212] Guy Thibaut, speaking at AHICF Conference (31/03/1994).

[213] Walrave, speaking at AHICF Conference (31/03/1994).

[214] Interview with former Head of Transport Unit, Budget, Finance.

This lack of political accountability was lamented by the Court of Accounts, which in its 1978 annual report, strongly criticised the way in which studies of LGV had been carried out in 1969, and the decision to build the line taken in 1974; it concluded that it was unable `to determine the respective shares taken by the State and the National Company in deciding this investment'.[215] But such misgivings were easily brushed aside, for the technico-administrative bias was rooted in tradition: as Dobbin has pointed out, in the nineteenth century, the *Conseil des Ponts & Chaussées* `initiated all railway projects, and while legislative approval was required for new lines, the efforts of private interests and local governments to initiate projects on their own, or even to sway the Board, were ignored';[216] this at a time when railways were privately-operated.

The technico-administrative bias upheld national concerns and relegated regional / local concerns to second place: DATAR's regional planning policy sought to deconcentrate the national territory into regions gravitating around regional `*métropoles d'équilibre*' to be linked with each other by high speed land transport such as *Aérotrain* but this vision had to give way before the somewhat more old-fashioned conception of the centralised national territory with Paris as its hub, which lay at the heart of SNCF's policy of `contraction of the national territory'; with TGV links, only large cities were made closer to each other: `To a political rationale focused on regions, SNCF opposed a societal rationale of the global network which links up the country as a whole and, let's say it, the Nation.'[217] Needless to say, the French railway's traditional centralising rationale had no difficulty in finding legitimacy within the high Administration, given the French practice of centralised and nationwide planning. Ultimately national considerations (such as the financial health of SNCF) ranked higher than local or regional considerations (such as serving Dijon), but since regional development was high on the politicians' agenda, SNCF made strenuous efforts to present its plans as part of a policy of regional planning in the widest sense.

Although LGV was decided within the technostructure, it was far from being an arbitrary, simple decision:

> In France, getting approval for carrying a scheme through to a successful conclusion is a veritable obstacle race. I will spare you the details, both technical and legal, as one has to request agreement from such a multitude of committees (technical and financial studies, Planning committees, Regional Planning committees, Protected Sites, Architecture, etc) before finally ending with the Council of State's opinion.[218]

Technico-administrative appraisal in particular was extremely demanding. Rigorous appraisal methods were deemed to increase the rationality of decision-making. What mattered was the result,

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[215] Cour des Comptes (1979), pp. 49-50.

[216] Dobbin (1993): p. 131.

[217] See Fourniau and Jacq (forthcoming, September 1995).

[218] Pélissier (1984), pp. 5-6.

that is the content of the decision, rather than the propriety of the decision-making process, that is procedures. In this sense, one may speak of the LGV decision as an illustration of the substantive rationality model expounded in the previous chapter.

2. CHANNEL TUNNEL RAIL LINKS: THE PARALYSIS OF PUBLIC ACTION (1970-93)

There have been two schemes to date for new railway infrastructure between London and the tunnel portals. The first one was launched in 1970 and abandoned in January 1975 when the Channel Tunnel itself was cancelled; the second officially began in 1987 and was still at the end of the period covered by this study going through official procedures. This section will deal with both projects, as they both cast an interesting light on the British referential framework. There are many similarities and one major difference: approval of the first scheme was dependent on continued commitment to the Channel Tunnel by the British government, although the tunnel scheme itself became embroiled with the controversies surrounding the rail link to such an extent that it has been said that `In matters of environmental protection and of financing, the Dover to London rail link worked more against the project than the tunnel itself.'[219] On the other hand the second scheme is being decided wholly on its own merits, since the agreement to build the Channel Tunnel was finalised *before* a new rail link was proposed.

In both cases, it was legitimate to view the scheme as `a project which could revitalise rail travel in the UK.'[220] Indeed the densest air route in Europe was London-Paris and a less than three-hour journey by train would be highly competitive with air travel. But in both cases central government action was slow, uncertain and often contradictory. There was a definite lack of purpose, both at departmental and political levels and in the first scheme at least, also at BR level.

We begin with a brief presentation of the most salient aspects of the first Channel Tunnel Rail Link scheme (CTRL1) before turning to the second scheme (CTRL2) and finally to a more detailed analysis of the Westminster-Whitehall nexus as thrown into relief by the two projects.

[219] Laurent Bonnaud, *Le Tunnel sous la Manche* (Paris: Hachette, 1994), p. 182.

[220] `A faster track to the Continent', *FT* (2/06/1995): p. 17.

A. The first CTRL scheme (1970-1975)

The idea for new railway infrastructure between the Channel Tunnel and London originated at UIC (based in Paris and chaired by former Head of SNCF Research, Fontgalland) rather than at BR. Dr Michael Bonavia, who for 7 years was in charge of Channel Tunnel operational planning at BR (1966-1973), recalls that it was in early 1970 that French railway engineers announced to their British colleagues their proposals for a new train service, to be called `Europolitain', which would provide a direct, high speed link between the two European capitals, Paris and London. They asked whether the British could not for their part `plan a Europolitain line from the tunnel terminal to the outskirts of London'; with only 60 miles of track involved, this would be `a modest contribution to a splendid joint project' for SNCF would concurrently build a high speed link from Paris to the tunnel (Paris-North).[1] The new link would cut down the new journey time between London and Paris from 3h 40mns to 2h 40mns.[2] As a result of this suggestion, BR launched some studies and engaged in provisional planning.

At first, `the ministry was sceptical about the justification for the project' so BR planners `recognised that a fall-back strategy must be retained'.[3] At the same time, it seems that railway top management `took a rather detached view about it' and `British Rail were never as enthusiastic as they ought to have been', given that a fixed link to the Continent would provide them with the prospect of several hundred-mile runs, say from Glasgow to Milan, and would enable them to compete with roads.[4] By the time the British government signed an agreement releasing funds for initial work on the Tunnel to proceed (October 1972) it had become manifest that a new rail service between London and the tunnel portal was needed to obtain the full benefits of a cross-Channel fixed link. But planning was beset by many difficulties and actual government support for the scheme was only officially announced in September 1973 (whilst support for the Tunnel itself had been made public in 1968) and spelt out in the *Government Review of Railway Policy* published the following November. And in the meantime, opposition to both the Channel Tunnel scheme and the rail link had given rise to a fierce debate in the public arena.

(1) An under-resourced scheme

[1] Michael R. Bonavia, *The Channel Tunnel Story* (Newton Abbot: David & Charles, 1987), p. 106. Much of this section is greatly indebted to Dr Bonavia's first-hand account of decisions regarding both the Channel Tunnel and the CTRL.

[2] Marsh (1978), p. 195.

[3] Bonavia (1987), p. 110.

[4] Interview with former Minister of Transport (1). Bonnaud makes the same point: `At the head of BR, the fixed link was not considered a priority and the Dover-London line was a quite peripheral project.' (1994, p. 200.)

Lack of enthusiasm at BR was partly to do with the perceived lack of resources (in a wide sense: expertise, funding, manpower) for anything other than day-to-day running. Managers from the Southern Region showed little interest for the scheme even though it concerned them directly; they rejected early proposals to use existing, improved pathways, rather than build new infrastructure to run trains from London to the Tunnel, because `the management had its hands full with running the existing train service and coping with day-to-day problems.'[5] They argued that such new traffic would interrupt suburban traffic to an extent that would be unacceptable. Southern Region's position meant that the more expensive alternative of building brand new infrastructure had to be considered by the Channel Tunnel planning team at BR headquarters.

The BR officer in charge of Channel Tunnel matters pointed out that the task involved in submitting a private bill to sponsor the construction of a new link `would strain the resources of the engineering, estate and legal departments' within BR; this concern about stretching thin resources had been apparent right from the moment the idea of a new link had been mooted, in 1970: BR's technical resources had been taxed `over the recently completed electrification schemes ... Civil and signal engineering resources were stretched by permanent way and re-signalling demands, not to mention many structures urgently needing replacement'[6].

Private consultants Livesey and Henderson had to be engaged to carry out a feasibility study of Europolitain routes, since `BR chief civil engineer [had] indicated that he had no resources available for such a task.'[7] On the other hand the mechanical and electrical engineering department was `busy designing new overhead line equipment suitable for speeds of 155mph and capable of being used on new lines such as the Channel Tunnel Link Line at speeds of 300km/h'; but all the same, the Chief Engineer had misgivings about a high speed strategy because `there may be many cases where we can't afford to go to this solution.'[8] The Department did not have the necessary expertise to carry out studies itself; in 1973 for instance, DoE and Kent County Council commissioned a study from Economic Consultants Ltd[9] (the practice of hiring consultants was very common).

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[5] Bonavia (1987), pp. 104, 109. Interestingly enough, Southern Region did take an interest in the early 1980s Tunnel scheme involving the use of its existing boat train pathways. This, according to Bonavia, was because there had been a fall in regional traffic in the meantime, coupled with improved track capacity - around Victoria Station for instance - and perhaps `the appearance of enthusiasm for the tunnel's potential among the Region's management, after a long period of difficulty and struggle with domestic problems' (1987, p. 162).

[6] Ibid., pp. 124, 107.

[7] Ibid., p. 107.

[8] G Calder (former CM&EE), `High speeds and the CM&EE' (c1975).

[9] Economic Consultants Ltd, *The Channel Tunnel: its economic and social impact on Kent* (London: HMSO, 1973).

Generally speaking, lack of enthusiasm at BR for the idea of a new link is best understood in the light of the continuing struggle to maintain adequate investment levels: one of BR's `big problems, of course, is the definition of railway investment. We have very little expenditure on things that are completely new. ... The reason for this is quite straightforward - the present level of investment is insufficient to meet renewal needs, and therefore expansive ideas have taken a back seat. There has been little motivation for railwaymen to develop totally new projects which do not have a replacement element since they have been fully aware that there is little chance of such projects ever seeing the light of day. Railway "investment" thus turns out to be very largely long term maintenance.'[10] This situation was by no means new; as we saw in the preceding chapter, it was the very inconceivability of building new infrastructure that had led to the APT project.

(2) Public consultation

The first study of potential routes, carried out in 1970 by consultants Livesey and Henderson for the BRB, selected four options. Owing to the controversy already surrounding the scheme, DoE urged BR `to conciliate objectors as far as possible by following in effect motorway construction procedures (apart from a full public inquiry), namely by offering a choice of routes and, so far as practicable, giving weight to public preferences in making the final selection.'[11] Democratic imperatives were valued more highly than technical ones. The fact that the public consultation stage was modelled on that used in the case of motorway planning meant that any individual or authority that stood to be affected was entitled to make formal enquiries. BR issued a *Document for Consultation* in January 1974 and was inundated with enquiries (over 3000 in correspondence). They produced a booklet as well, *Your Property and the Rail Link*, which was sent to enquirers and to affected landowners.

During the public consultation stage, some MPs from *within* the governing party, whose constituencies were to be affected by the link, attacked BR's proposals; this according to BR's Bonavia, was for electoral reasons; he also argues that the overall Channel Tunnel scheme was not helped by `the often irrational attitudes of members of parliament.'[12] The then Minister of Transport had to spend quite a lot of his time going `down on that route ... trying to calm people's anxieties' because south east England was `a very desirable place to live, occupied therefore on the whole by rich and articulate people! ... There was every resistance here, and there were lots of ministers'.[13] Public controversy surrounding the alignment was soon overtaken however by anxiety about the financial cost of building new infrastructure.

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[10] Parker (23/02/1978), p. 15.

[11] Bonavia (1987), p. 126.

[12] Ibid., pp. 120, 123.

[13] Interview with Conservative politician.

(3) Escalating costs

The first cost estimates were produced by Lively and Henderson (November 1970) and were notional; furthermore, they only estimated `capital' costs, thereby excluding expensive items such as signalling, electric traction equipment, land purchase and work on railway terminals; the costs of the four routes examined ranged from £44m at the lower hand to £61.5m for the most expensive option. At that time, `It was suggested that a "charm price" of £99 millions should be regarded as the absolute limit: the psychological (even if quite irrational) effect of going into three figures might well cause the project to be ruled out of court straight away.'[14] The reference to `psychological effect' points to a referential framework dominated by politics and the quite arbitrary financial limit of £99m is an indication that formal financial constraints took precedence, no matter what the intrinsic merit of the case might be. In fact nowhere in the sections of his book dealing with CTRL does Bonavia mention the returns expected from the scheme; constraints and objections are dealt with at length but not opportunities and benefits, an accurate reflection of the type of public debate that was then taking place.

When it came to establishing detailed costings, BR had a very tight time-scale in which to work because official support was belated: `Both the engineering draughtsmen and the estate surveyors (as well as the lawyers) were desperately hard pressed by the demands of the timetable'; the planning that had gone on had `remained merely provisional until the government made up its mind about the international rail services and the investment required by the alternative strategies on offer.'[15] One gains the impression that BR was wholly dependent on the government, not just for investment, but also for direction.

Departmental concerns about the potential political fallout of the scheme contributed to increasing costs, e.g. the amount of tunnelling along the proposed route gradually increased: `The local authorities and other influential groups demanded such protection from noise that the railway was forced either underground or in cutting and the cost became unacceptable.'[16] The Conservative government had eventually decided that the link should be `high quality'; higher technical standards were more costly and BR had to lay aside cheaper solutions which they had been considering; it soon became apparent to the BR officer in charge of the matter that `a dangerous situation was developing ... [He] wrote a paper entitled *The Slippery Slope* ... It was agreed that an up-to-date re-costing of the whole project was needed, before the design could be completely finalised'; the new estimate was worked out with a great deal of caution in an effort to seek `protection from subsequent criticism of under-estimation.'[17]

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[14] Bonavia (1987), p. 108.

[15] Ibid., pp. 125, 110.

[16] Calder (c1975).

[17] Bonavia (1987), p. 126-27.

The somewhat astonishing result of the exercise was a new price tag of £373m, which was very near the cost of the Channel Tunnel itself, as compared to an earlier feasibility study estimate of £123m. BR Chairman's view was that `Part of the increase was due to inflation, part probably to specifying a higher quality of track than was really necessary. It is also possible that the very able railway staff who dealt with the early estimates, did so in a rather cursory fashion, because they could not believe that the Government would ever renege on the project.'[18] The alarming new figure was released on 26 November 1974, in the middle of parliamentary debate; it has been argued that the announcement `had very probably been made on the request of the Prime Minister', by then Harold Wilson; it created an outcry and for certain people sounded the deathknell of the project.[19] On the same day, Secretary of State for the Environment Crosland declared `that it was "out of the question" that the Government should approve or finance an investment of £373 million pounds on the rail link.'[20] He suspended procedures and put forward a proposal that ratification of the Channel Tunnel Treaty should be delayed by one year in order to enable BR to examine lower-cost options for the rail link.

(4) Cabinet division and parliamentary hurdles

The new rail link was entirely dependent on the construction of a fixed cross-Channel link and thus followed the fortunes of the Tunnel project itself. The latter began to be undermined in 1974, when the incoming Labour government (elected in February) found three large investment projects committed to the budget by the outgoing (Conservative) government and the new Labour Chancellor, Dennis Healey, announced in March that `expensive projects favoured by the previous Government - the Maplin Airport and the Channel Tunnel - were to be reviewed, as was Concorde.'[21] Environment Secretary Anthony Crosland wrote that the Cabinet found itself caught in the following dilemma: Concorde or the Tunnel, and that it was Tony Benn's plea for the supersonic aeroplane that had saved it from the axe in March 1974.[22] Benn fought off successfully Dennis Healey, who wanted to cancel Concorde, at a Cabinet meeting on 21 March 1974, and again on 23 May; in July, the Prime Minister authorised the construction of 16 Concordes. But it was only a matter of time before the Tunnel was cancelled.

Labour politicians were divided over the issue in opposition as well as in government. Tony Benn recalled the Shadow Cabinet of 22 October 1973 `when the Channel Tunnel came up ...

[18] Marsh (1978), p. 195.

[19] Bonnaud (1994), pp. 210, 198.

[20] Bonavia (1987), p. 129.

[21] Harold Wilson, *Final Term: the Labour Government 1974-1976* (London: Weidenfeld, 1979), p. 26.

[22] Recounted in Bonnaud (1994), p. 203.

Peter Shore and Michael Foot are strongly opposed to it, as I am, with Tony Crosland in favour.'[23] The Transport Minister `Fred Mulley made little secret of his opposition.'[24] In November 1974 Barbara Castle noted in her diary that one Cabinet meeting had started with `mutterings about the Channel Tunnel Bill (which clearly no one but Tony C. wants)'.[25] The Chancellor in particular was against financing CTRL.[26] At the Cabinet meeting of 21 November 1974, `Cabinet agreed to Tony C.'s plea that we should not scrap the channel tunnel project right away despite the unfeasibility of the cost of the rail link, but await the Cairncross Committee's report and allow him to negotiate a year's delay with the French.'[27]

Marsh (BR's Chairman), was very committed to both elements of the scheme. He `put in hand a crash programme to see how far the costs of this link could be cut' and came up `with a new set of figures which were about a hundred million pounds less than the previous estimate'.[28] On learning that the Cabinet meeting on 16 January 1975 was likely to drop it, he sought to have the issue removed from the agenda so that there would be a reprieve during which he could present BR's revised estimate; he was told by Sir Robert Marshall (DoE's Second Permanent Secretary) however that `it is not a matter of figures, but of politics.'[29] A Cabinet decision was taken on 16 January 1975 to abandon the Channel Tunnel project altogether and compensate the shareholders, even though the companies had indicated their willingness to re-negotiate a timetable, and BR now had cheaper options for the infrastructure at the ready.[30] The Cabinet's position was made public on 20 January 1975 in the Commons, who ratified the decision (294 votes to 218).

With CTRL1 we find features of the referential framework similar to those of the APT project, namely the pre-eminence 1) of financial constraints, 2) of partisan considerations and practices (ministerial intervention) over more technical issues. The main criticism of the project in the public arena was its cost, yet Bonavia asserts that `British Rail had indicated clearly that, if the government so required, alternative and cheaper strategies could be put forward quickly ... At one stage in the planning, no less than eight rail strategies, each with different levels of first cost ... had

[23] Tony Benn, *Against the Tide: Diaries 1973-1977* (London: Hutchinson, 1989), p. 73.

[24] Marsh (1978), p. 195.

[25] Castle (1980), 14/11/1974 entry, p. 217.

[26] Bonnaud (1994), p. 210.

[27] Castle (1980), p. 217.

[28] Marsh (1978), p. 196.

[29] As recounted in Bonnaud (1994), p. 210.

[30] See Castle (1980), entry of 16 January 1975, p. 281. BR Chairman believed that `the Government decision to drop the Channel Tunnel was taken while the figures on the revised cost of the rail link were still in the offices of British Rail ... It was a typical example of the frivolous way in which major decisions are taken.' (Marsh, 1978, p. 196.)

been identified by BR's Channel Tunnel department ... it was always recognised that a fall-back solution might be required at short notice.'[31] The pre-eminence of political factors was noted by Bonavia, who argued that the official reason for the sudden abandonment of the Channel Tunnel and CTRL projects in January 1975 - escalating costs - was not the real reason. In his opinion, the `British political system' had failed those projects: `the most important single factor was the disruption to the progress of the Channel Tunnel bill through parliament caused by two general elections in quick succession, coming at a critical time.'[32] The Bill automatically lapsed at the dissolution of Parliament in February 1974, after a successful second reading and whilst it had already made good progress through the committee stage; it had to be reintroduced on 10 April 1974, when it went through a second second reading before going to the committee stage again. This delay enabled opposition to gather strength. The change of political majority that took place in early 1974 was equally harmful: the Conservative government had called for a high quality link, but Labour soon requested that a lower cost solution be put forward.

Yet the Channel Tunnel had been given the official go-ahead in 1966 under Harold Wilson, who was again Prime Minister during the second crucial period, but following four years of Conservative government during which the project had received official support, he appeared to have lost his initial ardour. This illustrated `the way in which public and political opinion tends to swing backward and forwards'; he ascribed `the true cause' of the scheme's failure to `the changing, uncertain world of politics where one year's enthusiasm becomes next year's scepticism, one year's energy next year's lassitude.'[33] The politician's horizon was perceived as being inimical to projects requiring a great deal of planning. Chairman Marsh also points out that only weeks before the Cabinet dropped the project, `many people, including myself, had been assuring French officials ... with the full support of Ministers, that there was no question of the UK ratting on the project; but we did just that.'[34]

High level political intervention overrode expert study: the Labour government elected on 28 February 1974 had promptly set up an advisory group chaired by the economist Sir Alec Cairncross. The group's brief was to re-evaluate the Channel Tunnel project as a whole. But the decision to cancel the project was taken six months *before* the Cairncross report was even released. Such disregard for expert opinion is evidence that the scheme was not being appraised on its intrinsic merits but on the basis of extraneous - political and financial - considerations. The report found that the Tunnel scheme was viable although some organisational changes were needed and

[31] Bonavia (1987), p. 131-32.

[32] Ibid., p. 128.

[33] Ibid., pp. 131-132.

[34] Marsh (1978), p. 196. The Treaty with France had been signed in November 1973 and the British Government announced in December 1974 that it would not be ratified (Sir Nicholas Henderson, `Channel Tunnel - the early stages', in ICE, *The Channel Tunnel* (London: Thomas Telford, 1989), pp. 2-3).

made the following comment on the manner in which affairs had been conducted: `We have been conscious as our work proceeded that everything seemed to be happening in the wrong order.'[35]

Conclusion

If we examine the configuration of the main players, it is clear that although the initiative for a new link came from the railway, BR soon became dependent on government direction and decisions throughout the planning stages and did not play a leading role. They did not possess sufficient resources to press ahead and to lobby for the scheme they really wanted. Some may argue that they did not really want to lobby since the project was not a priority at senior level but this in itself was symptomatic of a more general wariness at management level *vis-à-vis* costly, ambitious projects which, it was felt, were likely to be rejected, or if approved would distract management from more pressing problems. It would also seem from this account that lines of communication between BR and DoE were deficient.

With its scheme for a new link, Bonavia argues, `BR had the worst of both worlds - the stringent procedural requirements of private bill legislation, and the public consultation methods employed for motorways.'[36] There was an emphasis on making sure that all interested parties were heard and on justifying all aspects of the scheme fully, even though there was a clear danger that this might prejudice the outcome. Transport Minister John Peyton had to try and calm `people's anxieties, saying "We will listen to you..." and all that sort of thing'.[37] Procedures outweighed policy substance.

Finally changes of government proved fatal to CTRL1, both from a practical point of view and also for political reasons. Paradoxically it was a Conservative government which demanded a high-quality link, whilst Labour - the party of public ownership - were prepared to settle for a cheaper option. Thus ministerial preferences based either on party political or on financial grounds overrode technical and economic imperatives and led to an irrevocable decision being taken before the economic review of the project was even completed.

B. The second CTRL scheme (1987-1993)

Once Franco-British talks about a fixed link had been revived, the option to which the BRB committed itself in January 1981 (*Cross-Channel Rail Link*) involved the use of existing lines in the Southern Region rather than the construction of a new link and `When the Channel Tunnel Bill was deposited, British Railways maintained that the existing network of lines and stations was,

[35] Quoted in Bonavia (1987), p. 132.

[36] Ibid., p. 126.

[37] Interview with Conservative politician.

in the main, adequate for the foreseeable future.'[38] This option had been pursued ever since internal planning for the project had resumed; it was the BRB's own decision (not DoT's) in the late 1970s that the new project `should be based on our existing Southern Railway network, not on the unrealistic assumption that we would have the funds to construct a new line', a hope which `would have been scorned as extravagant and fanciful.'[39] Once more, railway ambitions were self-curtailed so to speak.

Following the signature of the Channel Tunnel Treaty in February 1986, a Concession Agreement with Eurotunnel committed the British and French governments - in rather vague terms - to `use reasonable endeavours to carry out the infrastructure necessary for a satisfactory flow of traffic', which on the British side was translated as making use of existing, albeit upgraded, lines. By the end of 1988, the government had `approved, in principle, expenditure of about £600 million (1988 prices) by British Rail for investment in passenger services through the Tunnel from Waterloo and also for freight services. About half of this ... is for infrastructure, including track improvement, depots and passenger terminal facilities, mainly at Waterloo.'[40]

However, once the Channel Tunnel Treaty had been signed by both the British Prime Minister and French President of the Republic at Canterbury (February 1986), ratified by the French Parliament (June 1987) and the British Parliament (July 1987), rendering the process irreversible, it was pointed out that a new, high speed link between the Folkestone end of the Tunnel and London would improve transport links with the Continent; international services to Paris and Brussels in particular would greatly benefit. The *Kent Impact Study*, published by DoT in August 1987, `found that rail capacity would be required if growth in rail traffic was not to be constrained.'[41] DoT's official viewpoint now was that

> In 1986 British Rail took the view that existing lines would provide sufficient capacity for international traffic for the foreseeable future, and that a new railway was therefore not needed. It was not clear at this time how commuter traffic in south-eastern England would grow beyond the short term ... In August 1987, the Kent Impact Study questioned BR's view that a new line was unnecessary until well into the next century.[42]

From the autumn of 1987, BR therefore carried out feasability studies for a link which would be 68 miles long and would cut down journey times from 70mns to 37mns. But no new major railway had been built in Britain for nearly a century,[43] and the same two formidable

[38] Collis and Hill (1993): p. 66.

[39] Parker (1989), p. 223.

[40] J Rickard (Chief Economic Adviser, DoT), `United Kingdom', in Economic Research Centre (1990): p. 41.

[41] Collis and Hill (1993): p. 67.

[42] DoT, `The Channel Tunnel Rail Link project', public release (10/05/1995): p. 9.

[43] Since 1914 according to Simmons (1986), p. 81.

obstacles encountered by CTRL1 stood in the way of a new railway: the fact that the area to be traversed was densely populated and the sheer cost of the scheme within the framework of British public policy (in his Budget Speech on 16 March 1993, Chancellor Norman Lamont referred to the new rail link as `one of the largest infrastructure projects in this country since the war').

(1) Financing the new link

The Eurotunnel fixed link project was essentially the 1960 scheme `as refined and developed during the 1970s by RT-Z and the French project managers, but with one important difference. The British Government had now ruled out any substantial investment by British Rail in a high speed link from London to the tunnel and the estimates of rail traffic accordingly had to be based upon use of the existing Southern Region routes, with the limitations this would impose on speed and capacity.'[44] The UK government had insisted that private capital alone fund the project *in its entirety* (i.e. tunnel and transport links to it). It was only because the French government were very keen to go ahead with the project that they agreed to terms which they did not really favour and which did not coincide with common practice in France (where `mixed' financing of large infrastructure projects is common through *sociétés d'économie mixte*).[45] The French and Belgian railways had now accepted that trains built to the British loading gauge would have to operate between London-Paris and London-Brussels, because this would not entail costly modifications to bridges and tunnels in Britain. Thus a *financial* restriction imposed by *politicians* dictated a technical feature of the link.

The terms of the Channel Tunnel Act confined public funding to *domestic* rail services, specifically prohibiting the Transport Secretary from providing a direct subsidy for *international* services, such as would be operated on the new link.[46] The international rail link was to be entirely funded by private sources and it was several years before a way of using public funds without breaching the terms of the Act was publicly advocated; perhaps this was to do with the fact that between 1984-1985 and 1988-1989 UK public expenditure on rail had plummeted from over £1,500m to about £500m.[47]

In November 1989 BR selected the Eurorail group (Trafalgar House and BICC), as its joint-venture private sector partner. In March 1990 Eurorail warned that the plans would fail without government cash support (nearly £2bn in grants and cheap loans, to make the project financially viable). The scheme collapsed only four months later, when on 14 June 1990 the Transport Secretary, Cecil Parkinson, ruled out a public contribution: both Trafalgar House and

[44] Bonavia (1987), p. 140.

[45] `France ... only accepted private financing of the project when confronted to the determination of Nicholas Ridley' (Bonnaud, 1994, p. 310).

[46] See Channel Tunnel Act, 1987, Clause 42, Section (3).

[47] From that trough, it had shot up to the £2,000m mark by 1992-1993.

BICC pulled out. In the summer of 1990 however, DoT indicated that `it would not rule out a "backdoor" injection of public money into the existing rail network to deal with congestion caused by Channel Tunnel traffic.'[48] This would not contravene the terms of the Treaty since the money would not be used to provide international services. A few months later, Cecil Parkinson announced that `The External Finance Limit for 1991-92 is 50 per cent higher than in last year's settlement ... BR can go ahead with its ambitious programme of investment in Channel tunnel services'.[49]

The 1992 Autumn Statement of the Chancellor of the Exchequer, Norman Lamont, introduced `significant changes to the rules for the private financing of major infrastructure projects',[50] a significant departure from past practices: the Private Finance Initiative (PFI) `aimed at attracting private-sector funding into transport infrastructure projects'.[51] And in the meantime the nature of the services to be provided on CTRL had altered. BR was now planning the link not as a fully dedicated international service but as a mixed international / commuter infrastructure, a fact which had crucial financial implications; a report by Union Railways Ltd (URL, BR subsidiary in charge of building the link, formed in late 1991) stressed that `some £1.1 billion NPV of economic benefits have been identified associated with domestic passenger traffic, which might be considered by the Government as a possible basis for grant.'[52] On 16 March 1993 in what the *Financial Times* described as `a climbdown from the government's previously-stated intention of getting the line built entirely by the private sector', the Chancellor conceded that the government would have to `make its own financial contribution, recognising the benefits that will accrue to domestic travellers from the new link';[53] the project was to `be taken forward as a joint venture' with the private sector.

A week later, the Transport Secretary pledged `substantial financial support'[54] but did not provide detailed figures, although his pledge was understood to mean up to half the total cost. The cost estimates, above £4bn in 1991, had by then dropped considerably: much of the (expensive) tunnelling had been abandoned and generally `intensive development work ... [had] identified more economical solutions than previously considered',[55] thus dramatically reducing the cost from

[48] *The Guardian* (4/04/1991): p. 2.

[49] *FT* (9/11/1990). This was less than BR had actually bid for.

[50] Norman Lamont, Budget speech (16 March 1993).

[51] *FT* (17/03/1993): p. 19.

[52] URL (March 1993), p. 17.

[53] *FT* (17/03/1993): p. 19.

[54] Quoted in *The Guardian* (23/03/1993): p. 3.

[55] Union Railways, *British Railways Board Report* (March 1993), p. 47.

£4.5bn to £2.5bn. It was on 3 March 1994 that the government gave some indication of the size of its contribution: at least £1bn of public money would be provided. But the precise sum remained to be determined: `The amount of support to be provided would depend on the outcome of the competition' as `Consortia bidding to build and operate the railway propose the amount of Government money they think they need, and also ways in which they think the risks associated with the project should be divided between them and the Government'; the latter was to select the consortium `which offers the best deal on both fronts.'[56] At the end of our case study, financing arrangements had still not been finalised, and the possibility of a European Union contribution was becoming increasingly likely.[57]

Estimated costs for the link fluctuated enormously, not just because totally different alignments were being assessed, but also for a particular alignment. DoT encouraged the presentation of competing proposals by BR and various private consortia as a way of pushing the Railways Board into bringing costs down. There was a belief that costing techniques could not be trusted. Even the Labour Transport Spokesman believed that `costing is neither easy nor entirely reliable.'[58] Furthermore, financial constraints shaped policy to such a large extent that a satisfactory financial arrangement could not be arrived at quickly; different options had to be explored in turn and policy continuity could not be achieved.

(2) Siting and public consultation

On 14 July 1988, four alternative routes were published by BR. In January 1989 BR selected Kings Cross as the second international terminal for CTRL. On 10 March 1989, following consultations with organisations in London and Kent, BR put forward its preferred southerly approach route for the link to Kings Cross. The 1989 route was different from BR's four 1988 routes in that it featured a great deal of tunnelling through South London in order to reduce the environmental impact and was therefore more expensive. BR had pledged to `use all reasonable endeavours to ensure that the design of the line will make the best use of natural features' so as to minimise noise pollution,[59] but the government rejected the proposal.

In October 1989, two south-easterly alternatives were put forward, both running to Stratford. In late 1989-early 1990, BR was `persuaded' to modify the proposal to reduce environmental impact, at an additional cost of £500m. This led BR to announce a 12-month delay in bringing its Private Bill before Parliament. The Joint Venture 1990 Route (BR/Eurorail), an amended south-easterly approach, submitted to DoT in April 1990, featured less tunnelling than the

[56] DoT (10/05/1995): pp. 8, 12.

[57] The European dimension of CTRL planning is a fascinating research topic, which I have to leave aside for lack of space.

[58] John Prescott, *Moving Britain into Europe* (undated), p. 17.

[59] BRB, *Noise and the New Channel Tunnel Rail Link* (Dec. 1988), p. 4.

1989 route. In June the Transport Secretary rejected the amended route as unacceptable and requested BR to re-examine routes to King's Cross via Stratford.

From November 1990 to April 1991 the BRB study team, with the help of engineering consultants W S Atkins, made a comparative study of four new options for the link: its own revised southerly approach terminating at Kings Cross; engineering consultancy Ove Arup's Cheriton-to-King's Cross via Stratford Easterly Approach (published separately in March 1990); private company Rail Europe's eastern link (the `TALIS' route); Newham Council advisory team's southerly proposal for a link to Stratford.

The government had insisted that all proposals should be channelled through BR, which found itself both judge and jury, rather than through DoT or an independent commission. This was perceived as being quite natural, since neither DoT nor the Treasury had the necessary expertise to carry out such studies.[60] In May 1991, BR submitted a new scheme to DoT, confirming the choice of Kings Cross as second terminal and selecting a southerly route to serve it, to be named the New Kent Main Line;[61] it `concluded that its Southern Approach was superior in business, financial and economic terms whilst the Ove Arup proposal was considered the best Eastern Approach.'[62] The least controversial route was Ove Arup's; it would cost only ten per cent more than BR's scheme which, whilst it was cheaper and more direct, ran through politically-sensitive areas of south-east London. Regarding the London terminal, there was disagreement between the Department and the railway, with the BRB favouring Kings Cross[63] and John MacGregor, the Transport Secretary (along with the Treasury), supporting St Pancras.

BR's New Kent Main Line proposal encountered opposition from MPs across the party spectrum and the Cabinet was reportedly split on the matter: DoT supported BR's southerly approach, whilst the Environment Secretary (Michael Heseltine) and the Trade Secretary (Peter Lilley) were `said to be openly backing an alternative scheme to route the link along the river Thames corridor in Essex', via Stratford into Kings Cross, namely the Ove Arup route; this more easterly route was preferred by the Environment and Trade Secretaries because it would help to revitalise the area between Stratford and Southend. Also it would `help stop the capital's economic drift to the west.'[64] The Environment Secretary also had plans for a new town east of London.[65] The

[60] Interview with former Head of Finance, DoT.

[61] BRB, *Rail Link Project, Comparison of Routes* (June 1991).

[62] Collis and Hill (1993): p. 68.

[63] An ambitious £1.4bn plan to redevelop King's Cross had been proposed by BR, together with a plan for a rail link connecting northern and southern England rail services through the capital, Thameslink 2000. These two plans would collapse if St Pancras was chosen as the international passenger terminal.

[64] *The Guardian* (18/07/1991).

[65] *FT* (16/10/1991): p. 17.

Transport Secretary, Malcolm Rifkind, had planned to make an announcement on the route by the end of July 1991 but as protests from south Kent residents grew, no consensus on the best option could be reached. The announcement was postponed.

On 9 October 1991, the long-awaited announcement about the route was made at the annual Conservative Party conference. Ove Arup's easterly approach was chosen (as the `Published Route', Cheriton to Kings Cross) and BR's second version of a southerly approach scrapped. This represented a `victory' for the easterly route lobby headed by Michel Heseltine and a severe setback for BR, who had spent four years working on its scheme and buying up property that was to be affected in South London. No timetable for the construction of the line was put forward however and the opening of the link was put off until the beginning of the 21st century.

Once the main corridor (the Published Route) had been decided, it still remained for BR to develop the precise alignment. This was carried out by Union Railways in close co-operation with the Ove Arup team, local authority officers and departmental officials. For when Malcolm Rifkind invited BR `to undertake such refinement of the route proposed by Ove Arup as is needed to safeguard it', he stated that he `should also like officials to play a full part in this work'; accordingly a joint Government/BR Steering Group was established and met at monthly intervals; although it was chaired by URL and comprised senior BR officers, representatives of interested departments were also members; this enabled close liaison to be maintained with departments.[66] In fact, central government input was sizeable, as officials were briefed in detail on individual route options at each stage of the `sifting' process and their comments were taken into account.[67] During the development process, URL also `consulted the Statutory Agencies (The Countryside Commission, English Heritage, English Nature, The Royal Commission on Historic Monuments in England and The Royal Fine Art Commission) in detail on the emerging results of route development.'[68] The resulting Report, presented to the Secretary of State in January 1993 put forward a complete railway meeting government requirements, including `add-on' options that could be tailored to available financing.[69] The add-on approach reflected the prevalence of financial imperatives over technical ones.

Following this discussion of policy-making at the central level, I would now like to turn to the local level input into the alignment. A High Level Forum chaired by the Secretary of State was set up as `the most senior level of consultation with local authorities'; at officials level, DoT chaired a number of working groups with local authorities; URL also participated in these discussions.[70]

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[66] Letter from Malcolm Rifkind to Sir Bob Reid (9/10/1991), in URL (March 1993), Annex A, p. 87. Also see pp. 9-10 of the report.

[67] URL (March 1993), p. 10.

[68] Ibid., p. 25.

[69] Union Railways, *British Railways Board Report* (March 1993).

[70] Ibid., pp. 10, 24.

Confidential consultation with individual authorities was carried out by Union Railways in `some 70 formal meetings, primarily at officer level', between May and December 1992; the views and comments of authorities were sought at each stage of the route options selection process, and `local authorities' responses were taken into account in the further engineering and environmental development of the options'.[71] As a result, local authorities had a significant input into the alignment.

A new order-making procedure for promoting railways through Parliament was enacted in the Transport And Works Act, 1992, which brought it into line with the procedure for roads: namely a local public inquiry was to be heard by a government-appointed Inspector, before a ministerial decision could be made, and Orders issued. After URL's Report (March 1993), the government announced the route chosen for public consultation; local authorities began to be formally consulted at the end of March 1993 and the public's views began to be sought in April 1993. The public consultation period, which lasted six months and was carried out by URL could in principle lead to modest changes to the alignment: DoT `said that modifications can be considered "up to the point where the nature of the scheme changes".'[72] The Secretary of State had `asked Union Railways to carry out a full consultation exercise'[73] and the programme of public consultation, which involved setting up information centres along the route and organising numerous meetings, is said to have been `the most extensive ever carried out for a rail proposal.'[74]

In October 1993, BR submitted detailed proposals listing the options for `fine-tuning' the route. The government announcement expected the following month was postponed to January 1994. On 24 January 1994 and following further consultation with BR and local communities, a final refinement of the March 1993 route was announced, which incorporated changes published the previous March.

Both the Ashford Borough Council and Kent County Council wanted a central route to serve the new international station at Ashford (approved by the Transport Secretary in spring 1993), located on the existing railway line, in order to maximise its potential, and originally `the Published Route was designed to pass through the centre of the town' but `The Government subsequently asked BR to consider whether a more economical station scheme could be devised.'[75] Two other schemes were devised, DoT for its part preferring the one bypassing Ashford to the north; the URL study considered in 1993 that there was `no longer any need for the new line to

[71] Ibid., pp. 10, 24.

[72] Collis and Hill (1993): p. 68.

[73] DoT (10/05/1995): p. 9.

[74] Collis and Hill (1993): p. 68. In 1994, over 1000 public meetings were held (BBC2 Television, *Tracks to the Future*, 05/02/1995).

[75] URL (March 1993), p. 30.

pass through the centre of Ashford' and that its Reference Route passing north of central Ashford was `superior to the Published Route in environmental and planning terms', as well as being cheaper.[76] But in February 1994 the central route was suggested by BR as a compromise, based on the earlier proposal which had been `rejected by DoT because of £65 million cost of tunnelling'.[77] Eventually, on 28 April 1994 Transport Secretary John MacGregor announced that he had opted for the compromise central route. The one-year gap between the decision to approve the new international station at Ashford and the decision to choose a CTRL route that would connect with it, rather than one which would bypass it, is clear evidence that policy formulation did not follow an integrated approach. Also this episode illustrates the way in which government could impose financial constraints on plans already well-advanced, only to go back to the original plan eventually, owing to the presence of conflicting objectives.

Why was the siting of the new link the object of so much heated debate? In electoral terms, the stakes were high because some proposed routes ran through half-a-dozen marginal, Conservative seats, in Kent and in south London, threatening homes and locally cherished parts of the countryside, and were thus potential vote-losers for the government. The perceived threat to the `Garden of England' in particular aroused a great deal of opposition. Some of the towns affected by BR's scheme began to organise as early as December 1987, only weeks after BR had started feasability studies. The London Borough (LB) of Hackney resolved to oppose the railway proposals. The prospect of houses having to be compulsorily acquired and/or demolished played an important part: BR's southerly route implied the acquisition of 127 homes and the destruction of 24, whilst Ove Arup's easterly route at first involved the acquisition of only two houses and no demolitions.[78] The easterly route was therefore perceived to be sounder in political terms and the Secretary of State emphasised in October 1991 `the importance that the Government attached to minimising the demolition of residential property resulting from the new railway.'[79]

Another factor which may have increased public uncertainty was that after BR's earlier proposed alignment had been rejected (June 1990), the Board apparently ceased to back its own proposals: on April 4 1991, the *Guardian* newspaper stated that because of the high degree of controversy, `Sources [said] BR [would] not make a firm recommendation to Malcolm Rifkind, the Transport Secretary', leaving him to shoulder the possible repercussions of the decision.[80] And Union Railways' report stressed that its route proposals `are not recommendations, but options for

[76] Ibid., p. 30.

[77] See `Rail link "sham" divides Tories', *The Guardian* (28/02/1994).

[78] *FT* (10/10/1991): p. 11.

[79] URL (March 1993), p. 26.

[80] *The Guardian* (4/04/1991): p. 2.

Ministers to consider.'[81] BR was not seeking to put pressure on politicians to choose a `best solution' and thus acknowledged their powerlessness to influence the decision-making process.

Wavering on the part of government created a great deal of confusion and uncertainty. Sections of the route that the government had either already safeguarded or vowed to safeguard were later altered: Malcolm Rifkind announced that `Given our preference for the easterly route I will be revoking the existing safeguarding directions for the route which British Rail had proposed in mid Kent between Cheriton and Upper Halling ... replacing them with new directions ... where the Ove arup route diverges from the existing safeguarded line.'[82] Protesters from the areas of Kent that would have been affected by BR's southerly route breathed a sigh of relief when the government chose the easterly route in October 1991, only to find in the spring of 1993 that the line would after all run through some of those areas, because `significant deviations from the original route drawn up by engineers Ove Arup' had been made, even though the government had `insisted that the Ove Arup route was "safeguarded".'[83] A report by the Parliamentary Ombudsman, William Reid, published on 8th February 1995, found `"unremedied maladministration" in the way the Transport Department had handled proposals to build the link through Kent' and criticised `the period of "limbo" from June 1990 ... to last April [1994] ... The effect', said Mr Reid, `was to prolong the "uncertainty and associated blight for a period of unknown duration with no certainty that the position would be resolved".'[84]

To sum up, negotiations were long, complex, and highly controversial. As with CTRL1 there were at all times several routes simultaneously under study; naturally, this multiplied the number of potential objectors but there was no desire on the part of government to only present to the public one fully worked out alignment. On the contrary open competition between the various routes was encouraged to ensure cost-effectiveness. Once URL set to work on the Published Route from late 1991, in all `about 1000km of route options were considered for the 108km of route from Cheriton to Kings Cross, involving well over one hundred individual sub-route options.'[85] This extremely thorough process was inherently costly and time-consuming.

(3) Land purchases and compensation

The early private railway companies had been granted rights of compulsory purchase on a fairly flexible basis: `The legislature leaves it to the company to determine what lands are

[81] URL (March 1993), p. 7.

[82] Letter from Malcolm Rifkind to Sir Bob Reid (9/10/1991), in URL (March 1993), Annex A, p. 87.

[83] `Kent "misled" on tunnel rail link route', *The Guardian* (19/03/1995): p. 3.

[84] *FT* (9/02/1995): p. 12. Also `DoT censured on Channel link blight', *The Guardian* (9/02/1995): p. 6.

[85] URL (March 1993), p. 24.

necessary to be taken.'[86] This practice continued once the railways were nationalised. The purchase of property and land could be carried out in two ways: through compulsory purchase orders (CPOs) under the parliamentary procedure introduced by the Compulsory Purchase Act 1965 or through voluntary purchase schemes devised by British Rail itself.[87]

BR spent £100m purchasing 1,081 houses and flats in south London and west Kent that were set to be blighted by the link along its preferred, southerly route. BR was able to go ahead with such a major undertaking *before* the route had actually been confirmed because it was carried out under a voluntary purchase scheme. But when the Stratford route was chosen by government in 1991, the properties were no longer needed and had to be sold off (at a loss, owing to the property slump of the late 1980s and early 1990s).[88] The fact that BR and government had been at odds over the precise alignment had made it impossible for BR to plan ahead with any certainty. It had also meant that residents in south London suffered from property blight during the four years when a decision was being made (1987 to 1991).

Compensation constituted a thorny problem: `One of the troubles here has long been that you get these tremendous resistance movements because people ... do not feel they are being properly treated!'[89] One interviewee described the compensation regime in the following terms:

> There are things on the statutory book ... in the usual British way there is no overarching legislation, there's something about noise, something about compulsory purchase, you know little bits and pieces which have been built into the system progressively.[90]

For instance, the traditional rule as regards the date of assessment of compensation was that it would be the same date as that when notice to treat for purchase was given by the authority. But notice might be served several years after the CPO had been confirmed and `in 1970 the House of Lords held that this so-called rule of the 19th century would work injustice in the 20th century in an economy of rising prices and unstable values where delays between service of notice to treat and

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[86] `Stockton and Darlington Railway Co v. Brown', in Newman (1975), p. 278. Blackstone defined compulsory purchase not as confiscation but forced sale: `All that the legislature does is to oblige the owner to alienate his possessions for a reasonable price'. (Quoted in Newman, 1975, p. 325.)

[87] For details, see: Acquisition of Land (Authorisation Procedure) Act 1946, 1st Schedule, para. 4(2); `Re London-Portsmouth Trunk Road (Surrey) Compulsory Purchase Order (No. 2) 1938' (Newman ,1975, p. 284); `Gibbs (W.H.) Ltd. v. Secretary of State for the Environment and Another' (1974) (ibid. pp. 257, 279); `Edwards v. Minister of Transport' (ibid., p. 364).

[88] The properties had been rented out by BR on a short-term, low-rent basis, until plans could be finalised.

[89] Interview with former Principal Private Secretary to Minister of Transport.

[90] Interview with former Principal Private Secretary to Minister of Transport. In 1869, the House of Lords had ruled, in a case where a house had depreciated in value owing to the vibration from trains running nearby, that `there was nothing in the Lands Clauses Consolidation Act 1845, nor in the Railways Clauses Consolidation Act 1845, which entitled the appellants to compensation. The legislature had not provided compensation for any damage to land or houses which was the inevitable consequence of the proper and ordinary use of a railway' (`Hammersmith & City Railway Co v. Brand and Wife', in Newman, 1975, p. 247).

expropriation could cover decades.'[91] Also no legislation applied specifically to railway noise; although there were regulations for new roads, there were `no equivalent regulations for new railways'; BR at first `decided that policies equivalent to those adopted for the construction of new roads should be adopted for the construction of the new railway line through Kent.'[92] Residents who lived very close to the line would qualify for compensation under statutory rules if they could prove that the noise levels were unacceptable;[93] which is to say that `they must live with the noise of the trains for a year and a day while the noise levels are measured'.[94] The actual compensation payments would therefore not be made until construction of the link had been completed and services were running. The complexity of the legislation made disputes more likely and more protracted.

Following the choice of the Ove Arup route, eleven houses, all in East Kent, would have to be demolished and a number of houses close to the North London line could be expected to be affected by noise and pollution. Valuation of the affected properties would be carried out by a local estate valuer, and in case of disagreement the owners could appeal to a Lands Tribunal. The terms of compensation depended on guidelines from DoT, in particular regarding the size of the compensation belt, which BR were awaiting after the final route announcement in March 1993. This time, it was `clear that BR wants to avoid a repetition of what happened last time around'.[95] Eventually, the compensation terms in connection with the easterly route were worse than those offered by BR for its earlier, south London route: the compensation belt was going to be narrower and restricted to a `blight zone', in which claims could be made by affected residents and compulsory purchases might take place. But the wider, `voluntary purchase zone' that BR had created around the southerly route was not to be repeated; residents who lived within a 240-metre belt would no longer be able to invite BR to buy their properties. By January 1994, Union Railways estimated that `only around 30 properties will be judged "seriously affected"' that is rendered uninhabitable.[96] Owners of such properties could apply to Union Railways lawyers to be considered under BR's voluntary purchase scheme.

The compensation arrangements were widely perceived as unfair by the local population and criticised by a number of public bodies: the Royal Institution of Chartered Surveyors for instance called for `the blight provisions to be extended to properties adjacent or very near to the

[91] Newman (1975), p. 332.

[92] BRB (Dec. 1988), p. 1.

[93] In order to qualify, the noise level must exceed 68 decibels for an 18-hour daytime period (or 63 decibels for an 18-hour nighttime period) in sound sensitive rooms.

[94] *The Guardian* (29/01/1993): p. 31.

[95] Comment in *The Guardian* (27/03/1993): p. 33.

[96] *The Guardian* (29/01/1994): p. 31.

land being acquired.'[97] The Parliamentary Ombudsman found that DoT had `failed to consider the need for special compensation for householders suffering extreme or exceptional hardship from the prolongation of blight to their property.'[98]

(4) Building and operating the link

In May 1992, Ministers stated that an independent operator would own CTRL and the Transport Secretary formally announced the government's commitment to privatising Union Railways. On 11 November 1993 the Transport Secretary announced that a competition would be launched early in 1995 in order to select a private sector partner to design, construct and operate the link. This would entail a delay of two more years. The fate of the project now rested entirely on the willingness of the private sector to take responsibility for its development and completion.

Conclusion

At the end of the lengthy and tortuous process presented above, which had lasted seven years, both BR's original route and its original choice of main terminal had been rejected. Following delays in decision-making, completion of the link could not be expected to take place before 2002 at the earliest. Even by January 1994 the link had only been *planned*, with no guarantee that it would actually be *built*, as the financing of it had yet to be worked out and the parliamentary bill had to be approved.

The second CTRL scheme encountered difficulties of the same nature as the first: financial (funding) and political (siting). Politico/financial imperatives dictated the alignment of the route, the type of works to be carried out (e.g. tunnelling), and the services that would eventually run (commuter, international and freight). The operator's (technical) preferences were overriden most of the time even when they produced less costly options. BR neither had the resources nor the opportunity to put forward a single route so as to minimise public controversy, for open competition between various options was seen as the way forward by central government. Whilst decisions were being taken, provisions had to be made nonetheless for Channel Tunnel traffic that would flow whilst the line was still in the planning and building stages.[99]

[97] As reported in *The Guardian* (29/01/1994): p. 31.

[98] `DoT censured on Channel link blight', *The Guardian* (9/02/1995): p. 6. Interestingly, the article points out that the Ombudsman special report was only the second one published since the office was set up in 1967 and the first such report `was also about complaints against the DoT, again relating to property compensation.'

[99] BR was allowed to carry out `a £227 million upgrading programme ... to accommodate the Eurostar trains on British track, involving new track between Ashford and Cheriton, - along with major improvements to 94 bridges between London and the tunnel entrance' (`Route and branch resistance', *Libération*, special issue in English, 6/05/1994: p. 12).

Following the detailed presentation of CTRL1 and 2, let us now turn to the core of the policy-making machinery and examine the assumptions and practices that gave the two schemes their particular colours.

C. Looking at the Whitehall-Westminster politico/financial horizon

Having run through the various controversies that dogged both Channel Tunnel Rail Link schemes from their inceptions, we must bear in mind that according to one senior practitioner, `The Channel Tunnel offers British Rail the biggest opportunity for expansion in many years.'[100] It might have been expected that such prospects for growth would have been seized, in true commercial spirit, and that both BR and government would have cooperated to make a success of a venture with a high international profile. But this was clearly not the case (much to the puzzlement of French observers). Some of the reasons for this are well beyond the scope of this work. In any case, we are focusing on conceptions and practices of public policy, not on policy outcomes, and several features of the British referential framework are thrown into relief by the CTRL case study: the Treasury ethos clearly impacted on both CTRL projects; Parliamentary procedures unequivocally slowed down the policy process both times; the terms of the debate around both schemes were such that controversy was inevitable; and lack of policy direction was apparent in both instances.

(1) The Treasury ethos

It has been argued that `The Treasury has never been convinced of the need for a high speed line in the first place'.[101] It was its refusal to provide any public funding at all that caused the collapse of BR's original plan to build the line with Eurorail in the summer of 1990. Eurotunnel's chief executive, Sir Alastair Morton, described the delay between the opening of the tunnel and the inauguration of the new line as a `disaster' and put the responsibility for it squarely on the Treasury: `The decision has been made under orders from the Treasury to avoid spending money.'[102]

Further Treasury influence could be detected in February 1993, when leaks suggested that the Treasury was in favour of the `cheap' option through the capital (using part of the existing North London line and terminating at St Pancras), then under discussion. This modified plan - which would save £1bn - had been requested at the eleventh hour from Union Railways and industry sources claimed that the Treasury would only come up with some funds if BR dropped its plans for a Kings Cross terminal and backed the St Pancras option.[103] A Treasury meeting was held

[100] Henes, Co-Chairman of Channel Tunnel Intergovernmental Commission (1989): p. 303.

[101] *FT* (10/10/1991): p. 11. One BR Chairman recalled with characteristic understatement that the Tunnel was `never a favourite item with the Treasury' (Parker, 1989, p. 242).

[102] *The Guardian* (10/10/1991): p. 24.

[103] *The Guardian* (2/03/1993): p. 4.

on 15 March 1993 `to decide the final strategy' for unveiling a number of transport projects including the Chunnel link.[104] It was the following day that the Chancellor announced that St Pancras had been chosen, a choice which `was understood to have been prompted by the Treasury, which is pressing for the cheaper option'.[105] But this preference had not been agreed by other Ministers, chief amongst them the Transport Secretary and it was not until January 1994 that the Chancellor's choice was confirmed.

Treasury cuts also had a detrimental effect on the scheme. On 1st November 1993, the news that deep spending cuts were to be imposed by the Treasury on DoT's baseline budget were made public; the cuts of up to ten per cent meant that the project would have to be delayed further. This was officially confirmed a few days later, when the government announced that the project was being postponed possibly until 2002.[106] The Hybrid Bill for the intended railway had been expected to be lodged in the House of Commons in March 1994 but because of the impending cut could now only be ready for the autumn of that year. Repeated delays and uncertainties over the Channel link led to criticism by Tory backbenchers of that latest postponement. The Treasury was clearly pinpointed as the main culprit by the leading Conservative `rail' MP, Sir Keith Speed, who described MacGregor as `the latest in a line of transport ministers who have been pushed into a corner by the Treasury. This is simply a delaying tactic.'[107]

A further development originating in the Treasury took place only days before the final `safeguarded' route was announced, when it emerged that the Treasury wanted `to allow private sector investors to make further changes to the route.'[108] This added flexibility was meant to make the project more attractive to the private sector but would increase blight and was politically insensitive.

There has also been criticism of the Treasury's rigid attitude to compensation of residents along the route: one former official depicted it as `breathing down necks of course all the time to say "You pay exactly what the [statutory book] says and nothing more". No favours, no bribes, no inducements'.[109]

Lastly the Treasury also held sway when it came to the institutional dimension of the project. At first it indicated that if the link was to be built, then operators other than BR should be

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[104] As reported in *The Guardian* (16/03/1993): p. 1.

[105] *FT* (17/03/1993): p. 12.

[106] *The Guardian* (12/11/1993): p. 26.

[107] Quoted in *The Guardian* (12/11/1993): p. 26.

[108] *The Guardian* (15/01/1994): p. 8.

[109] Interview with former Principal Private Secretary to Minister of Transport. The same respondent wondered whether there was a `much more enlightened and sophisticated compensation regime' in France which made things easier for SNCF.

able to use it in order to maximise revenue. Later, in May 1992, ministers stated that an independent operator would own the line. Finally the Chancellor announced that `Full responsibility for the project, its management and completion will be transferred to the private sector.'[110] A week later the Transport Secretary formally announced that the government was committed to privatising Union Railways.

As regards the possibility of European Union funding, the Treasury's `additionality rules' stipulated that any grants from EU sources would be deducted from government grants which had been agreed, rather than provide assistance over and above what the British government was prepared to commit. This was but one instance of what commentators have often described as the rigidity of Treasury rules.

The weight of Treasury opinion could not be countered in most instances. The Chancellor enjoyed a remarkably high profile in a decision that was after all the province of the Transport Secretary. The tight financial controls traditionally imposed on the nationalised railway were much in evidence throughout the funding controversy. Proposals involving expenditure (that is nearly all) were all scrutinised by Treasury officials and the pace of decision-making was greatly dependent on Treasury action. But it was also greatly affected by parliamentary developments, which are the object of the next section.

(2) Parliamentary procedures

Parliament was involved in CTRL planning in several ways: legislation could be amended, and had to be passed by both Houses, hearings were carried out by committees of MPs and the BRB had to give a number of parliamentary undertakings, for instance `that Kent commuter services will not be curtailed to provide capacity for Channel Tunnel services.'[111]

CTRL had to pass the test of parliamentary procedure, which was `essentially the same as has been used since the first, Victorian, railway building era.'[112] In the days of private railway companies, a company would sponsor a railway Bill whenever it wished to build a new line. This could be a fairly lengthy process: the London & North Western Railway Company was promoting a railway Bill in 1880 but only obtained their Act in 1883. BR fared even worse: in early 1989, they hoped to present their Bill in November 1989,[113] yet it was not until five years later (November 1994) that the Channel Tunnel Rail Link (CTRL) Bill was actually deposited. The organisation promoting the scheme, that is the Railways Board, had to obtain specific powers from Parliament in order to purchase land and construct new track (in fact, BR had to seek parliamentary

[110] Budget Speech of 16 March 1993.

[111] URL (March 1993), p. 14.

[112] Collis and Hill (1993): p. 66.

[113] Henes (1989): p. 311.

approval even for minor changes to existing routes, which happened on a regular basis).[114] This also applied to new stations: in November 1989, BR deposited a Private Bill for a new international station at Ashford in Kent. BR also wished to develop the King's Cross area in London through a joint-venture company, the London Regeneration Consortium, in connection with the international CTRL terminal that was planned there, and deposited a King's Cross Development Bill.

Originally BR had considered sponsoring CTRL through a Private Bill, which would have to be examined by a group of MPs and by a group of Lords, taking evidence from any affected people who had decided to petition. Under the Private Bill procedure, objectors - such as local authorities or residents - could lodge petitions against the BR Bill, which would be heard by a Select Committee. Hearings would be of a semi-judicial nature: petitioners could be represented by counsel and witnesses could be called. But by April 1991, BR was considering the feasability of a Hybrid Bill, less likely to get bogged down in the parliamentary process for years.[115] DoT's International Railways Division also envisaged this possibility during 1992,[116] but it was not until 22 March 1993 that the Transport Secretary announced that the project would indeed proceed as a Hybrid Bill; in effect the government itself would be the sponsor, since public money was to be used, and so that it could pass more speedily through Parliament. A Select Committee would be established to take evidence. Because it was `one of the biggest and most complex in parliamentary history' however,[117] it was expected by the end of 1993 that it could still take as much as two years to complete its passage through Parliament. The Bill was introduced to Parliament in November 1994 and January 1995 saw its Second Reading, unopposed. Piloting the Bill through Parliament was an uneasy task not simply because a parliamentary majority had to be secured at each Reading, but also because `the process may provide opportunities for interested parties to convince MPs of the need for fresh changes to the government's proposed route', which would lead inevitably to further delays.[118] The committee of MPs did not have to accept proposed changes to the route but with 993 petitions being considered, hearings were bound to be lengthy.[119]

Transport practitioners disliked the parliamentary process: whenever the need for parliamentary approval was mentioned, either in the transport literature or during interviews, it was stressed that `the passage of a Bill through Parliament was a large undertaking'[120] or that it had a

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[114] Palmer (1985): pp. 22-23.

[115] `Public funding ploy for Channel link', *The Guardian* (6/04/1991): p. 2.

[116] See DoT, `Paper for the Channel Tunnel Rail Link High Level Forum; Developing the Route' (20/10/1992), p. 3.

[117] In the words of the Transport Secretary, as reported in *The Guardian* (12/11/1993): p. 26.

[118] `A faster track to the Continent', *FT* (2/06/1995): p. 17.

[119] Figure quoted in *FT* (2/06/1995): p. 17.

[120] Simmons (1986), p. 13 (referring to railway development in the 1830s).

dissuasive effect on rail policy. The CTRL Bill was no exception and securing its passage through Parliament was not perceived as an easy task. When considering this possibility in 1988, Conservative M.P. Robert Adley saw three obstacles: `environmental factors'; the fact that `the Kent Members of Parliament through whose seats the line would pass would need to be persuaded of its acceptability'; and `Additionally Parliament would have to be persuaded that a *modus vivendi* had been agreed with BR, and this may not be as easy a task as the promoters might believe.'[121] This last hurdle became very prominent in the years following Adley's remark, not least because the terms of the policy debate were contested by the interested parties.

(3) The terms of the debate

Differences of opinion amongst pro-link supporters and between the authorities involved gave the appraisal process a heightened relevance. From the very beginning of CTRL1 the need for a new link was disputed; *The Times* stated that `Links from London to Foulness and the Channel Tunnel apart ... Britain is unlikely to need much in the way of new railways',[122] and the Railways Board had always envisaged the need for a new line if the Channel Tunnel were built, but were faced with politicians who did not even want the Tunnel.[123] Those who did had no conception that a new rail link should be considered concurrently.

DoT's position was not necessarily supportive of the industry it sponsored and BR's case for the high speed link was all the more difficult to make. There was disagreement between DoT and BR over the issue of capacity on existing lines, with BR insisting that they could only manage until 1998, whilst Transport officials and the Transport Secretary Malcolm Rifkind foresaw no problems until 2005.[124] The Prime Minister later declared that `The present rail lines through Kent have been improved to take tunnel traffic and will provide sufficient capacity until some time after the turn of the century.'[125] BR's view was supported in a report by the House of Commons Transport Select Committee, which concluded that `With the exception of the department, our witnesses believed that the link will be needed before the turn of the century.'[126] Conservative M.P. Robert Adley had gone even further and stated that `It is an open secret ... that BR do have a line

[121] Adley (1988), p. 45. Adley was a specialist of transport policy and campaigner for the railways, vice-chairman of the Conservative Party's Transport Committee and joint chairman of the All Party Railways Group.

[122] *The Times* (17/03/1972): III.

[123] Interview with former Chief Secretary of BRB.

[124] `On present forecasts, existing capacity is not expected to be exhausted until around 2005.' Letter from Malcolm Rifkind to Sir Bob Reid (9/10/1991) in URL (March 1993), Annex A, p. 88.

[125] John Major, in `The Downing Street version: Balladur and Major', *Libération*, special issue in English (6/05/1994): p. 7.

[126] *The Times* (6/02/1988).

capacity problem in Kent. Parts of the route proposed for the International trains are, frankly, already saturated.'[127]

This disagreement was due to disputed estimates for Channel Tunnel traffic; some interested parties saw very promising prospects whilst others predicted slow growth: e.g. BR's forecasts were more cautious than those of the other two main companies involved in the project; SNCF, drawing on its extensive experience of traffic generated by TGV services, was the most optimistic.[128] But scepticism as regards traffic levels was strongest within the Treasury, and the postponement of the rail link announced in October 1991 marked `a triumph for the Treasury, which does not believe that BR's traffic forecasts will justify the opening of a new line until at least 2005.'[129] The time frame being used was crucial; in the mind of a transport professional from Transmark (BR's international consultancy), `One key element of any launch of high speed services [was that] demand elasticities have to be considered over the long term rather than the short term'[130] and the Treasury was insensitive to long term arguments.

Furthermore, the argument that higher speeds generate new passenger transport demand was not universally agreed. On the one hand, the importance of journey times was emphasised by the engineering consultancy Ove Arup, who argued that `the south-east has amongst the worst journey times to Central London for equivalent distances. Even without the Channel Tunnel, a case could perhaps be made for a new high speed route ... to cut journey times by more than 40 minutes.'[131] And the studies commissioned by Eurotunnel from independent consultants were based on the assumption that journey times were one of the main factors influencing demand and that `the introduction of more attractive services (in terms of time and cost savings)' would lead to `the creation of additional trips'.[132] URL argued that using CTRL for domestic passenger trains would present `an opportunity to generate additional passenger revenues'.[133] And some, particularly on the Labour side, were in favour of deliberately influencing demand, arguing that the damages caused

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[127] Adley (1988), p. 41. A Rühl (Dutch Transport official) made the same point: `the existing Southern electric system ... is already overloaded at the moment, in particular at peak periods' (`Rail capacity on the British side of the Tunnel', *PTRC 17th European Transport Forum*, London: PTRC, 1989: p. 1).

[128] BR expected 13.4, Eurotunnel 15.4, and SNCF 16.5 million journeys in the year of the Tunnel opening, the figures rising respectively to 21.2, 22.4 and 26.2 by 2013 (Henes, 1989: p. 304).

[129] *FT* (10/10/1991): p. 1.

[130] Metcalf, `Règles empiriques en vue de la planification de services ferroviaires rapides', in CESTA and Ministère de l'Urbanisme (1985): p. 212. Although this paper dealt with BR's `sizeable research work on "demand elasticities"', the author chose to stress the `empirical' nature of the approach, where SNCF sought to demonstrate that it made use of the latest, most sophisticated mathematical models.

[131] Collis and Hill (1993): p. 66.

[132] Dick, Blanquier and Danforth, `Expected traffic demands', in ICE (1989): p. 63.

[133] URL (March 1993), p. 45.

by road transport `can only be mitigated by stimulating a greater demand for public transport, particularly the railways'.[134] On the other hand, such arguments had traditionally not been validated by DoT. For instance, one Transport official stated that as regards the question: `Have increased rail speeds affected demand and market share? ... one could only answer, if that were possible at all, by means of an in-depth study ... the data we have at our disposal until now have been limited ... it is extremely difficult to isolate the effects produced by improvement in railway services from more general economic changes.'[135]

From around 1992, there was a series of marked shifts from such professed scepticism to an acceptance of transport-centred arguments, e.g. time savings: the modelling techniques eventually used to assess the benefits of CTRL in 1992-1993 did take them into account, using the DoT-defined `assumed values of time, which are also used in the evaluation of highway schemes.'[136] One major principle of road schemes evaluation was transferred to the evaluation of a railway trunk line, albeit belatedly.

Similarly between 1987 and 1994, appraisal criteria evolved quite considerably. At first investment could not be justified by including non-financial factors: `the unwillingness of HMG to allow BR to enlist social and environmental factors to support claims for rail infrastructure investment decisions ... [has] to date precluded any serious consideration of following the French example by building a brand new railway for Channel Tunnel trains on this side.'[137] By the time URL produced its report however, economic factors had been legitimised.[138] The report identified two main investment cases: firstly, the `Board Reference Case' was designed to `maximise the financial performance of the route'; secondly, `The Government [had] asked Union Railways to identify any further options beyond the Board Reference Case which would be justified on a cost/benefit analysis of the total economic benefits of domestic services',[139] including `benefits to those using the new line, reductions in overcrowding on existing lines, and reduction in road congestion'; the analysis carried out by URL corresponded `broadly to a cost/benefit analysis of the project.'[140]

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[134] Lord Clinton-Davis, `A committed European's evaluation', in John McKenzie (ed.), *European Infrastructure Development* (London: Sterling Publications International Ltd, 1991): p. 13.

[135] Palmer (1985): p. 24. This is highly reminiscent of the call for further studies made in 1970 by the working party examining the APT project.

[136] URL (March 1993), p. 108.

[137] Adley (1988), p. 14.

[138] See URL (March 1993), which includes an assessment `of the consumer surplus applicable to all Union Railways international passengers' in order to give an indication of `benefit to the UK economy over and above the revenues received by the railways' (Annex F, p. 107).

[139] Ibid., p. 49. See p. 76 for further details.

[140] Ibid., pp. 5, 10, 11. Time savings were one of the factors estimated in the Board Policy Case (ibid. p. 16).

How do we account for this sudden change of heart as regards the appraisal methodology? The possibility of a EU financial contribution carried with it a number of conditions: applications for EU funding had to show that a project was consistent with regional planning, had to include an environmental impact assessment, but above all had to include a cost-benefit assessment as well as financial analysis. Also recent macroeconomic research had produced new evidence in favour of CBA which had elicited a `renewed commitment, increasingly evident on both sides of the Atlantic, actually to proceed with CBA-passed projects and realise thereby the full range of their transport benefits.'[141] The departmental change of attitude towards the application of CBA to rail projects, which it had resisted for so long, needs analysing but taking place as it did at the very end of our case studies cannot be fully explored in this work. It points, at any rate, to the dynamic nature of policy-making.

BR was looking for evidence of transport integration: members of the Board stated in 1985 that `The evaluation of a fast services project must take place within the context of the railway network as a whole in which it is going to fit in.'[142] Some parliamentarians were also keen to promote a more integrated approach to transport: in November 1989, the House of Lords Select Committee on the European Community `expressed alarm at the evidence which showed the inadequacy of ground level transport infrastructure in the EC and particularly in the United Kingdom ... The select committee concluded ... that there was a need for integrated policies within the individual member states which have been particularly lacking in the United Kingdom'.[143] Transport integration had been a main plank of Labour policy since at least 1945 and the then party leader Neil Kinnock re-asserted this belief: `amongst the most vital components in the modern, integrated transport system that Britain needs to succeed, there must be modern high-speed rail links running from Scotland and Wales through England to the Channel Tunnel and the European mainland.'[144] The Government itself adopted a relatively integrative approach in the remit they gave URL in 1991: the financial evaluation was to be carried out both on an incremental basis - that is looking solely at CTRL services - and on a whole business basis - that is including both new CTRL services and existing EPS services; the rates of returns obtained were a great deal more attractive in the whole business evaluation (at 10% for the IRR against 4%, and 13-15% for the economic return against 10-11%).[145] However the evaluation remained integrated at a purely regional level and did

[141] Roy (Nov. 1994), p. 37.

[142] Prideaux, Hiatt, Lee (BRB), `Elaboration de modèles de la demande de services ferroviaires rapides au Royaume-Uni', in CESTA /Ministère de l'Urbanisme (1985): p. 163.

[143] Quoted by Lord Clinton-Davis (1991): pp. 12-13.

[144] `Speech by the Rt Hon Neil Kinnock MP, Leader of the Labour Party to the Annual Conference, Blackpool, Tuesday 2nd October 1990', *Conference News* (London: Labour Party Campaigns and Communications Directorate, 1990), p. 7.

[145] URL (March 1993), pp. 76-77.

not take into account benefits to the railway network as a whole, which was hardly surprising since the Government was by then seriously considering railway privatisation and splitting the railway into separate businesses.

The argument that the competitiveness of the Channel Tunnel against air travel could only be assured if good, integrated rail links served it on either side does not seem to have carried a lot of weight, to judge by the leisurely speed with which decisions were made. The day after BR's preferred route had been rejected, the Chairman of the Railway's Board declared that `It's a shame we can't get an integrated transport solution in place that makes sense for the 21st century.'[146] He also believed that the decision had been taken on political rather than transport grounds.[147] The Transport Secretary on the other hand claimed that the easterly route had significant environmental advantages, as well as economic ones such as commercial development and employment opportunities along the east Thames corridor[148] and denied that the rejection of the southerly route (October 1991) implied criticism of British Rail, stating that: `They [BR] were quite properly looking at it from a transport point of view ... We have had to look at the wider implications.'[149] The subtext of this statement was that (technical) transport considerations were inherently narrow and must be superseded by ministerial considerations.

The prominence of economic factors on the central government side increased between 1974-1991. With CTRL1, the perception had been that Britain had very little to gain; during the January 1975 Cabinet meeting that decided to abandon the project, Crosland (who had been a keen supporter of the Channel Tunnel project) was reported to have said `that the French had far more to gain from the project than we had: they did not face the need for a highly expensive rail link.'[150] Wider economic gains do not appear to have been considered by the Labour Government then. With CTRL2 however, Adley conceded that `Undoubtedly the Government ... made much of the regional benefit to be derived from the project' but, the M.P. continued, `the Government has not yet taken the essential steps fully to exploit the regional advantages.'[151] At that stage BR confined itself to stressing benefits to transport users which ministers could not dispute: BR's CTRL proposal in its final form (May 1991) did its utmost to provide `wider' user benefits, improving travel not only to the Channel but also for 50,000 Kent commuters. The new infrastructure was to

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[146] Sir Bob Reid, quoted in *FT* (10/10/1991): p. 11.

[147] As reported in *The Guardian* (10/10/1991): p. 24.

[148] John Mac Gregor said that `the project would make a "huge contribution to the regeneration of the east Thames corridor".' (*The Guardian*, 23/03/1993: p. 3.)

[149] *FT* (10/10/1994): p. 22.

[150] Castle (1980), 16/01/1975 entry, p. 281.

[151] Adley (1988), p. 20.

be used both by high speed trains for international passengers and by high speed suburban trains.[152] Once Heseltine had publicly stated his wish to see the link used as an instrument of urban planning in East London, stressing wider economic benefits such as urban regeneration, and the Government had taken this argument into account when selecting the easterly route (October 1991), with the Secretary of State stressing that `the easterly route offers substantial new development opportunities',[153] BR also began to put forward economic arguments.

The economic benefits of Tunnel services were taken into account as regards the South-East but planning designed to foster regional benefits for the North and Scotland was conspicuous by its absence; as a result there was widespread concern that the Channel Tunnel would exacerbate the North-South divide. Section 40 of the Channel Tunnel Act required BR to make proposals to serve the regions but those that were published in 1989 were criticised for their minimalism. BR did not wish to get involved in issues of regional planning, viewed as overtly `political'. Later URL did briefly point out that Kings Cross, with its InterCity connections to the North and the Midlands, would make a good CTRL terminal: `the project to add the international connections represents an outstanding opportunity for London and for the North.'[154] St Pancras on the other hand offered no such connections. This point had previously been acknowledged by the Secretary of State, who argued that the eastern route he had selected `should give a major economic boost, not just to the South East, but to other regions as well, particularly the North of England and Scotland, where passengers need a rail link terminating at King's Cross.'[155] But the Treasury overrode regional development imperatives and St Pancras was chosen.

On the whole, the debate was fragmented and conducted on different terms by different parties: BR tended to confine its case to technical arguments whilst ministers expressed party political views, sometimes resorting to economic arguments, and the Treasury exercised strong control in the name of financial orthodoxy. The diverse views seemed unlikely to be reconcilable as they belonged to different planes of analysis. At the same time, no one view was so dominant that it could prevail throughout the policy formulation phase.

(4) The twists and turns of decision-making

The decision to build new rail infrastructure between London and the Channel Tunnel was fraught with difficulties: twenty-four years elapsed between the launch of the original concept in 1970 and official approval in March 1994, though in fairness the scheme was (officially) shelved

[152] This strategy, killing two birds with one stone as it were, was already evident in 1988, when a BR information leaflet stated that `There will also be direct benefit to the people of Kent if, as expected, fast domestic trains also run on the new line between the south-east of the county and London' (BRB, Dec. 1988).

[153] Letter from Malcolm Rifkind to Sir Bob Reid (9/10/1991), in URL (March 1993), Annex A, p. 87.

[154] URL (March 1993), p. 84.

[155] Letter from Malcolm Rifkind to Sir Bob Reid (9/10/1991), in URL (March 1993), Annex A, p. 87.

for half of that period. The lack of initial government support for CTRL2 was only overturned in the spring of 1993, when both political support (in the shape of a Hybrid Bill) and financial support (public funds) were indicated by government.

In the meantime, numerous delays occurred, creating a great deal of uncertainty, in connection with the parliamentary process, funding and siting. As mentioned above, the original hope was for a Private Bill to be presented in November 1989. Then when the possibility of a speedier Hybrid Bill was first mentioned, it was hoped that it could be introduced in spring 1991 and obtain Royal Assent by the end of 1993. Even once political support had been secured, the timetable continued to be altered: URL's report in March 1993 made the following assumption on timing, namely that `the deposit of a Hybrid Bill in the Winter of 1993/94 will lead to Royal Assent in 1995'[156] but in November 1993 Transport Secretary John MacGregor postponed the introduction of the Parliamentary Bill to autumn 1994.

The government's position as regards funding of the project was dramatically altered, evolving from a stern refusal to even consider a public contribution to acceptance that the project should go forward as a jointly-financed private/public partnership. Paradoxically the original position was taken whilst Britain was running a budget surplus of about £10bn a year, and the offer of public money took place whilst there was a budget deficit of £50bn. It follows that this decision was not purely based on a public finance rationale but was dictated by political necessity once it had become abundantly clear that the private sector would simply not come forward with the totality of the funds required. The delays in the funding decision also played havoc with BR's timetable, which initially assumed that `construction will commence during 1995 and conclude in 1999.'[157]

As regards the alignment, the government was very sensitive to political pressure, both from parliamentary constituencies and from local authorities. The route initially expected to be chosen by government gave rise to such loud protest from some Conservative MPs that it had to be dropped. In his capacity as Conservative Party chairman, Chris Patten had been `concerned about losing six Tory-held marginal seats in south-east London and Kent through which BR's route ran' and had been a `prominent player in the rail link decision'.[158] Local government, businesses and residents were actively involved from the earliest days, setting up organisations which supported different options and were involved in lobbying.

Besides financing and siting the link, there was another matter to be decided which fuelled controversy. BR's original proposal had been for a passenger-only high speed link, which meant that goods traffic would have to run on Kent commuter lines, a prospect which aroused fierce local opposition. BR began accordingly to plan for freight services between the Tunnel and London. In

[156] URL (March 1993), p. 26.

[157] Ibid., p. 27.

[158] `Rail link threatens £1bn Whitehall-backed plan', *The Guardian* (12/10/1991): p. 3.

April 1991 however, `Plans for a four-track route with a freight line alongside a passenger line [were] ditched on grounds of cost'[159] (£8bn minimum). And when in May 1992 the government told URL to design the new link as a two- rather than four-track rail line, it must still be able to accommodate freight services in future, in addition to passenger trains; URL `were therefore asked to consider the possibility of providing passing loops' to allow passenger trains to overtake the slower freight trains; the line would also require upgraded track in order to bear freight loads.[160]

One striking feature of the decision-making was the absence of firm central guidance as regards timing: on 9 October 1991 for instance, it was announced at the annual Conservative Party Conference that the construction of the link was to be postponed until the next century. Even when the Chancellor announced that `the government [had] decided to make a firm commitment to the project' in his Budget Speech of 16 March 1993, no timetable was put forward; instead he stated: `We will discuss timing with the private sector' and expressed the hope that the link would be `fully completed around the end of the decade', a hope reiterated by the Transport Secretary a week later, on 22 March 1993, when he underlined the government's commitment to building the line *before* the end of the century, although in the intervening one and a half-years, the scheme had come no nearer implementation. There was clearly no sense that central government should devise the optimal schedule and demand compliance with it from all those involved; a spokesman for Eurotunnel said that the company was `gravely disappointed at the lack of any urgency in moving this project forward'.[161] It was not until January 1994 that `the Secretary of State ... emphasised that the project was to go ahead on the fastest possible timetable'.[162] Following this statement, and in connection with the competition for tenders that began in the spring of 1994, DoT stressed that it was `keen to proceed with the competition as quickly as possible ... with the firm objective of reaching a definitive conclusion before the end of 1995.'[163]

The lack of central government guidance was directly related to the lack of commitment to a project which one of its sponsored industries was pushing forward; in the words of Tory MP Sir Keith Speed, this was a `most incredible story of bungling and incompetence' and he added that he would be `highly surprised if the link gets built at all - there just isn't the will there'.[164] Both CTRL

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[159] `Public funding ploy for Channel link', *The Guardian* (06/04/1991): p. 2.

[160] URL (March 1993), p. 68. But the report pointed out that `In the longer term, the expected growth in the number of international passenger trains on the Union Railway could gradually preclude the passage of freight trains during an increasing proportion of the day, even with passing loops' (ibid., p. 72); the additional investment and constraints connected to the track's freight capability were perhaps not justified in the long term.

[161] Quoted in *The Guardian* (12/11/1993): p. 26.

[162] DoT (10/05/1995): p. 8.

[163] Ibid.: p. 9.

[164] *The Guardian* (12/11/1993): p. 26

schemes were subjected to attacks from members of the governing party and even ministers. CTRL2 was not at any stage clearly established as a priority by successive ministers; there was no apparent solidarity between the BR Board and DoT but at best veiled disagreement and at worst open conflict. BR's proposed alignments and London terminal were rejected. Furthermore BR and DoT found it impossible to keep route negotiation at the level of officials and outside the political arena. This was already true during the early 1970s scheme, when the Minister himself `went to endless meetings' in order to assuage fears; communication between the Board, officials and the Minister was not well established: as the Minister recalls, `I think it was unfortunate, to put it mildly, when the railway said ... "We're gonna have four different options through Kent." It'd be much better to have decided at the beginning *what they wanted*',[165] for if you listed four options, then you would have four groups of people to contend with. But the idea of having several alternatives was actually DoE's.

The result - with both projects - was lack of certainty and consistency, and the fact that the projects were bestowed a high political profile. To a large extent, decision-making took place in the public arena and a number of participants felt free to make comments very critical of the government's handling of the matter; the Chairman of BR, when asked whether he would resign after the government had rejected BR's route in October 1991, replied: `Oh no. For heaven's sake. If you are in the middle of a pantomime, you want to stay with it.'[166] Eurotunnel, the company responsible for developing and operating the Channel Tunnel, was self-evidently amongst the most active supporters of a new high speed link, for which they had lobbied prior to 1988, and its co-chairman Sir Alastair Morton voiced forceful criticism of government action on several occasions. The level of public recrimination by various participants was remarkably high. Even Cabinet was publicly divided over CTRL2 at times. Perhaps most telling of all, the decision concerning the route was announced at a *party political* gathering, the Conservative Party Conference, an unequivocal confirmation of the highly politicised nature of the decision-making process.

Another similarity between the two CTRL schemes is the inability to see through a comprehensive, medium to long-term project: the need for a dedicated high speed link was not acknowledged publicly, either by BR or DoT, until plans for the Tunnel were well-advanced. On the departmental side, this was because medium to long term planning was not institutionalised, either in the 1970s or the 1980s; on the railway side, the perceived uncertainties of government policy discouraged forward planning and the experience of CTRL1 illustrated the fact that an ambitious, integrated railway project was unlikely to succeed - even under a Labour government - if it required investment on a large scale and was predicated on future traffic growth.

Conclusion

[165] Interview with former Conservative Minister.

[166] Reported in *The Guardian* (10/10/1991): p. 24 and *FT* (10/10/1991): p. 1.

With both CTRL schemes, the opportunity to stimulate railway traffic (on a route with proven high demand for transport) failed to be seized. Whether this was through sheer lack of political will or the inability of central government to process innovative, complex, long-term projects involving sizeable public expenditure is difficult to ascertain. But some strong points do emerge from the case study, which moreover confirm the findings of the APT case study.

As with APT, BR was generally in a poor bargaining position. The experience of CTRL1 however was not lost on the railway. BR's deliberately incremental approach in the mid-1980s (namely not raising the issue of new infrastructure until the Channel Treaty had been ratified) paid dividends: the Channel Tunnel project has now been completed, and planning for the new rail link is at an advanced stage. The railway had to conform to central government conceptions and practices in order to move its project forward. Even so, progress was slow and uncertain.

As regards evaluation, one can only concur with Conservative M.P. Robert Adley's view that `The harsh reality is that cost not customer convenience; Treasury not transport; bone-paring not best; are the prevailing criteria on which decisions to date have been made.'[167] Financial and electoral considerations were allowed to determine the route at first, rather than economic or technical criteria, until the intervention of Heseltine resulted in the inclusion of economic criteria (regeneration of East Thames corridor). It was not until 1992 that the use of CBA in connection with a rail project was legitimated, by which time a great deal of credibility had already been lost.

With the CTRL schemes even more than with APT, central government's position was quite untenable because financial concerns did not necessarily coincide with partisan or ideological considerations and it was found impossible to reconcile forces pulling in opposite directions: financial imperatives (keeping the costs down) against political ones (such as appeasing local protest by adding costly extra tunnelling). Financial and political rationales played havoc with policy-making because they were not mitigated by technical considerations or by taking into account wider economic benefits encompassing the whole South-East region, or other regions which might benefit more indirectly (the North and Scotland). In the APT case study, I argued the prevalence of a politico/financial rationality in Britain. It is even more imperative, in the light of this case study, to define the prevailing rationality as `politico/financial' (with a slash) in order to stress that the two elements did not necessarily coalesce. In the final analysis, the policy process was slow and tortuous because no single objective overrode all others.

[167] Adley (1988), p. 37.

3. COMPARATIVE ANALYSIS AND CONCLUSIONS

Both LGV and CTRL were the first high speed rail infrastructures ever to be planned respectively in France and Britain. Therefore neither railway undertaking or government had experience to draw on, but in one case the whole process of formulating, legislating and building the link was completed relatively quickly and painlessly, whilst in the other it gave rise to a very great deal of controversy, not to say public acrimony. But it is not my purpose to define an explanatory framework for these divergent outcomes, as some of the difficulties on the British side stemmed from factors wholly extraneous to the political process: e.g. Kent countryside is both far more attractive and valuable in property terms than most of the land between Paris and Lyon; as a result the former is fairly heavily populated whilst the latter is not; the expected financial returns varied considerably: 12% for LGV, 4% for CTRL (10% for a whole-business evaluation); wider returns were equally dissimilar: 30% against 11%. A straightforward comparison in terms of policy outcomes would be inherently biased and therefore unhelpful. However the ways the new links were conceived and developed in the case studies bring out several salient features of the two referential frameworks.

A. The place of the railway in the power configuration

The total cost of LGV was approximately equivalent to SNCF's investment budget for one year (about three years' total investment for BR')[1]; `spread over a period of 7 years, this endeavour has not impeded the modernisation programme of the French network';[2] in other words, SNCF did not feel that heavy sacrifices were needed in order to see LGV through. Similarly in the late 1980s, in the region of £1,200m was budgeted for the LGV between Paris and the Tunnel, not including the cost of the TGV trains themselves, as against around £500m proposed for services on upgraded existing track between London and the Tunnel, a figure including new rolling-stock and the new terminal at Waterloo.[3] There was a definite pattern of reluctant and piecemeal investment in the British railway network, contrasting with more forthcoming and long range investment in the French railway network.

This pattern needs to be put side by side with characteristics of transport infrastructure projects: e.g. the construction period is significantly longer than for traditional industrial projects; returns only begin to be sizeable beyond the pay-back period generally considered by financiers; `transport infrastructure financing therefore requires a long-term view often exceeding a generation ... Immediate profits must not be expected from investment in such projects'; indeed the main difficulty stems from the discrepancy between the duration of loans generally proposed by financial

[1] Parker (August-September 1981): p. 66.

[2] Pélissier (1984), p. 11.

[3] Adley (1988), p. 15.

institutions and the long, even very long useful lives of projects (from 20 years to over a century).[4] Generally speaking, the French referential framework having a longer time horizon, such projects have been viewed as legitimate and worthwhile,[5] whilst the British referential framework, with its shorter temporal span focused on immediate financial and electoral returns, proved inherently unsuited to the consideration of projects spanning several decades. This was the case no matter which party was in government: CTRL1 was scrapped by a Labour government in spite of traditional Labour support of public sector activity and public transport.

Remarkably enough, some in France considered the P-S-E scheme to be somewhat short-sighted. DATAR went as far as criticising appraisal based on *calcul économique* on the grounds that it only dealt with a narrow time-span, i.e. 15-20 years, where heavy infrastructure such as a TGV line would `have a useful lifespan far longer than 20 years, more probably in the region of 80 to 100 years.'[6] One P&C engineer at MdT pondered whether the new line was the right solution as regards saturation, since it was expected that the existing Paris-Lyon line would be saturated once more 25 to 30 years after the opening of the new link: `The saturation of the new line has not been broached. It would be interesting to know the date of it and to see whether ... it would not be desirable to provide for profiles ... and curve radii of the new track allowing for speeds higher than 300km/h on part of the distance.'[7]

The chronic lack of resources at BR made it all the more difficult for management to put forward a thoroughly-researched scheme that would have been discussed in all interested railway divisions, and meant that there was very little room for manoeuvre in which the railway could take initiatives. SNCF for its part launched all studies that were felt necessary and nowhere in the literature have I found references to a lack of resources. SNCF tended to carry out most of the detailed work itself or in partnership with public agencies, as with the layout studies for the new Paris-Lyon link, whilst BR had recourse to private consultants for CTRL layout studies both in the 1970s and 1980s. Both organisations were, however, very cost-conscious; in SNCF's case, this was not at the expense of quality, and its cost estimates did not give rise to open conflict; with BR, cost-consciousness was even more in evidence, yet cost estimates fluctuated widely both for CTRL1/2.

One BR senior manager became convinced through his work on Channel Tunnel planning that `the French attached more weight to the views of the SNCF than the British Government did to

[4] Gérardin (1990): p. 9.

[5] For instance Jean Chamant, the Minister of Transport, supported the TGV `great programme' on three grounds, one of which was that `the high speed Paris - South-East link gives concrete expression to SNCF's long-term vocation in terms of fast passenger transport in the most striking possible way.' (FAM, Letter to the Prime Minister, 8/03/1971, pp. 1-2.)

[6] FAM, DATAR, `Note à l'attention du Ministre' (05/04/1974), p. 5.

[7] FAM, J P Weiss (DTT), `Note' for Dobias on BCEOM Report (02/05/1974), p. 2.

the position of BR."[8] And Conservative M.P. Robert Adley also highlighted `the difference in strategy, finance and national *esprit* that separates the relationship between HMG and BR *here*, and that between the French Government and SNCF *there*.'[9] There was a two-fold process going on: BR was provided with barely enough resources to keep the network going[10] and maintain acceptable safety standards, but not enough to implement long-term strategies; this resulted in the organisation having little leverage on the whole, and consequently it could not improve its situation. One official thought that there was `a kind of negativism about it, that says "Well [they] at the railways will have to struggle on as best they can ... well they can just slow down can't they ... they can fight their way somehow" ... So I think it was sort of faced with the experience of governments would never support the legislation or the necessary expenditure really to straighten things out or put in new lines'.[11] The railway's situation of near-total financial dependence on state funding in Britain contributed to maintaining the railway establishment in a subservient position in relation to central government.

Another factor ensuring that railway views were given more weight in France was the fact that a large amount of personnel at SNCF and within the politico-administrative elite had shared the same educational training. During interviews, respondents displayed an unfailing sensitivity to the educational background of their colleagues, always refering to `Mr X, who is a so and so engineer': one senior figure, speaking about engineers at MdT's Railway Division, exclaimed that `Most of them besides were *Ponts et chaussées* engineers, as were many of us at SNCF!'[12] This did not mean that all P&C engineers thought alike but that the two sides understood each other and that whatever trust existed was based on solid common intellectual ground. In the British case study, a gulf of incomprehension was all too evident, which allowed Adley to argue that the case for the Paris-Lyon line `was so strong that it *might* have met HMG's criteria; but only, as an anonymous BR informant said to [him], "if anyone would have believed the figures!"'[13]

To sum up, SNCF was in a position where it had the necessary resources in terms of funds, engineers and accumulated knowledge to take initiatives, and carried sufficient weight for its initiatives to be listened to in State circles. BR for its part was having to manage a chronic situation of under-investment which left little room for ambitious projects. Not having all the resources necessary to modernise the whole network and develop innovative projects in the first place, it is

[8] Bonavia (1987), p. 137.

[9] Adley (1988), p. 22.

[10] Although the present condition of WCML leaves even that open to question.

[11] Interview with former Principal Private Secretary to Labour Minister of Transport.

[12] Interview with former Director of the New Line (SNCF).

[13] Adley (1988), p. 16.

small wonder that the railway showed little enthusiasm for building new infrastructure in the 1970s. From the mid-1980s on, the will was there in the railway establishment but the place of BR within the power configuration, especially in the run-up to privatisation, minimised its influence on decision-making. The place of the two railways in their respective national power configurations was further differentiated by the nature of central government / State control, which compounded BR's difficulties and increased SNCF's influence on decision-making, and is discussed in the next section.

B. Strong central control v. diffuse technostructure

The case studies in this chapter lead us to encounter what some have called the Thatcherite paradox: namely if the functions, or the priorities, of the state are reduced to a small number of policy sectors, it can actually be stronger because more focused; it is therefore more impervious to pressures from, for instance, the nationalised industries. Whereas if it is over-extended, it loses a sizeable amount of control, is inclined to want what public enterprises want. Hence the (not necessarily Thatcherite) emphasis on strong government and effectiveness in the UK, whilst the (historical) illusion of absolute State control in France made it possible for technical elites to drive their priorities through the politico-administrative maze. This disparity was connected to the greater degree of ministerial autonomy in France, which the following anecdote encapsulates: in 1966, the British Transport Minister, Barbara Castle, held discussions with her French counterpart, Edgard Pisani, about the possibility of a tunnel under the Channel. One particular ministerial meeting involved visiting a tunnel in the French Alps near Chamonix; following some discussion of the issues, Pisani said that since they were both strongly in favour of the development, he would like to make an official pronouncement but `Mrs Castle said "Oh we don't do things like that, I can't possibly make any public pronouncement" ... She had to bring it back at least to an economic committee and possibly to Cabinet before anything could be said. ... all press releases have to be sent across to No 10 ... The power at the centre is huge ... the Prime Minister is the First Lord of the Treasury' which meant that anything involving public expenditure had to be seen by the PM's Office; the French Minister on the other hand `appeared quite free to say that ... it was quite striking at the time that little exchange'.[14] It would follow that policy was made in a far more centralised fashion in Britain, whereas the French system allowed for greater flexibility.

One of the points about this anecdote is that the Treasury commanded a towering position. Perhaps it was buttressed by the bilateral nature of relationships between Treasury, DoT and BR. Generally, the fewer the links in the chain, the easier and more effective the passage of information: thus the two sets of relationships between the three actors (BR/DoT, DoT/Treasury, and vice-versa) meant that messages between them were not always transmitted satisfactorily. But it also meant that the Treasury could manipulate Transport officials and that it never had to commit

[14] Interview with former Principal Private Secretary to Minister of Transport.

itself directly to a project. The triangular relationship between SNCF / MdT / Finance, on the other hand, resulted in direct, closer ties between all three. Furthermore, the place of the French Ministry of Finance as a component of the technostructure was quite unlike the aloof position of the British Treasury within central government. Because the French Finance Ministry actually took part in studies and had a direct input into transport policy, it was bound to support their conclusions and to commit itself to agreed objectives; after all, it was a FDES sub-committee which reviewed the claims of Project C03. The Treasury, in contrast, could always distance itself from the recommendations of study groups in which it was generally not involved; it could be consulted over various policy options but would not be drawn into being associated with choices.[15] This dislike for involvement was reminiscent of the arm's length relationship between BR and DoT.

In France, the most striking feature of the technostructure was its cohesiveness, which in this particular case stemmed from a common definition of transport economics. In Britain, there was disagreement at the level of policy-makers as to which evaluation criteria should be considered. In the 1960s, French railway managers were able to appropriate appraisal techniques used for road programmes but their British counterparts only began to be allowed to do so in the early 1990s. This constituted an additional divisive factor in the British transport sector. The transfer of methodological tools between sectors took place rapidly in France because there were various fora where issues were continuously researched and discussed: although neither the *Conseil national des transports* nor the Planning Commission were the locus of decision-making, they provided a constructive environment in which a learning process could take place; and CGPC was both a forum and a policy actor. Also within the French public sector broadly-defined, there were striking occurrences of cooperation, e.g. between railways and the Roads Directorate. There were no similar institutions on the British side, e.g. `there existed few opportunities for railwaypeople and men from the City [...] to meet' to coordinate the Tunnel project and the rail link in the early 1970s,[16] and inter-agency cooperation was mostly notable by its absence.

There was a constant effort of French officials and public sector managers to `keep up' with each other and to conduct the policy debate in the same, evolving language. The economists' input into SNCF policy was part of a movement across the whole public sector and the Administration to make use of, and improve, forecasting, planning and economic analysis. The application of CE to various sectors was not contested, least of all by the Finance Ministry, who used it in profitability studies of *grands projets*.[17] The CE tradition was widely shared and went beyond a rationale of expenditure control towards a rationale of economic development, in this case of rail transport. In Britain on the other hand,

[15] Interview with former Head of Finance, DoT.

[16] Ibid., p. 200.

[17] Huet and Bravo (1973), p. 172.

> Rail investment is evaluated on a narrowly defined project basis. SNCF's argument that the new TGV Paris-SouthEast and TGV-A lines, although more expensive than other options, would prove more cost-effective because of their effect on traffic generated by the railway network as a whole would not be accepted as a case for investment by the government for British Rail. Projects have to be justified in terms of their own costs and revenue.[18]

Indeed there was a marked preference for non-normative approaches, such as cost-efficiency analysis and MCA, in Britain.[19] Even in road appraisal, CBA was not fully developed until the late 1960s and its application to rail investment appraisal was resisted by DoT until 1992 (CTRL was the first mainline scheme for which it was used). Appraisal methods were a bone of contention in central government / railway relations.

The diversity of approaches within the British policy-making core made it possible, even likely, that policy reversals should occur when the balance of political power altered. No such policy reversals occurred in the French case study, where the more homogeneous policy-making core ensured continuity; although it was extremely arduous for SNCF to get its innovative project approved, once a step in the technico-administrative `obstacle race' had been secured, it was highly unlikely to be revoked. One former Finance official believed that by 1976 `the TGV was not very popular in political terms. This continued to be true up to the day it was inaugurated.'[20] In other words, Project C03 succeeded in spite of politicians. In Britain CTRL1 and 2 were undermined by politicians.

In summary, the dominant features of policy-making practices in Britain were the centralisation of decisional power in the hands of ministers, and within Whitehall the centralisation of power at the Treasury. The policy process in France was remarkable for the high number of policy actors involved and the high degree of technicity of the debate around the proposed Paris-Lyon infrastructure, which did not involve ministers until formal approval was required. A paradox was that strong central control was not used to initiate projects in Britain; rather it was exercised mostly to minimise public sector commitments, particularly in the shape of public funds, both under Labour and Conservative governments. Diffuse control in France was part of an environment in which public projects were afforded full legitimacy and were promoted by right-wing governments.

C. Public and private spheres

From 1987 to 1992, the UK government's approach to funding was quite inflexible and the debate hinged on one crucial point: the use of public versus private money to finance the link. This

[18] Potter (1987), p. 92.

[19] For a discussion by French practitioners of the main evaluation techniques at the time, both normative and non-normative, see Huet and Bravo (1973), pp. 157-172.

[20] Interview with former Head of Transport Unit, Budget, Finance.

issue did not appear at all as regards P-S-E, since SNCF was expected from an early stage to take out loans; in fact the possibility of a private consortium financing and building the link was only raised by SNCF as a means to get a speedier decision and was strongly resisted by Finance officials on the grounds that such an arrangement could only be more costly. Was the British insistence on private funding purely a reflection of Thatcherite values? The Labour Party supported `the prohibition on public investment in the tunnel project itself' and would retain it but considered that `it is wrong to prevent public investment in the rail link as it is an essential part of Britain's transport infrastructure';[21] the Labour Party leader declared: `We will build those rail links. And we will do it through a financial partnership between public and private sectors ... [we] will use the combination of public and private funding to the benefit of the public and the private interest'[22] and the then Shadow Transport Secretary (John Prescott) stated that a Labour government `would lift the restraints against BR going to the private sector to raise money to build the link.'[23] But these statements constituted a departure from Labour government policy from 1974 to 1979: CTRL1 had not been granted public funds then, and the Labour governments had retained the rules restraining BR from borrowing on private markets, in spite of BRB requests that they be lifted.

Conservative ministers for their part made it a condition that only private sector money should be used to build CTRL; administrators thought that bringing in the private sector would be more `cost-effective';[24] but both potential developers and independent transport consultants, as well as BR, were convinced that the project could not go ahead without a substantial injection of public cash and favoured public/private partnerships, which only began to be encouraged by the government in 1992 (Private Finance Initiative). The government's eventual pledge to make a contribution had the appearance of a concession rather than of a political commitment.

In France `A national company is considered to be a company like any other. It is encouraged to behave like any other.'[25] Therefore it could borrow on private capital markets; none of the interviewees could see any reason why this should not be allowed.[26] The fact that it benefited from State backing was not considered to be unfair since it was asked to perform un-commercial tasks from which a private company would have shirked. SNCF was an arm of the entrepreneurial State: there was no perceived contradiction between the commercial role of the railway and its

[21] Prescott (undated), p. 22.

[22] Neil Kinnock (1990), p. 7.

[23] *The Guardian* (10/10/1991), p. 24.

[24] Interview with former Head of Finance, DoT.

[25] Written answers from former Deputy Director, DTT.

[26] The question whether it was right for a *public* company to borrow on *private* markets met with total puzzlement, both on the part of railway officers and civil servants. They all thought that what mattered was the minimisation of financial costs.

remit as a public service. Although the balance between the two was not always felt to have been struck right, it was generally considered that both were equally legitimate concerns. When SNCF began to envisage high speed links, managers thought that `SNCF could get something out of it, and public service generally could get something out of it too.'[27] Here was a *public* enterprise using *market* instruments; the mixture of public and private was unproblematic.

In Britain, there was a perception that public undertakings were inherently a different breed; this state of affairs was deplored by Conservative M.P. Robert Adley, who reviled `advocates of the purity of "private enterprise" and the curse of "state funding"'.[28] Successive governments' refusal to grant commercial freedoms enjoyed by private firms shows that the railway was not definitely not treated as a company like any other; it had a distinct identity as a *public* undertaking, not because it was meant to provide a public service but because public funds were involved. Partially as a result of this financial straitjacket, it was arduous for BR management to behave in an entrepreneurial manner. Yet there was no remnant of the public service ethos in a statement made by the Chairman of BR in 1990, when defending BR's limited plans for services from the Tunnel to the regions: `BR's job is to provide a service that is profitable, not what is desirable.'[29]

The rationale for allowing the French railway enterprise to borrow on the private market was simply one of meeting its business needs in the context of agreed objectives (the `object'), usually over the medium term. The rationale for *not* allowing the British undertaking to do the same was to do with the issue of financial accountability; strict control over funds earmarked for public purposes (the `means') was a condition of their use.[30] Treasury practice was to control very closely the expenditure of nationalised industries hence *all* railway expenditure had to be included in the PSBR whether the funds be obtained from public or private sources. This in practice ruled out the use of private funds, until PFI.

The sharp delineation between public and private spheres was not as pertinent in France as it was in Britain, where state and market were viewed as mutually exclusive: `Traditionally, the role of the state in British politics has been defined as part of a zero-sum game between politics and

[27] Interview with former Director of the New Line (SNCF).

[28] Adley (1988), p. 6.

[29] Sir Bob Reid in 1989, quoted in Prescott (undated).

[30] In the words of a Conservative minister who cannot by any means be described as a free-marketeer, privatisation of the main utilities - including the railways - is beneficial since it means that `the finance of their investment places no pressures either on taxation or public borrowing. [...] Britain can invest whatever market forces call for in these vital industries without a word or an official minute from those whose duty it is *to protect the public purse*.' (Michael Heseltine, edited extract from a speech made on 3/03/1994, in *The Guardian*, 5/03/1994, p. 24.) The italics are mine.

markets; more of one meant less of the other.'[31] In France, `mixed' State / private ventures were common (SNCF was such a mixed economy company between 1937-1983) and the State unhesitatingly set about creating markets where it was felt they were needed. In Britain it was deemed absolutely necessary to keep public and private spheres well apart: the professional ethic dating from the administrative reforms of the nineteenth century `drew a clear line between the public domain and the domain of the market-place'[32] and as a result `The British way of classifying institutions [suffered] from too sharp a distinction between *public* bodies - accountable, and *private* ones - not accountable.'[33] The Treasury disliked public / private partnerships because it felt that private firms' decisions were completely beyond its control and that their financial liabilities should not befall the state in case of default.

Moreover partisan differences were a great deal less salient in France. When a Prime Minister, George Pompidou declared: `There is no longer a purely capitalist economy, nor a purely socialist one ... In France we have a mixed system'.[34] The blurring of private and public boundaries was not viewed as a harmful development but as a natural consequence of using all available instruments to achieve State-defined objectives: `Indicative planning was seen as the means of marrying the private with the public'.[35] The lack of salience in the French referential framework of the opposition between public and private economic intervention, was a long-standing feature: `the French politico-administrative tradition is such that between jungle liberalism and fanatical statism, it was the path of the mixed economy, with its multiple configurations, concessionary arrangements, profit-sharing government corporations, *sociétés d'économie mixte*, which crystallised the forms of an acceptable compromise between the role of public authorities as guardians, and the injection of the spirit of enterprise by private partners.'[36]

In Britain there was a close identification of the Conservative Party with private enterprise - here the road industries - and of the Labour Party with public industries - here the railways - which meant that the boundary between public and private spheres was in the main an ideological one, and all the more difficult to cross. On the whole, private values infused central government

[31] T Blackstone, J Cornford, P Hewitt, D Miliband, `The economics of harmony', *The Guardian* (18/02/1992). A statement by William Waldegrave illustrates this point: he declared in an interview that the remaining nationalised industries (this would include the railways) ought to return to their proper place, `which is the market place.' (In `Prescott attacks "sleazy sell-offs"', *The Guardian*, 12/05/1992, p. 6.)

[32] `For whig-liberals and social democrats ... Britain was the pioneer ... of the quintessentially modern separation of state from civil society' (Marquand, Jan. 1995, pp. 20, 6); perhaps this separation was adhered to somewhat over-zealously.

[33] Shonfield (1982), p. 110.

[34] Quoted by Esambert, adviser to Pompidou (1994), p. 103.

[35] Shonfield (1982), xvi.

[36] Ribeill (1986): p. 84.

policy-making. Thus the particular preference for private funding echoed a more general preference for the private realm. In the British referential framework the private sphere was more highly valued than the public sphere, which involved notions of collective interests and public expenditure.[37] The public right to good railway infrastructure clashed with the individual right to pay as little tax as possible to the Exchequer and the latter was seen as more legitimate than the former. The French preference schedule was the reverse: public rights were more prominent than private rights, which must always bow before the general interest, and public service was associated with the search for quality and the best solution. In Britain, references to market values were a constant feature, including under Labour (e.g. market pricing). Under the Treasury's influence, state action was associated with cost containment. But how do we account for this dominant preference for the private sphere in Britain, and the relative indifference towards questions of ownership in France?

In Britain, for historical reasons there existed a deep-seated fear of impingement of the public into the private; civil society had been endowed with many virtues and public power vilified, or at the very least regarded with suspicion. Naturally this did not prevent a tremendous growth in state activity in Britain throughout the twentieth century, in the railway sector as elsewhere, but it appears to have been a pragmatic response to demand (by 1947, the private railway companies were bankrupt) rather than a deliberate increase in supply, as was the case in France. There, the public sphere represented unity and stability in a country perceived as perenially divided. It was assumed that State action was inherently superior because unlike private firms, it would not seek to `cut corners' in order to maximise profits. Private sector vitality should however be exploited for progress was more effectively achieved through `the mobilization of all available sources of influence and power, in the public and private sectors, in pursuit of rationally planned objectives.'[38] It does not follow that the picture that I have painted is one of a simple dichotomy, with on one side, a public sector-obsessed French State, and on the other side, a market-obsessed British state. But there was a considerable difference in emphasis, with French railway policy favouring public or mixed instruments and valuing the railway as a public service, and British railway policy hostile to `messy' public / private overlaps and generally well-disposed towards the private sector and market values.[39]

The questions of expertise and local opposition illustrate this point well. Whereas SNCF resorted to the services of public sector experts (GEFAU, road specialists at MdT), URL made use

[37] The hierarchical superiority of private rights over public rights was succintly asserted by Dicey: `Interference with public rights is at bottom a less striking exhibition of absolute power than is the interference with the far more important rights of individuals' (A V Dicey, *Law of the Constitution*, 8th ed., 1924, p. 46).

[38] Shonfield (1982), xvi.

[39] Bonavia had this to say of DoT: `Curiously, however, it does appear from its actions that the Department (quite independently from the political allegiance of its Minister) is usually more receptive to the side that is predominantly private sector than to the side that the Department has fathered and ... really owns' (1985, p. 119).

of private sector engineering and environmental consultants who had `extensive knowledge of the standards applied to highway and other schemes, and have used this experience in the development of the railway.'[40] Resorting to private consultancies was common practice in Britain, especially in transport matters: DoT routinely used Samuel Montagu as its merchant bank adviser and W S Atkins as its engineering consultant;[41] URL used S G Warburg as its financial advisor and the URL Report listed over 30 engineering, environmental, business planning, planning, property and communications consultants.[42] But for P-S-E the nearest to using private expertise was the study requested by DATAR from BCEOM, a parastatal organisation managed by P&C engineers. There was sufficient technical expertise within the State apparatus to meet most needs. Similarly scrutiny of the railway undertaking's work was carried out by State agencies in France, but with the help of private organisations in Britain.[43] Finally, valuation of properties to be purchased was carried out wholly in the public sphere in France, through State agencies, local representatives and a tribunal if necessary. In the UK, private bodies also took part, e.g. local estate valuers.

The French referential framework demanded that decisions be made and assessed by national, State experts; the British allowed DoT not to give URL `any specific instructions on station and junction strategy' since the aim was `as far as possible to preserve a choice for the private sector on the provision of stations and connections along the route'.[44] In France, business interests could not be asked to make decisions of public significance, and individual, private interests could not legitimately be invoked to delay or modify the project in depth; but individual `sacrifices' (loss of property) for the common good had to be properly compensated. Thus the compensation regime strove to be as universal and unchallengeable as possible. In the British framework, individual or private sector interests had a legitimate claim to be heard and even to have an input into policy, and the elaborate system of hearings meant that opponents could voice their grievances, but compensation arrangements were less than generous. In this context, differences were of a legal nature: British Common Law stressed the (procedural) `right to a hearing', whereas French Law emphasised the rights of property-owners and the right therefore to fair compensation (substantive rights). This last contrast leads us directly to our next section on the underlying philosophies of public action.

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[40] URL (March 1993), p. 26.

[41] See DoT paper, in URL (March 1993), Annex C, p. 93.

[42] URL (March 1993), p. 77 and Annex B, pp. 89-90. See also Annex F for further details.

[43] For instance Samuel Montagu and W S Atkins were to carry out `an independent scrutiny of UR's work as it progresses, and ... report to the Department both during the work and after it is completed on UR's methodology for establishing estimates of costs, revenues, demand forecasting and modelling techniques and environmental impacts.' (DoT paper, in URL, March 1993, Annex C. p. 93.)

[44] DoT, `Paper for the Channel Tunnel Rail Link Forum: Developing the Route' (20/10/1992), in URL (March 1993), Annex C, p. 91.

D. Proceduralism v substantivism

(1) Relative weights of internal / public consultation

In Britain, it was felt important to `have one's say', hence the importance of hearings, but this did not preclude the possibility for the person being heard of losing their case; due process was paramount, whatever the result might be; the approach was procedural.[45] In France, the perception was that the State had a right to claim private property for public purposes, subject to compensation; the Administration was prepared to pay more sizeable sums to reach a given, agreed objective; the approach was substantive.

Hence the place of parliamentary institutions and public consultation in the exercise of public authority is one area where British and French practices diverged considerably. Parliament in general has had a relatively significant role to play in the British transport policy process, especially as regards new infrastructure; in France, its role has been limited to approving the overall budget for annual public spending which also includes, among a myriad other items, railway expenditure.[46] Indeed, two parallel public procedures dealt - or will have dealt - with CTRL1/2 (public inquiry proper and Parliamentary Bill, itself involving hearings) whereas LGV only had to contend with an internal inter-departmental procedure (*instruction mixte*), a one-month public inquiry of a fairly perfunctory nature and a belated debate at the *Assemblée nationale* after the DUP Decree (a procedure that does not involve Parliament), had been signed. The parliamentary process in the UK was slow, and allowed relatively wide public access, whilst *instruction mixte* was swift and centralised, involved a small number of people and took place away from Parliament and the public eye.

The nature of the British and French public inquiries totally differed: in Britain, modest changes to the alignment were a legitimate object of discussion, whereas in France they definitely were not; it was the very principle of the project's public utility which was to be endorsed or rejected. Details were negotiated during the land acquisition phase, undertaken after the DUP had been issued. Not surprisingly, a comparative study carried out by Ove Arup found that `An important difference from British public inquiries is the limited scale of the evidence and submissions' put forward in France.[47] To sum up, internal consultation was preferred in France, public consultation was perceived as essential in Britain.

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[45] The importance of giving individuals a fair hearing was highlighted by a Transport Minister: in order to allay people's fears `First of all, you could *listen* to them' (interview).

[46] Transport Minister Marcel Cavaillé, responding to the criticism that the Paris-Lyon decision had been taken in secret, stated that he had had `to make pronouncements regarding this project during the budgetary debates of the past three years' and that he had had to reply to an oral question from Senator Pouille (Sénat, *Séance du 17 décembre 1976* (Paris), p. 4604).

[47] Collis and Hill (1993): p. 73. Even for the controversial extension of the Paris-Lyon line, the public inquiry lasted less than two months; the chairman of the inquiry panel marvelled at the vast amount of documentation he had accumulated (over 30 kgs), which the authors argue was tiny by British standards.

Remarks made by the Budget representative on the Coquand committee pointed to a related feature of decision-making: `What you must understand is that in France we are a lot less formalist ... written procedures are ultimately a lot less important than oral procedures'; for instance, concerning the discussions chaired by P&C engineer Coquand and the subsequent report, `Mr Coquand knew very well that all of this only made sense if he himself, personally, behind it all, made up his own mind and had the ear of the Transport Minister, of Matignon, of Elysée.'[48] The Chairman's role was not to listen to opinions of all interested parties and work out an acceptable compromise, but rather to weigh the pros and cons of the matter and put forward the solution he considered to be the optimal one.

(2) Primacy of means or objectives?

The object-driven approach to policy-making was not congenial to Britain: there was no sense of urgency in getting CTRL2 completed at the same time as the Tunnel. In contrast, the Paris-North scheme linking the Tunnel to Paris was viewed as an element in a transport project spanning Southern Britain and Northern France: the Transport Minister Jacques Douffiagues (Chirac government) `maintained that the profitability of TGV-North depends on the link with London via the tunnel.'[49] It should come as no surprise therefore that the emphasis being on the end product, the (right-wing) Chirac Government announced on 9 October 1987 its decision to build 322kms of new infrastructure for 300km/h TGV trains, to be completed in time for the opening of the Channel Tunnel, a project launched by a previous, Socialist government (the cost was estimated at FF12bn - at 1985 prices).[50]

In the same way, traffic estimates for the Channel Tunnel were on the French side predicated upon optimal use of new infrastructure, itself purpose-built to enhance Channel Tunnel traffic and railway revenue. On the British side, rail traffic between the tunnel and the capital could only be as high as existing lines would allow. Thus Channel Tunnel traffic volumes could not be maximised from the date of the opening and were constrained by the condition of existing links to London. In short the British government rejected the idea of integrating planning for the Tunnel *and* CTRL, whilst both the French socialist government and the Chirac government went ahead with an integrated project for both the tunnel *and* LGV Paris-North.[51]

There was considerable confusion about the objectives of the British government, which changed over time: at first the new link was deemed necessary to accommodate international

[48] Interview with former Budget representative, Finance.

[49] See Bonnaud (1994), p. 310.

[50] Frybourg (1989): p. 323.

[51] *The Times* reported that by the time the Channel Tunnel Treaty was ratified, HMG planned to upgrade and straighten out existing track at a cost of £400m, whilst the French government had already committed £2bn to the new Paris-Nord line (30/07/1987: p. 1).

traffic, then it was also required to bring benefits to domestic passengers, to carry freight and finally to support regeneration of the East Thames corridor. A commentator observed that the main difference between the two countries was not solely the amount of money to be spent: `a more important contrast is between a clear French strategy for the development of transport infrastructure and the apparent lack of any strategy in Britain.'[52]

These governmental characteristics were replicated at the level of the railway undertakings themselves. One of the initial aims of SNCF Research economists in the late 1960s had been to define the optimal pattern of TGV operations, using econometric models; but as regards the URL scheme presented in 1993, `The service pattern presented ... has not been optimised. Rather, it is a pattern that has been chosen as a reasonable basis for evaluation purposes.'[53] SNCF's approach was based on `reason' (as the universal tool allowing to attain substantive objectives) whilst BR's was predicated on `reasonableness' (something on which everyone can agree), which is a procedural concern.

(3) Politico/financial imperatives v. technico-economic rationale

With CTRL1 public preferences were very prominent and were allowed by DoE to play a quasi-policy-making role; public and political opinion had to be accommodated for party political and/or electoral reasons. This is in sharp contrast with LGV: in the `battle of Dijon', a regional capital had to accommodate SNCF's technical preference; consultation on the route took place after the LGV scheme had already been defined down to great detail and alterations only took place at the margins. The consultation process in France was very compartmentalised and hierarchical: SNCF dealt directly with local authorities, and *instruction mixte* involved neither local government nor the railway, taking place solely within the central State apparatus. In Britain, consultation was both more wide-ranging and interactive and began at an earlier stage in the policy process: both DoT and URL were involved in discussions with local authorities, and URL consulted directly a number of statutory agencies. The CTRL scheme around which consultation took place was only defined in the broadest sense and non-BR bodies had a significant input into the precise alignment.

In the case of Paris-Lyon, the technico-economic rationale meant that appraisal was both financial and socio-economic. The economic rate of return was not a substitute for the financial rate but a complementary tool: `The external rate enabled one to compare [TGV] in an efficient manner to a project like Rhin-Rhône which by construction had no internal returns'; in fact the concept of external returns `was also used by administrators to show that the Rhin-Rhône canal had a negative return for the community.'[54] Various transport schemes could be ranked on the basis of their costs and benefits to the community; this type of ranking was not conceivable within British

[52] Prof. Tony Ridley, `The influence of the Channel Tunnel: both sides contrasted' (1991): p. 111.

[53] URL (March 1993), p. 49.

[54] Interview with former Head of Transport Unit, Budget, Finance.

central government where it was generally considered that the railway market was distinct from the road market in terms of their economics, since road users do not pay fares, unlike rail travellers. There was no vision of a single, albeit diverse, `transport market' with a socio-economic component.

It was not until 1992 that non-financial factors began to make a timid appearance; DoT stated that when URL's forthcoming report was examined by the government, `Costs, revenues, transport benefits, environmental impact and development benefits [would] be the principal factors to be considered',[55] therefore URL eventually conducted its investment evaluation on principles similar to those which had been used for the evaluation of Paris-Lyon, listing both financial and economic returns.[56] However the dominant criteria remained, in France economic, in Britain financial: the nature of services to be offered on the new infrastructures was defined for LGV by economic imperatives (e.g. dedicated passenger link) but for CTRL by financial imperatives (e.g. commuter, international and freight traffic).

Financing the infrastructure did not take centre stage in the French policy debate: `The definition of a high speed link implies a preliminary choice regarding its functions and the conditions of its integration within the existing network, technical specifications and resulting costs being very largely dependent upon the decisions which will have been taken in that regard.'[57] Clearly, issues of `substance' (function of the new infrastructure and its relationship with the old) took precedence over issues of `procedure' (both the technological means and funding arrangements). In Britain the question of resources (or available means) was prominent with both CTRL schemes and appeared prominently in URL's report of March 1993; one critic argued that discussions relating to the location of the London terminal were `based on available - or unavailable - resources, rather than on an operational or customer ideal, in contradistinction to the way the French are going about things.'[58]

Not only was the mix of appraisal criteria different in the two countries, but the whole appraisal process was conducted in a different fashion. In France, figures were checked and counter-checked, not because there was no element of trust between the different players, but because of the belief that it was essential to base decisions on the soundest possible knowledge base and that such knowledge was accessible through systematic research. In Britain there was a definite distrust for second opinions, which were viewed as a breach of trust. The corollary of this was that one interested party could claim that another party's figures were misguided and ask for further study, without getting involved in the study itself. There was a deeply-ingrained procedural

[55] DoT, `Paper for the Channel Tunnel Rail Link Forum' (20/10/92), URL (March 1993), Annex C, p. 93.

[56] URL (March 1993), pp. 75-78.

[57] SNCF, *Un train pour demain* (1976), p. 7.

[58] Adley (1988), p. 21.

habit of keeping to one's `turf'. More generally, relations with Treasury / Finance officials followed different paths: the overall pattern in Britain was of a Treasury putting pressure on MoT/DoT, not to choose particular policy options, but simply to keep spending down; in France, both SNCF and MdT saw it as their task to find weighty arguments to convince Finance that a particular policy option was worth funding.

One former BR Chief Engineer was struck by the impression that when the French government decided to do something, it would get done even if there was a change of government (as there was in 1974, with the Gaullist government of Pompidou giving way to the more neo-liberal government presided over by Giscard d'Estaing and in 1986 when Chirac replaced Socialist Fabius, then was himself replaced by Socialist Rocard in 1988) whereas British policies semed to change with every new Parliament.[59] This again was due to prevailing rationales: in France, once the technico-economic credentials of a project had been established, it was almost inconceivable that it should be reneged upon. But in Britain, short-term financial constraints might well force a reappraisal, or political considerations lead to a U-turn, as was the case - to different extents - with both CTRL schemes.

[59] Interview with former CM&EE (2).

CHAPTER V: CONCLUSIONS. THE BRITISH AND FRENCH REFERENTIAL FRAMEWORKS IN PERSPECTIVE

The two preceding chapters dealt with the empirical intricacies of high speed rail policy-making in Britain and France between 1965 and 1993. By the end of the case studies, two very different policies were being implemented in the two countries. In Britain, the railway establishment was working on IC250 (250km/h services), but the only official policy to which government was fully committed was that of railway privatisation, which it was argued would improve efficiency; increased speeds were not mentioned in the privatisation debate. In France, the government had requested from SNCF a national masterplan for high speed rail links in January 1989, reviewing possibilities within a 10-20 year timescale; SNCF produced a plan for 16 projects (involving both track upgrading and new track), in which `reserved speed' capability of new LGVs was between 350 and 400km/h; the plan was adopted by CIAT of 14 May 1991. And by the early 1990s, substantial investment in new high speed railways was taking place or was planned throughout much of Western Europe: over the period 1982-2005 the French had programmed 4700km of new lines, the Germans 2400km and the Italians and Spanish over 1100km each.[1] In Britain, CTRL's 100km or so was slowly making progress through the policy process: planning new rail infrastructure proved as difficult in the 1987-1993 period as in the early 1970s, particularly in the context of the stricter public expenditure controls introduced in 1976.

The purpose of this work is not however to analyse the reasons for such divergent policy *outcomes*. It is above all *not* intended to explain outcomes on the basis of the referential frameworks which dominated railway policy-making in the two countries. Clearly the frameworks do account for some of the differences in outcome but they are only one of several important variables. The case studies do no more than provide a deductive path into the two referential frameworks and to draw out lessons of a general nature. In this concluding chapter, I relate the findings to some of the issues in the political science debate about British and French public policy-making. The chapter will discuss both the French `State' and British `central government' (and very occasionally `state'), and also `the state' as a political science concept.

Why did the British and French referential frameworks develop along such divergent paths? In order to sketch out some possible answers to this point, I will eventually place the case studies within a wider canvas although this will of necessity raise more questions than it will provide answers, and can only suggest avenues for future research.

[1] URL (March 1993), p. 13.

1. STATES AND RAILWAYS

Throughout the case studies I made some general points concerning state - railway relations. In this section, I draw together the main sectoral findings.

The case studies illustrate two widely different power configurations: in the British configuration, it was possible for central government both to push BR into a high speed policy based on new train design and to thwart (1970s) or at least delay (1987-1994) the beginnings of a high speed railway policy based on new infrastructure. The first LGV for its part was unquestionably initiated and developed by SNCF before the concept of new infrastructure for high speed trains was taken up by ministers after 1983.

A. Frontiers of the state

One central question for the political scientist is that of the place of the national railway in relation to State / central government, and more specifically of the boundaries of the state and state activity. Retaining the definition of the state as a system, that is as a set of bodies and power relationships (rather than a single entity) we must ask whether in the framework of our case studies, the national railways behaved as quasi-statal organisations or whether, as organisations, they stood apart from the state system. I will argue that there was a broad interface between SNCF and the State, both in terms of conceptions and practices, whilst BR and central government were decidedly remote from each other.

Within SNCF a full-time State official ensured that funds were spent according to approved programmes (the financial controller), but those programmes were decided by SNCF's Research Committee out of the overall research budget approved by the Ministry. British authorities had to exercise this control, together with the allocation of funds within the research budget, in the course of meetings (Joint Steering Group) which also dealt with other matters. As a result, relations on the British side were dominated by *financial* issues and no economic reviews of APT were carried out (the 1970 inter-city study was purely financial). On the French side, financial matters appear to have been in the background, whilst *technico-economic* matters were the object of much debate, checking and counter-checking. When French officials or ministers wished to have independent expert opinions on the technical / economic validity of the TGV project, they had a reserve pool of State engineers to draw from (either at CGPC or at IRT) and of public finance specialists (Finance Inspectorate). On the British side, expert opinions mainly had to be sought in private consultancies.

Suleiman has pointed out that state and interest groups were often undistinguishable in France, although official rhetoric upheld the `general interest' against particular ones. To what extent was this true of the Transport Ministry and SNCF? Although it is true to say that SCF (Railways Division) was close to the railway undertaking, at more senior levels of the Ministry SNCF had to prove itself. And it was not so much that the railway interest had a voice inside MdT, but more importantly that the State had a voice (and hears) inside SNCF, through the presence of of

its representatives on the Board. On the British side, the sponsor ministry could certainly not be said to have been captured by the railway interest. However there were a not insignificant number of sympathetic senior civil servants at different points in our case studies, both at Under and Permanent Secretary levels, who did their best to improve what was generally acknowledged as difficult relations. For them APT represented an exciting development which they fully backed. However there was no institutionalised departmental presence inside BR and progress was easily jettisoned by changes in circumstances or in personnel.

On the whole the state - railway relationships differed considerably during the period of the case studies. The paradox of the British arm's length relationship was that it was arm's length in institutional terms, inasmuch as lines of communication were circumscribed and the main policy actors had widely different academic and professional backgrounds. But financial and political constraints weighed very heavily on the Board's decisions and did nothing to encourage the formulation of a long-term innovative, high speed policy, neither in the 1970s nor in the 1980s. The French contractual relationship introduced in 1969 institutionalised the practice of getting the railway to carry out difficult tasks in exchange for `rewards'; on the most prosaic level, Project C03 was seen as a way of mobilising the public undertaking around a modernising project, at a time when it was undergoing painful changes (line closures, decreasing staffing levels, a more commercial approach). The psychological effect of State commitment to a public project was an important element in France and was instrumental in launching an ambitious project in a hostile political context. In Britain such an effect did not surface at all. In fact the BR - central government relationship was conducted mostly in the manner of a political power struggle whilst the SNCF - State relationship was more akin to a technical `debate'. With the former, open controversy and recriminations in the public arena were rife; with the latter they were unthinkable, for technical matters were expected to be settled dispassionately by experts away from the public eye.

It is interesting to note that parallel relationships existed between public authorities / railways, and between public railways / private railway industries, so that these constituted microcosms of public action at the sub-sectoral level. The State - SNCF relationship involved State concern for the welfare and morale of the undertaking (the `psychological' justification of TGV); SNCF in turn looked after its private suppliers by adopting a protective attitude and deliberately seeking to keep a sufficient number of them in business. This pattern of behaviour was not based on philanthropy but rather on pragmatism: retaining the goodwill of opposite numbers in the policy circle made for more efficient relations. Partnership was commonly accepted. SNCF benefitted from the support of private railway manufacturers (in particular through FIF), with whom it enjoyed a symbiotic relationship: long-term commitments providing secure orders for the industry were possible because the flow of railway funding was regular. Yet at the same time, SNCF was keen to obtain the best prices and standardised rolling stock, which in the long run would cost less to maintain. With this in mind, they deliberately demanded long production runs from the manufacturers in the 1970s (`Corail' coaches) which forced an hitherto fragmented industry to concentrate. It is impossible not to draw parallels between this and the policy of industrial

concentration pursued by De Gaulle in the 1960s. TGV may have been only a `State-authorised' programme as opposed to a State-sponsored one, as one respondent said, but at the same time, SNCF in many ways acted as a willing arm of the State.

On the British side, the central government - BR relationship was one where BR was treated as a business that looked after its own interests; BR in turn related to its private suppliers as competing firms, being prepared in the 1970s to turn to foreign suppliers in order to `stimulate' the native industry. Long-term deals with railway manufacturers on the part of BR were not feasible (although they were called for by senior figures) because of the stop-go pattern of railway funding, which made strategic planning by BR difficult.

Thus the national railways appeared to mimic entrenched patterns of state behaviour, underpinned by common assumptions: in Britain, these were that market values of free competition were superior and that a multiplicity of individual identities was desirable; in France, that collective values were best safeguarded by servants of the State and that concerted arrangements were to be preferred in order to achieve pre-determined goals taking them into account (e.g. industrial concentration, an accessible railway).

This was also true at the level of more abstract notions: one French railway senior engineer, in an article on the TGV service then being launched, expressed himself in the following terms: `There is no doubt that the new service will make a mark on the history of railways and show that rail transport, thanks to the persistent technical progress, is capable of adapting itself and accommodate under the most favourable conditions, cost and energy, to meet the common good.'[2] Two salient elements of the referential framework are visible at once: the belief in (technical) progress and allegiance to the general interest. As regards the first one, Fourniau has noted that the French public service model `asserts the value of technique as the motor for social development', a conception embodied in SNCF's institutional slogan: `Progress is only worthwhile when it is shared by all'.[3] The French railway undertaking had internalised some of the assumptions held within administrative and political circles, which pre-dated its creation in 1937. British Rail had also internalised key central government assumptions, mainly revolving around the fact that the railway was a commercial entity which should pay for itself and be independent from the public purse for its investment as far as practicable.

Conceptions of public power were more ideologically oriented in Britain (party political dominance) whilst in France they were more professionally oriented (technical expertise dominance). The limits to new policy in the British railway sector were set by partisan considerations and by the fact that one Parliament might reverse the decisions of the previous one; in France, they tended to be synonymous with current technological limits or those set by current

[2] Raymond Garde (then Deputy Director and Head of Rolling Stock), `From the Thyristor to the TGV', *Rail Engineering International* (August-Sept. 1981): p. 74.

[3] A Donzel, J M Fourniau, J Lolive, *Les contestations du TGV Méditerranée* (July 1994), p. 38.

thinking within the Administration. In this sense, and this sense only, may one argue that the French railway (as a technical organisation) was an integral part of a technically-oriented state apparatus whilst the British railway was kept at arm's length from a more generalist and political British central government.

With regard both to practices and to conceptions, the frontiers of the state were therefore not as well-defined as one might have expected. In the British case, central government conceptions extended well inside the railway organisation. In the French case, it is debatable which of SNCF or the state drew the boundaries most sharply, or even whether there were any clear boundaries at all, especially as regards conceptions.

B. *Dirigisme* and *laissez-faire* in the light of the case studies

When researching British and French public policy-making, one inevitably comes up against two very distinct models of public action in the academic literature: the received opinion being that France traditionally has had a strong central state that operates in a *dirigiste* manner, with untrammelled power inherited from a tradition of monarchical absolutism, and that the British state on the other hand has not grown as the extension of a central political figure (the absolute monarch) but reflects the ideal of representation, today embedded in parliamentary democracy, and has a *laissez-faire* attitude towards society and the market.[4] Such a weak state / strong state opposition, however, has sometimes been criticised as overly manichean. It may have been entirely appropriate when dealing with the French and British states up to the beginning, or even the middle, of the twentieth century, but two world wars and the increasing complexity of industrialised societies have all contributed to a dramatic expansion of state activity in both countries, which is well documented.

Past research has tended to emphasise the differences between the two countries, at the expense of the striking similarities that sometimes do exist. This has been all the more easy as each national elite has built up over time self-images of the state which suited their own purposes but may have been at variance with reality. For instance, the French central administration may have played up their powers knowing that authority would only be respected if it appeared to be formidable; in Britain on the contrary, officials and politicians alike may have a vested interest in appearing less powerful than they actually are because of the widespread centuries-old belief in the greater individual freedom of Britons and their ingrained mistrust towards power.

Furthermore, different conceptions in the referential frameworks do not necessarily entail different practical arrangements: e.g. both BR and SNCF received operating grants at some point; both BTC (until 1956) and SNCF were allowed to borrow on financial markets. Different values can reflect and be reflected in institutions that are sometimes different, at other times similar. This is why the weak state / strong state dichotomy is not fully convincing. It really applies to the realm

[4] Bertrand Badie, Pierre Birnbaum, *The Sociology of the State* (Chicago: Chicago University Press, 1983), p. 105. The authors refer to the (French) `absolutist model of the state' and the (British) `weak-state model'.

of conceptions - and then not in all cases - and only occasionally to the world of actual policy-making practices. Old stereotypes need to be confronted with the realities of state action on the ground, which was one of the ambitions of this work.

What emerges from the case studies in relation to the weak state / strong state model is somewhat paradoxical. The APT case study shows an attempt by British central government to initiate innovation. To start with, the policy benefitted from the conjunction of an emerging technological project supported by the more `modern' sections of BR and of a pro-active MoT seeking to give the railways a new chance. It is highly unlikely that the project would have seen the light of day without strong departmental backing, the Railways Board being unwilling to shoulder the costs. The French case study for its part points to very different circumstances. The initiative for TGV was entirely SNCF's and coincided with the period of its great unpopularity in administrative and political circles. But even a declining railway could muster enough strength to overcome initial State resistance to railway innovation. This task was made simpler because the French configuration of key players included, as well as SNCF, the Ministries of Transport and of Finance, the Planning Commission, and various consultative expert State bodies (e.g. CGPC); the British configuration was much simpler, involving essentially BR, MoT and Treasury. The more fragmented French setup gave SNCF the opportunity to mobilise a number of agencies and a correspondingly higher power of leverage, which BR, in its strictly bi-lateral relationship with the Department, did not possess.

In a sense, the French State proved weak since SNCF senior figures were able to exploit their institutional knowledge of the fragmented State apparatus and to make use of the integrated elite networks that characterise it, in order to advance their cause. British central government on the other hand was strong inasmuch as it could impose an innovation policy onto railway management which was only supported by a small number of BR engineers, most of them only recently recruited to the railway. It was not strong enough however to elicit support within BR for the new offensive R&D policy and not committed enough to pursue the policy through to the end.

Indeed it does not follow from the case studies that the dominant image of the British state as a benign, regulatory framework responding to, but not creating, the needs of society, described the actual workings of British central government. Hayward's assessment that `British public corporations tend to be subject to much greater government control than is formally supposed to be the case'[5] is amply illustrated by the case studies. There was often a contradiction between ideals of self-restraint (e.g. the arm's length relationship) and interventionist practice (e.g. jointly-funded APT research programme, practically imposed on BR by an enthusiastic MoT). This was even clearer with the CTRL schemes: CTRL1, proposed in the era of the `post-war consensus', was cancelled following a change of parliamentary majority; CTRL2 was put forward at a time when the British state was under attack and called upon to retreat from public action (e.g. rail

[5] Jack Hayward, `Change and choice: the agenda of planning', in Jack Hayward and Michael Watson, *Planning, Politics and Public Policy* (Cambridge: CUP, 1975), p. 4.

privatisation), yet it was also the first major rail scheme to be assessed with non-financial criteria, an approach underpinned by more comprehensive notions of the role of the state. In fact, the British case studies point to two very contrasted situations: with APT, central government showed itself to be highly interventionist, whilst with CTRL1/2, it was much more a `spectator-state'.[6] In the field of high speed rail *infrastructure* policy, there seemed to be a vacuum where the hub of power should have been. Policy was neither government-initiated (proposals for both CTRL schemes came from BR), coordinated with the railway or integrated with planning for the Channel Tunnel itself; neither was an outright veto imposed on CTRL2.

Nor should we take the dominant image of the French State at face value and assume that it really did shape the development of the railway. To a very large extent, SNCF was in control of its strategic choices, particularly as regards TGV. Although Project C03 encountered much resistance, it was eventually taken up by the public authorities and allowed to proceed, albeit with some setbacks on the way. There was a sufficient amount of trust in railway management and State expertise for the Administration, and later for politicians, to agree to what was almost a leap in the dark (let us remember that there was no TGV prototype stage and that the decision to go ahead was for a full-scale fleet of 85 TGV trains).

The traditional weak / strong dichotomy does not therefore reflect accurately the untidy realities of the late twentieth century, e.g. the fact that in some sectors of the economy, the British state has been very interventionist while its French counterpart has had a very hands-off approach in a number of areas.[7]

One may find policy objectives which are very similar in both countries but are reached by very different means, or by different mixtures of the same policy instruments. This expressed itself most clearly in the drive to curb railway deficits. Both in Britain and France, the railways were urged to break even by successive governments but BR was not provided with sufficient incentives, such as long-term commitment to a modernising project (which perhaps the APT could have been). SNCF was provided with just such incentives and it was taken for granted within the Administration that if the State wanted something from SNCF, it ought to give something in return. This was not *dirigisme*, but rather policy commitment.

The state in the British referential framework acted as an impersonal banker and no more. The Treasury's ethos of strict financial discipline, imposed from 1956 at the end of a period of *laissez-faire* in public investment, was seen as nothing less than a necessity, whereas in France it

[6] See Wyn Grant, `Britain: The Spectator State', in Hayward (1995).

[7] One could also argue that the French strong state tradition finds its equivalent in the British strong government tradition. Moreover, some authors have argued that the British state dates back to the early modern era and must therefore be analysed in a different fashion from its continental counterparts. For instance Tom Nairn argues that the British political system is essentially an aristocratic oligarchy, in which the state is only weak inasmuch as it is not talked about, but in fact exercises considerable power. In his terms of reference, the opposition then would be between a French bourgeois State and a British aristocratic state (T Nairn, *The Enchanted Glass: Britain and its Monarchy*, London: Picador, 1990).

was rather a desirable but distant objective in the context of public sector economics. The concern in France was how to optimise the use of public funds, whereas in Britain it was how to minimise it.

Precisely for this reason, a great deal of effort was put into comprehensive project appraisal in France, but not in Britain, where for a long time a form of *laissez-faire* prevailed in public project decisions. For instance the Modernisation Plan of 1955 was devised by the railways themselves and approved without being subjected to detailed departmental appraisal, whereas in France objectives were set centrally, arguably in *dirigiste* fashion, by the Planning Commission and SNCF plans were closely scrutinised by State experts. But even this contrasted state of affairs was changing throughout the period studied. DoT began to demand thorough investment appraisal from BR in the early 1980s, precisely when Mrs Thatcher was calling for a retreat of the state. This department-imposed requirement led to changes within BR project management. Thus we are not faced with static policy-making practices, but evolving ones.

The conclusions that I have drawn from the case studies apply to the sector under scrutiny. The question is whether the referential frameworks presented here are peculiar to railway policy-making or whether they provide us with important elements of British and French public policy-making styles in general. Alternately, they could be shown to apply to some other policy areas but to be invalid in others. Hence it remains for further, more exhaustive research to refine or revise our findings. In particular, it would be extremely fruitful to conduct a comprehensive comparative analysis of all the British and French sectoral case studies which have been carried out to this day. This would yield results which could be generalised with some confidence. This task is clearly well beyond the capacity of the author but it is useful to briefly mention one of the findings of similar case studies of sectoral public policy. In the UK, *ad hoc* government intervention into the affairs of the nationalised industries appears to have been a structural problem, which very much concerned BR but not the railways alone. British central government had no established corpus of doctrine and/or ancient experience which could have enabled it to function as an economic `manager'. This point takes us to our next section, dealing with the presence of a pro-active public managerial culture in France, and its corresponding absence in the UK.

C. Managerial cultures

The striking point in the French State practices presented in the case studies is the broad interface between administrative and technical cultures, which combined to form a public sector managerial culture. As Ribeill has pointed out, this `ad hoc managerial culture, both suited to technical culture and administrative culture ... is exemplarily that which was to shape the technical *corps* and notably the *Ponts et Chaussées Corps*',[8] because as civil servants they had to provide both administrative supervision of public networks and technical expertise. Ribeill goes on to say that from the middle of the nineteenth century onwards, their dual administrative / technical

[8] Ribeill (1986): p. 84.

background also made them ideally suited to managing private companies in the public networks sector, where they could both use their technical qualifications and function as respected opposite numbers to those of their peers who had remained in administrative positions; as for the heads of such firms (whose role was perceived as being more political), they were either chosen among politicians or former Prefects, who were familiar with the arcane workings of the politico-administrative system and could rely on networks of connections (similarly with a public firm such as SNCF, three of its postwar Presidents were members of the *Préfectorale* Corps: Ségalat, Pélissier and Chadeau).

There was nothing resembling a public managerial culture on the British side, where civil servants and senior managers of public or private firms inhabited separate worlds. The lack of public enterprise managerial culture had long been deplored.[9] Members of boards and public corporation managers did not always adopt a management style suitable for the public sector and `there [was] often insufficient willingness to understand the functions performed by government departments and to search for suitable means of reconciling differences.'[10] According to Abromeit, British government lacked the `consistent concepts needful for the successful running of a number of large state industries'; at the same time, given the ups and downs of public policy, it was not surprising to find `a "civil service mentality" in public sector managers, passively awaiting the next U-turn of government policy.'[11]

The French public sector was not perceived as a `protected' section of the economy (until very recently); on the contrary it had (at least in principle) a duty to lead the way. Thus a future SNCF Director General (Guibert) wrote his doctoral thesis on *Service public et productivité* (1953). Ultimately, senior managers of SNCF - like many senior managers of other French public undertakings - shared private sector beliefs as well as the public service ethos: they were public entrepreneurs with both a *sens de l'Etat* and a strong commitment to dynamism and efficiency.[12] Rolland's third principle of public service (mutability), listed in an earlier chapter, provides a connection between `public service' and `modernisation', a notion which was at the heart of the French referential framework: public services had a duty to `mutate' not just with the times, but ahead of them.

Jean Monnet's *Plan de Modernisation et d'Equipement*, launched in 1947, gave modernisation national preeminence in France and this affected the railway directly as there was a Committee for transport modernisation, a sector which was considered a priority. In Britain, attempts at modernisation were not taken up by central government with anything like the

[9] NEDO *Report 1976*, p. 40.

[10] NEDO Report, *A Study of UK Nationalised Industries* (1976), p. 40.

[11] Abromeit (1986), pp. 96, 153.

[12] Durupty, 2 (1986), p. 139.

commitment and enthusiasm found in the French State apparatus. The capital costs of modernising in particular proved a powerful deterrent, as did the necessity for policy continuity; success was elusive, as the Modernisation Plan of the Railways approved by the British government in 1955 testified. Former APT engineer Hugh Williams has pointed out that as the French high speed line was intended for the exclusive use of TGVs, `it was probably the first time in railway history that a line had been designed for a particular train rather than vice-versa.'[13] This bold approach meant that the railway was no longer as constrained by the geographical and historical legacy as it had been in the past; those circumstances could to a large extent be transcended. British Railways on the other hand attempted to accommodate natural conditions and the legacy of the nineteenth century railway mania, which had produced duplicate lines and a winding permanent way in places such as the west coast; there was no question of starting afresh, although it would in principle have been feasible to straighten tracks in enough quantity to increase average speeds significantly. Railway policy differences were thus partly related to the place of the concept of modernisation in the two referential frameworks.

Perhaps the only element that was shared by all groups of policy-makers in Britain was cost-consciousness. One commentator argued that it was more important for whatever was produced to be produced as cheaply as possible than for the price / quality relationship to be optimal.[14] Indeed the only consistent thread to be found in British railway policy was the nearly obsessive concern with financial costs, then financial returns and lastly from 1976 financial ceilings (the latter under Labour as well as Conservative rule); BR managers were all too aware that the least costly options always had a head start and that qualitative arguments carried little weight with the Treasury, who were solely concerned with minimising public expenditure.

BR did not put forward non-transport arguments either (e.g. possible regional benefits) which were perceived as belonging to the realm of politics. SNCF on the other hand were not debarred from using arguments of a political import; they were very keen to highlight the socio-economic benefits of Project C03 and to use such strongly symbolic, political phrases as the `democratisation of speed'. This was another symptom of the blurring of domains, here the technical and political.

In both countries, a more commercial approach to running the railway was demanded by Ministers. Paris-Lyon represented a radical shift of emphasis for SNCF management, away from declining services to more commercial ones: `from Project C03 onwards, SNCF began to invest massively in passenger traffic whereas until then it had invested a lot in freight services'.[15] BR also pursued a highly commercial policy but operated in a more highly-charged political environment and did not enjoy a sufficient amount of autonomy to implement its preferred strategy. The

[13] Williams (1985), p. 92.

[14] See Richard Pryke, *Public Enterprise in Practice* (London: 1971).

[15] Bernard (SNCF) in Fourniau and Jacq (forthcoming, September 1995).

supreme paradox was that SNCF became more commercially-minded following an influx of new methods from forward-looking State units (e.g. SAEI), whereas BR's efforts to become a commercial business involved taking on BRB members who had previously been employed in the private sector, e.g. Beeching (ICI) and more recently Robert Reid (Shell). In the first case, the graft `took' quickly and the opening of LGV in 1983 was the concrete manifestation of the new commercial spirit at SNCF. The new managerial culture was actively promoted by the State. In the second case, there was too much of a disparity between public and private sector practices and too many central government impositions of a non-commercial nature (e.g. the impossibility for BR to borrow on private markets) for the transformation to take place smoothly.

D. Values and interests: networks or communities of rail policy-makers?

It could be argued that the managerial culture as found in the French case studies was based on a set of values shared by civil servants, engineers and politicians, but should we not introduce some scepticism at this point? Values held in relation to public service may go a long way towards explaining behaviour, but a more prosaic explanation suggests itself, centred on the self-interest of those involved.

In Britain a civil servant expected to remain a civil servant for the whole of their career, whereas a French *haut fonctionnaire* gained ample opportunity to be seconded to the private sector *in the course* of their career. The self-interest of French civil servants dictated that the railway undertaking - as indeed other public enterprises - and its suppliers be successful for they might well provide them with later employment through the (widespread) practice of *pantouflage*. There was every reason not to keep public and private spheres at arm's length and to make sure that all components of, for example, the railway sector (private engineering firms, MdT and SNCF itself) worked hand in hand. The osmosis between the P&C Corps and transport policy-making circles meant that some engineers decided investments that fellow engineers would administer.[16] More generally graduates of *grandes écoles* would choose to work in a ministry that was a good launching pad for their careers; as Gilbert Santel, Personnel Officer at the *Ministère de l'équipement*, put it: `The selection of posts offered to graduates from ENA or from X is based primarily on the career prospects that the graduates foresee both in the public and the private sectors'.[17]

British civil servants on the other hand had no established habit of going into nationalised undertakings or the private firms of the same sector *in the course* of their careers, although there were some rare instances of civil servants joining BR in mid-career (movement to firms mostly occurred after a period of retirement). They saw BR and the railway industry in general as

[16] This could lead to a weakened sense of responsibility in connection with public spending, both within State agencies and SNCF, all the more so as lines of accountability were unclear.

[17] Quoted in *Le Monde*, `L'Etat malade du pantouflage' (9/02/1993): p. 29.

extraneous to their professional concerns, as organisations which could not enhance their own careers.[18]

This type of explanation does not however account for the fact that the practice for civil servants to move freely in and out of state service was established in one country and not in the other, and that it was considered quite proper. It can only point to why the existing situation was made to perpetuate itself (it was clearly in senior State engineers' interest to keep this advantageous system going). Furthermore, one cannot fail to notice that while British civil servants had been educated within the university system (leaving aside the issue of an Oxbridge bias), with the Civil Service College only having been established in 1968 and playing a minor role, the vast majority of their French colleagues had attended specially-designated schools attached to various ministries and had received a far from negligible stipend for their education from the State during several years. The latters' professionalisation had begun at an early age, was highly prized and viewed as a pre-requisite to high office. So although the existence of professional interests clearly must be acknowledged, it does not illuminate the whole picture. The contrast between a (British) classical generalist education on the one hand, and a (French) technical, somewhat more specialised education on the other, discussed in Chapter 2, illustrates a contrasting set of deeply-held values about state, society and the economy.

The next stage is then to ask ourselves how far one could ascribe contrasting referential frameworks of public policy to the existence of dissimilar `values' held by national technical, political and administrative elites. There was no simple relation of causality between values and referential frameworks in our case studies. Where we would expect the states in France and the UK to be different in just about every respect, since they so clearly evinced deeply different values, we found in fact some *similarities* which can only be explained in terms of perceived interests: e.g. no matter what values are held about state intervention, administrators will be keen to perpetuate their profession and develop new, interventionist policies (TGV, and particularly APT were just such a case). Some of the *differences* can also be explained in terms of interests (which may even be conceived differently from one country to the next). French politicians were convinced that their interest lay in not antagonising the railway workforce and acted accordingly, whilst British politicians had to contend with the powerful air, road, and shipping interests, which relegated the railway to a subsidiary position.

In the end, the explanatory power of values has to be placed in a proper perspective and viewed in tandem with that of interests. Neither a purely sociological approach, nor a purely economic one, can fully account for the complexity of referential frameworks of public policy. Indeed one of the conclusions of this thesis is that referential frameworks are informed both by *values* and by perceived *interests*, and that either of these may well differ between the two countries, but do not always necessarily do so.

[18] At the same time, they were held accountable for every penny to their Minister and to a powerful Treasury, and (indirectly) to Parliament.

This brief discussion of the relative weights of values and interests leads us to another conclusion, concerning the character of the policy-making circles observed during fieldwork. The case studies demonstrate the existence of a rail `policy community' (with shared values and interests) in France, and of a rail `policy network' (in which only some interests were shared) in Britain.[19] BR, the sponsor department and other interested parties formed a policy network which had shared concerns and some shared interests out of necessity since they operated in the same policy area, but often held divergent views regarding the means to achieve objectives, or even the definition of the objectives themselves. SNCF, *tutelle* authorities and railway manufacturers made up a policy community with common interests and values, and a wide degree of agreement, or at the very least willingness to engage in meaningful dialogue. The policy *community* was able to build up and preserve a high degree of policy continuity, whilst the policy *network* stumbled from one set of incremental measures to the next.

Going one step further, I would argue that the French public managerial culture presented above was largely dependent on the existence of an `epistemic policy community', in which concepts and practices circulated freely and were widely recognised.[20] No such culture had taken shape in Britain; practitioners operated in a loose, often strained policy network. Thus the main difference between the two countries was the existence of a sectoral epistemic community in French administrative and technical circles, sometimes also including members of the political elite (in particular of ministerial *cabinets*). This epistemic community of transport experts was at the core of a stable, restricted, policy community, which pursued self-defined policies even when these might run counter to some of the political concerns of the day (e.g. regional planning) and which possessed sufficient authority to win over the support of other ministries and ultimately political backing. In Britain, the set of players who contributed to policy-making could not be described as a community for they did not share the same policy-relevant knowledge and values. They had to work with each other but could not do so `together' towards common objectives, partly because objectives kept being changed by Ministers.

This discussion of policy networks / communities is relevant to our understanding of the referential frameworks inasmuch as a policy community could only function in tandem with a national, non-partisan referential framework, whilst a policy network was associated with a divided, partisan framework containing conflicting objectives, a point which is developed below.

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[19] On policy networks and communities, see D Marsh and R A W Rhodes (eds.), *Policy Networks in British Government* (Oxford: Clarendon Press, 1992); British Interest Group Project Working Paper Series, *Assumptions About the Role of Groups in the Policy Process: The British Policy Community Approach* (University of Aberdeen: Dec. 1992).

[20] An epistemic community as defined by Haas is `a network of professionals with recognised expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area' (P M Haas, `Introduction: Epistemic Communities and International Policy Co-ordination', *International Organisation*, 46, 1 (1992): p. 3).

2. TWO DISTINCTIVE REFERENTIAL FRAMEWORKS

To begin with, it is useful to summarise the main features of the referential frameworks outlined in the course of the case studies. The spatial and temporal frames of reference were dissimilar; the French framework was the object of a national consensus whilst the British was divided by partisan considerations; finally the notions of `general interest' and `public interest' did not fully overlap across the two countries and did not occupy the same places in the two frameworks.

A. Spatial characteristics of the British and French referential frameworks

SNCF's own strategic choices were eventually approved because they complied with traditional spatial conceptions in the French referential framework. For instance the unifying powers of the State were paramount; State action traditionally sought to integrate or at least stabilize a society perceived to be geographically divided, hence the role of the railways in nation-building was a crucial factor in the interest they attracted at State level. Both SNCF and the State embraced a nation-building ethos which was inconceivable in a multinational unitary state such as the UK, a state made up of four distinct nations. In the British referential framework, spatial unity did not rank high, unlike in France; if `Modern France, after 1789, was built around a strong nation-state',[21] the railway provided one palpable backbone.

However, rail policy was not necessarily truly nationwide: only DATAR seems to have pushed for an ideal of balanced development of all French regions, particularly in relation to Paris, and to have viewed the national territory in truly integrated fashion. SNCF paid lip service to this view for tactical reasons, occasionally invoking regional planning arguments, but DATAR was defeated by the more traditional, centralised views of the transport technico-administrative elite.

In spite of this it is clear that all players - including Finance officials - had no objection to thinking in terms of network and network effects. This point is crucial inasmuch as it affected the variables taken into account during the appraisal process, and ultimately the way financial returns were calculated. It is also a salient point because French political culture features a `tradition of redistributional justice spread over the whole of the national territory, by means of subsidies, or plans of development or equipment; the Freycinet Plan ... in 1878 ... provides an exemplary illustration of this, with its wish to ensure that every *sous-préfecture* would be served by the railway'.[22] The State's duty was to ensure natio-wide social and economic improvement. In the case of the railway, as with other networks such as water, gas or electricity, beyond a threshold of development by private actors, it was felt that `the network is good for everyone, implying that the

[21] Joël Roman, *Le Monde* (15/09/1992): p. 2.

[22] Georges Ribeill, `Le développement à la française des réseaux techniques', [pp. 83-89] *Metropolis* (Paris), No 73/74 (1986): p. 84. Freycinet was a State Engineer, Minister for Public Works.

public authorities take over from the private sector.'[23] In fact the concept of `network' - more particularly *national* network - has been salient in the French referential framework throughout at least the last fifty years: for instance it presided over the nationalisation of gas and electricity companies after the Second World War, and even of deposit banks.[24]

Spatial assumptions were network-based, but why this stress on networks, which was so beneficial to SNCF? Partly because from the point of view of its function, a network fulfills users' needs - whether individual or collective - `in a fashion that makes them feel solidarity with each other in social and geographic terms, within a territory.'[25] Networks were therefore viewed as instruments both of social cohesion and economic progress, binding otherwise disparate segments of the Nation. On the British side, the practice was to think in terms of discrete `units' (lines, or at the most regional networks). Each railway project was assessed on its own merits, notwithstanding any possible national network benefits.

The ways in which railway undertakings were organised also reflected public action conceptions and practices. After 1945, there was a relentless drive towards technical standardisation in the French railway system, in order to obtain a more homogeneous network in which large economies of scale could be achieved, whereas the railway regions in Britain were more distinct and some specific norms inherited from the competitive private railway companies were retained (for instance, Scotland was run by a separate board and Southern Region uniquely still uses a third rail on its electrified lines). In the first case, one is reminded of the `one and indivisible Republic' and the constant effort since the Revolution of 1789 to forge a unified nation, whilst in the second, the principle of self-government and the toleration of variety are in evidence; after all `Scotland was not incorporated in the English state, as Wales had been' and retained her own legal system,[26] something which is absolutely inconceivable in the French framework. The British arm's length principle also displayed the preference for railway self-government so to speak, as opposed to strong central Administration control of the French railways.

In short, within the French referential framework it was expected that the State should play a meaningful role in relation to a national technical network of perceived great importance, i.e. of general interest. In the British framework, network considerations were not readily accepted by central government and it was assumed that the railway needed as little central government control as possible.

B. Temporal characteristics of the British and French referential frameworks

[23] Ribeill (1986): p. 84.

[24] Ribeill indicates that `the criteria that was to be used to define the scope of the nationalisation of deposit banks was that of possessing a national network of counters (to collect savings)' (1986: p. 87).

[25] Claude Martinand (MdT), `Les réseaux et le service public,' *Metropolis* (Paris), No 73/74 (1986): p. 89.

[26] Marquand (Jan. 1995), p. 9.

The preferred British approach was an *ad hoc* one which did not involve long-term planning. The main duty of public authorities was perceived as a (relatively short-term) financial one: central government tended to react as a brake, rather than act as a spur. On the Labour side, there was ambivalence in this respect: one former Transport Minister, Barbara Castle, asserted that `the major responsibility of any government is to enable its country and its people to pay their way'; yet she objected to the power of the Treasury, which as a Minister she had found to be tremendous, and to the Treasury's `only ... form of reckoning ...: that of the accountant with his short-term arithmetical calculations.'[27] Government did not take large scale developmental initiatives over a long timespan: even MoT funding of APT R&D was for relatively small sums and was short-lived. MoT was pro-active and vigorously backed the modernising forces within BR in connection with APT, but fell short of committing itself fully to the project at the production stage.

If we turn to CTRL, which inherently involved a great deal of planning and was from the start on a far more expensive scale, the public authorities were very reactive. There was no perceived need at the political level for CTRL to open at the same time as the Channel Tunnel; on the contrary, the Secretary of State argued that since capacity on existing lines was expected to be sufficient until 2005, this meant that `account can be taken of demand for rail services through the Channel Tunnel once it opens. This will help to give a more precise view of when the extra capacity of the new line might be needed.'[28] This reactive approach totally overlooked the argument that new capacity on Britain's railway would itself influence the demand for rail services through the Channel Tunnel; typically, policy was to be decided once demand levels had been empirically established, rather than in anticipation of future demand. The dominant time horizon was short.

More generally when initiatives were taken, they were of a restrictive nature (e.g. Dr Beeching's remit to make the railways pay, introduction of cash limits in 1976) or sought to solve the `railway problem' by altering the organisation of the industry, first through nationalisation in 1947, then in 1953, 1962,[29] 1976 and finally in the 1990s, when the aim of policy became to eliminate direct state responsibility for the industry through privatisation.

The French time horizon tended to be longer. The main duty of public authorities was to devise strategies that would both contain railway losses, eventually eliminating them, *and* improve rail services in the long run. The case studies certainly confirmed the view that the French Administration tends to engage in, or at the very least support, pro-active policies designed to develop sectors which are believed to be backward (in need of modernisation) or under-utilised. The main duty of the French State was perceived to be the improvement of economic and social conditions over a long period, with a view to maintaining social cohesion and ultimately national

[27] Castle (1993), p. 341.

[28] Letter from Malcolm Rifkind to Sir Bob Reid (9/10/1991), URL (March 1993), Annex A, p. 88.

[29] When it became clear that BTC had failed, `it was a case of "sack the Chairman, reorganise the industry, and all will be well." The government ... ignored the need for *total* reform' (Joy, 1973, p. 147).

unity. This could only be achieved, it was believed, by the analysis of economic and social conditions, planning and the implementation whenever possible of medium to long-term programmes.

The French policy time horizon may have been longer but it was not necessarily long-term. With TGV, the French State was not so much an instrument of long-term national progress (using State-sponsored R&D as a means to increase technological self-reliance), pursuing its goals through a *grand programme*, as a framework-state seeking to foster public sector efficiency in an increasingly competitive transport system (e.g. Xth Plan stresses public sector efficiency) and engaging in limited, medium-term market-management. Ribeill went as far as arguing the existence of `a deep-seated ideology of the "economic" medium-term, respectful as much of public service as of the moving forces of the private sector, borne by a same technocracy backing indifferently both horses'.[30] This point is borne out by the TGV case study.

The tradition of State forward planning which so impacted on high speed rail policy-making can be traced back to Colbertism (e.g. the creation of State manufacturing companies between 1661-1685).[31] The railway network itself was planned centrally by nineteenth century State engineers.[32] Later, the Planning Commission, which France pioneered in the 1950s, represented an attempt to create an institution which would both be at the heart of the State apparatus and politically independent from the government of the day, and would concern itself with *long-term* economic issues; the concept of State planning subsequently did undergo some changes (in the late 1970s, it became more indicative than prescriptive) but the underlying assumption that it was legitimate for the State to seek to reduce economic risk and uncertainty for the nation as a whole, remained even though from the 1970s onwards, it might simply mean `making market forces more efficacious'.[33]

According to Pierre Massé (General Planning Commissioner, 1956-1966) State planning played a role of `uncertainty reducer' partly because `The State alone can commit itself to a very long-term scale'[34] and partly because the State alone had at its disposal the vast amounts of data needed to comprehend national - and international - trends. In the words of another General Commissioner, Pierre-Yves Cossé (1988-1991), `To prepare for the future is one of the missions of the State, which must resist the "dictatorship of the short-term" ... assert itself as a "master of

[30] See Ribeill (1986).

[31] In 1670, Colbert ordered the planting of oak-trees in the Forest of Tronçais (Allier); timber imports were expensive and these trees would provide high quality masts for the royal navy when they reached maturity ... in the nineteenth century. What had not been forecast was the advent of steam shipping; the trees are still there and are known as *fûtaie Colbert* (*Grand dictionnaire encyclopédique Larousse*, 10, Paris: Larousse, 1985).

[32] See Dobbin (1994).

[33] Shonfield (1982), p. 100.

[34] See Dominique Strauss-Kahn, then Minister for Industry and External Trade, *Le Monde* (23/10/1992): p. 16.

time'"; in his view the State must be above all a `strategist'.[35] That this might entail deliberate shaping of economic forces was accepted. For instance, a former adviser to Pompidou justified the 1960s motorway-building programme in the following terms: in 1962, Pompidou had obtained government approval for a sizeable programme and `From then on, infrastructures were no longer in charge of fulfilling the needs of users but of creating them, anticipating them, or directing them. ... The country's plant must serve the industrial priority within the framework of voluntarist regional planning.'[36] To this end, a roads and motorways national masterplan was formulated towards the end of 1971 (a roads masterplan had first been established in 1960).

In the case of regional planning itself, again the State was seen as having a meaningful role to play, through a `policy of anticipation and rectification of a potentially dangerous development'[37] in the way economic forces were located on the national territory. The free play of economic forces was viewed as destabilising in the long run. Even a self-proclaimed economic liberal such as Giscard d'Estaing defined regional planning and development in highly interventionist terms, as `the voluntarist action through which a national community shapes, equips, organises its own space according to the fundamental aims it assigns itself ... in order to put at the service of man the rational utilisation of resources ... Shaping nature has always demanded, since the origin of time, continuous and tenacious action.'[38] The belief that public power could deliberately shape economic development was clearly deeply entrenched.

A great deal of research, consultation and discussion went into the preparation of the five-year plans that were such a feature of post-war public policy in France. Although the plans might not be fully implemented and their predictions sometimes found wanting, they provided the opportunity for practitioners and academic specialists in a given sector to come together and exchange ideas in a common language. Also they enabled discussion of long-term prospects and trends. There was no such forum in the world of British transport policy, at least as regards railways. Instead government tended to operate on a year-to-year basis, in a piecemeal and outwardly arbitrary fashion; railway policy, particularly as regards investment, was unpredictable.

There was little evidence of a forward-looking approach, or even of any desire to make use of the state's potential planning power, even under Labour.[39] In spite of Labour's image as the party

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[35] `L'Etat stratège', *Le Monde* (9/10/1991): p. 2.

[36] Esambert (1994), p. 110.

[37] Esambert (1994), p. 145.

[38] Speech (Dijon: 24/11/1975) in *Aménager la France: Textes et déclarations de Valéry Giscard d'Estaing*, Bilan 1974-1978, Supplément du No 313 (Paris: SID, Actualités-Service), p. 6.

[39] The point of view of a French transport official who had numerous dealings with her British counterparts within the framework of international negotiations confirmed this: she had witnessed at first hand her British colleagues' `basic repulsion' for government intervention, forward planning and prospective research, and had found this totally alien to French administrative practices (conversation with DTT official, 30 March 1994).

of central planning, the inescapable facts are that `the 1945 Labour government [failed] to embark upon national economic planning',[40] in particular as regards the railway, and that the 1960s planning experiment was launched by Conservative ministers in 1960-1961 and ended in 1966 under Labour. In any case, the experiment was based on the procedural `belief that national economic planning could be achieved by voluntary agreements between interested parties',[41] rather than by the use of more coercive methods.

In any case, Labour thinking contained sizeable elements of short-termism, which ran counter to the planning ethos: `As a hedonist, John Maynard Keynes believed in the pursuit of pleasure in the present and wanted economics to promote current material well-being. When one of his proposals for improving short-term conditions was challenged as having harmful consequences in the long run, he dismissed this with the familiar epigramm, "In the long run we are all dead."'[42] Barbara Castle first came to prominence in 1943 with a famous Party Conference speech in which she declared that the rank and file `were nauseated by the generalities about the brave new world. "Jam yesterday and jam tomorrow, but never jam today".'[43] Harold Wilson's motto, `A week is a long time in politics', also points to a deep awareness of the fleeting nature of political time. Even civil servants were affected by this ethos: `Non-elected civil servants may have a longer time horizon, but the more closely they are involved in policymaking with politicians, the more likely the time horizon of civil servants is to be foreshortened.'[44] The emphasis on short-term policy-making was directly related to the pre-eminence of the electoral cycle in Britain.

The British unwillingness and/or inability to engage in planning should not be equated with an aversion for intervention. As Hayward has pointed out, `when comprehensive planning appeared to have failed, further recourse was had to piecemeal intervention.'[45] This important distinction is vindicated by our case studies, in which comprehensive planning was notable mainly by its absence, whilst departmental intervention was all too visible at crucial junctures.

C. National or partisan referential frameworks?

The extent to which conceptions and practices of public action were national and normative, rather than partisan, within the context of the case studies, is one of the issues which

[40] Hayward (1975), p. 6.

[41] Hayward (1975), p.13.

[42] Richard Rose and Phillip L. Davies, *Inheritance in Public Policy: Change without Choice in Britain* (New Haven: Yale University Press, 1994), p. 2.

[43] Castle (1993), p. 116.

[44] Rose and Davies (1994), p. 6.

[45] Hayward (1975), p. 14.

this thesis addresses. Empirical evidence points to a national emphasis in France and to a bi-polar, partisan British framework.

As might have been expected, general conceptions of the state in Labour elites tended to be markedly different from those found among Conservative elites; there was a much higher degree of confidence in the possibility of central government `fine tuning' the economy. The authorities were also responsible for providing certain needs: `One of these in the twentieth century is a transport system which serves the needs of all types of citizens and in which therefore the railways must play an essential part.'[46] In the minimal state approach commonly associated with the Conservatives, the Civil Service was mostly viewed as an umpire with regulatory functions, rather than as a player with managerial functions. Its purpose was not to pull the market in any one direction.[47] The Conservative view, as expounded by William Waldegrave, was that the state had a role as regulator, legislator and creator of the framework within which industries work; `But on the evidence of all the decades, the state as industrial manager is not at its best.'[48] It was therefore considered to be far better for the economy to be kept separate from politics, in other words to keep private and public spheres well apart.

As regards actual practice however, party political differences were generally not so clearcut: one author has noted that `the Labour Party has been more disposed to intervention than the Conservatives when it has been in office, but its interventions have been remarkably *ad hoc* and pragmatic for a party that purports to have some kind of interventionist philosophy, while many significant interventions have been taken by Conservative governments under moderate leadership.'[49] One of the pillars of the post-war consensus, shared by both Labour and Conservatives, was that a certain amount of state intervention was necessary; disagreement related to the extent and frequency of intervention, not to the principle itself. Heath for instance, while supporting competition, passed the Industry Act, 1972, to enable the government to intervene more directly.[50] As Holmes and Sharpe have pointed out, successive British governments `have swung

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[46] Castle (1993), p. 600.

[47] Wyn Grant, *Government and Industry* (Aldershot: Edward Algar, 1989), p. 87. This is what the writer calls `the "safety-net" view of state intervention', when `markets come first and social intervention thereafter.'

[48] William Waldegrave (then Chancellor of the Duchy of Lancaster), quoted in `Prescott attacks "sleazy sell-offs"', *The Guardian* (12/05/1992), p. 6. This view was not necessarily shared by private business leaders. The Confederation of British Industry has been opposed to `the Conservative government's policy of restricting public sector investment by subjecting [the nationalised industries] to rigid cash limits and, more generally, has criticised the strategy of treating their investments as part of the PSBR. For years now they have asked, instead, to increase the nationalised industries' investment, as one of the most promising means of leading the whole economy back to growth.' (Abromeit, 1986, p. 103).

[49] Grant (1989), p. 87.

[50] The latest manifestation of this tendency was found in statements by the then Secretary of State for Trade and Industry, Michael Heseltine, who called for a new `partnership between the public and private sector'. (Quoted in *The Guardian*, 28/04/1993, p. 24.)

between laissez-faire and interventionism in phases which actually do not coincide with party periods in office.'[51] This was particularly well-illustrated by the case of the railways, with the large-scale Modernisation Plan being launched under a Conservative government in 1955, active support for APT under successive Labour and Conservative governments between 1968-1973, and the Labour government's refusal to commit itself to APT in 1974.

One should not however totally disregard ideological differences between Labour and Conservatives, even before the election of Margaret Thatcher as Prime Minister in 1979. It is true that until then, Conservative governments had broadly accepted the existence of the public sector and confined themselves to stressing the commercial remit of nationalised industries; but one should not forget that they had disliked their coming into existence in the first place and that there was a streak of distrust towards public enterprises throughout the postwar period. Behind the privatisation drive launched in the 1980s one could detect the resurgence of the minimal state concept, which had a long history behind it (arguably going back as far as Magna Carta) and was clearly formulated in the nineteenth century in expressions such as the `night-watchman state'. Railway privatisation was not backed by Labour and this ideological policy difference was part of `the debate about public or private ownership ... the most divisive in terms of party conflict' and according to Richardson the one major instance of the `adversary model' of British politics.[52]

The emphasis on the parliamentary process in Britain, together with the dominance of party politics, meant that political debate tended to be very polarised. Although there were areas of consensus, especially between 1945 and the mid-1970s, the railways as a rule had not been one. In France on the other hand, the emphasis on internal, central Administration policy-processing under the Fifth Republic reflected a widespread distrust of Parliament, of party politics and a preference for non-partisan policy. The railways on the whole benefited from a consensual approach.

There was a well-developed doctrine of State intervention in France (public service), which had no equivalent in Britain, even within the Labour Left, for in practice there prevailed in Britain `a cult of economic non-interventionism'.[53] Moreover the French public service doctrine was shared by all main parties during the period of our case studies and was therefore perceived as non-partisan, whereas interventionism in Britain had always been associated with specific political parties (in political rhetoric only, since in practice we have seen that governments of all political complexions engaged in it). Even within Labour, it was not fully articulated, and the Morrisonian conception of public corporations actually eschewed the necessity of close departmental supervision. More generally, faith in state guidance tended to be equated with socialism in Britain, whilst in France it crossed party lines, if only because it had arisen long before socialist doctrines.

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[51] Holmes and Sharpe, `The State: Captor or Captive?' in *Strategies for new technology: case studies from Britain and France*, Holmes, Peter and Sharpe, Margaret (eds) (Philip Allan: 1989), p. 4.

[52] See Jeremy Richardson, `The politics and practice of privatization in Britain', in Wright (1994).

[53] Z Shonfield, `Introduction', in A Shonfield, *The Use of Public Power* (Oxford: OUP, 1982), xv.

Indeed the conception of `public service' was a pivotal element of the French referential framework of public action, but not of the British, and was closely bound up with the concept of `general interest'.

One traditional duty of the State which figured prominently in the French framework and was beneficial to SNCF was its guaranteeing the exercise of rights and liberties to all citizens *equally*: `the concern with solidarity between users within the same territory ... the necessity for national defence ... fundamental rights or liberties (... the freedom to come and go, the right to transport ...) may reinforce the need for a public service that guarantees the actual exercise of those rights or liberties and may even lead to obligations'[54] (i.e. binding the undertaking with a public service duty). Access to transport links for all inhabitants of the national territory was `in the general interest'. The railway's public service remit was an organic part of its activities. On the British side, the railways had ceased to be a `common carrier' by the early 1960s and had no special claim to central government attention. By the late 1960s, Market Pricing was being applied to rail services by a Labour government, whilst in France the public service principle of pricing all rail journeys on a distance basis, the same for all passengers, continued to prevail under right-wing governments.

Public service principles were applied in France in the name of the general interest, and new projects such as LGV were also taken forward in the general interest. It has been argued that the doctrine holds `such an important position that when one wishes to provoke or justify significant changes, one secures considerable reinforcements by endeavouring to prove the compatibility of the new project with the general interest'.[55] The means employed to achieve something in the general interest were quite irrelevant, so much so that the doctrine was `liable to cover diametrically opposed management practices: it may just as well justify making the railway profitable as its deficit'.[56] The general interest was the objective to which all else must lead.

It was taken for granted however that the guardian of the general interest could only be the public authority. Though the doctrine began as a means to legitimate State action which ran against the interests of private individuals (e.g. expropriation), it eventually became a great deal more than that, through a process of `torsion' analysed by Chevallier: `*Torsion* takes place at the point when the general interest becomes, through the play of discourse, no longer the foundation and limit, but rather the *attribute* of State power.'[57] This made it possible for a dominant image to be constructed,

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[54] Claude Martinand (1986): p. 92.

[55] Lucien Nizard, *Changement social et appareil d'Etat* (Grenoble: CERAT, 1974), p. 71.

[56] C. Monbrun-Gutteriez, `Service public et rentabilité: La réforme de 1969', in Centre universitaire de recherches administratives et politiques de Picardie, Faculté de droit et des sciences économiques de Reims, *Variations autour de l'idéologie de l'intérêt général*, Vol. 1 (Paris: P.U.F., 1978): p. 227.

[57] Jacques Chevallier, `Réflexions sur l'idéologie de l'intérêt général', in Centre universitaire de recherches administratives et politiques de Picardie, Faculté de droit et des sciences économiques de Reims, *Variations autour de l'idéologie de l'intérêt général*, Vol. 1 (Paris: P.U.F., 1978): p. 11n.

`the image of a single ... society, in which diversity and *particularismes* are overcome, transcended, integrated, by a power that is at the service of the whole community.'[58] According to Chevallier, the view was that such integration could only be achieved through a centralised seat of power: `Indeed the general interest cannot result from the spontaneous adjustment of private interests; it has to be mediated by an authority which, owing to its specific position, is able to achieve a synthesis of all individual wills and to define a common interest'.[59] The centralised State fulfilled that function and `the general interest ... was for a long time in France defined within a framework that was the object of a broad consensus, even if its content provided ammunition for numerous conflicts, in particular at the political level: [it was defined] through and at the level of the nation-state, in a centralised fashion; on the basis of a technico-economic rationality borne by the technical and administrative *grands corps*; with individual interests willingly submitted.'[60]

Why should this doctrine have taken such precedence in the French referential framework?[61] Crucially, the general interest concept became closely entwined with the emerging conception of public service, which was viewed `precisely as the main vector of the general interest'.[62] In Chevallier's analysis, public service and general interest were the corollary of power: `concern with the general interest and public service justify power'; conversely, the vesting of public prerogatives into an organisation became a defining criterion of public service; this dialectical relationship between power and service was actually enshrined in French administrative law.[63] The exercise of public power was fully justified if it served the general interest, defined by a neutral, impersonal Administration. Civil servants were purported to be the embodiment of the general interest, paradoxically, both because they served an elected President and because they detained a very detailed expertise that enabled them to remain above the political fray.

As regards Britain on the other hand, one may apply Suleiman's remark - made about the American political system - that the concept of the general interest was never elevated to the rank of a principle and that the influence of lobbying on political decisions has always been viewed as something natural.[64] There was no concept of a `general interest' in the British referential

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[58] Chevallier (1978): p. 12.

[59] Chevallier (1978): p. 18.

[60] Bauby et Boual, *Pour une citoyenneté européenne: quels services publics?* (Paris: Editions de l'Atelier/Editions Ouvrières, 1994), p. 28.

[61] On the genesis of the concept, see Philippe Jourdan, `La formation du concept de service public', in *Revue de droit public* (Paris), vol. 103 (Jan.-Feb. 1987), [pp. 89-118] p. 98.

[62] Fabrice Chéreau and Stéphane Rodrigues, `Services publics et construction européenne', in Bauby et Boual (1994): p. 83.

[63] See Chevallier (1978): p. 27 and footnote.

[64] E N Suleiman, *Les hauts fonctionnaires et la politique* (Paris: Le Seuil, 1976), p. 218.

framework. On the contrary, individual interests had a natural right to be heard and it was taken for granted that they should be protected against the arbitrary exercise of public power.

The notion of `public interest' was commonly found but it was more to do with accountability and the disclosure of information to the public than with policies aiming at improving public amenities: for instance, Public Interest Immunity Certificates were documents signed by ministers in order to prevent the release of official papers in judicial cases. On the Labour side, the `common good' was often invoked, but on the whole `The tradition of a common or public interest [was] negligible' because the House of Commons was `the instrument of the majority party to further its will - not the place where a common interest is expressed and hammered out.'[65] Partisanship was institutionalised to the extent that Prime Minister and leader of the ruling party were necessarily one and the same person.

Clearly the discourse about the general interest was central to public policy-making in France, in a way which was quite alien to British practice. Moreover, general interest and public service were mutually reinforcing elements of the French referential framework. The role of the State as upholder of the general interest carried with it the obligation for the State to provide training in strategic sectors of the economy (e.g. transport, through *Ecole nationale des ponts et chaussées*), to listen to the concerns of the network's managers, to understand the technicalities involved (hence the employment of P&C engineers within the Ministry) and to provide backing in difficult periods. Ultimately the blurring of public and private spheres was also justified by the doctrine of the general interest, which demanded that all available means be used in the pursuit of State objectives. In the British framework, the control of public expenditure was the prime responsibility of the state, and the public interest dictated that public and private spheres be clearly delineated, in order not to obfuscate lines of accountability.

3. STATE CULTURE V. GOVERNMENT CULTURE

The stark contrasts revealed by the case studies were not so much bound up with the presence or absence of state intervention, than with two divergent cultures of public intervention. The French referential framework of public action was part of a `State culture' which emphasised continuity of purpose and action, whereas the British referential framework, with its ambivalence towards public action, reflected a `government culture' which emphasised adaptability to changing circumstances. The former stressed commitment and objective-setting over the long term whilst the latter necessarily fostered policy change and shorter commitments. Even within this government culture, there existed a strong prejudice against public power: government was associated with political interference (hence the arm's length relationship) rather than with expert guidance. In France, the State was associated with expertise and impartiality.

The following remarks gather a number of threads running through the case studies: practices concerning the distribution of power within policy-making circles, the balance between

[65] Will Hutton, *The Guardian* (28/03/1994): p. 11.

political and administrative imperatives in decision-making, the procedural / substantivist divide and finally defines the central feature of each referential framework in terms of a `State mystique' (France) and a `symptomatic absence' (UK).

A. The distribution of public power within the central apparatus

The process of high speed rail link route refinement casts an interesting light on the character of public power in the two countries. From October 1991, British central government was closely involved in the process of sifting through the various route options. This hands-on approach was quite unlike SNCF's internal process of route development, and is very reminiscent of the jointly funded and supervised BR/MoT APT programme. Furthermore, the route chosen by the British government in October 1991 was only the `broad conceptual alignment'; it took another 2 1/2 years for the route to be refined, a process which closely involved local authorities and DoT until April 1994, with public consultation taking place 1 1/2 years after the broad alignment had been selected (March 1993); and the parliamentary process which began in November 1994 and was expected to last about two years could also lead in principle to route changes. When the French government chose the route already developed and refined by SNCF in January 1975, it was in order that the public inquiry may take place (starting in April 1975) and construction actually began soon afterwards (December 1976); in all the process took less than two years.

The British government set a remit whereby URL `should identify a series of options satisfying different criteria, to allow Ministers to make an informed choice',[66] thus leaving the final choice in the politicians' hands, but the French government let SNCF choose the best option itself, which then had to be endorsed at the political level. Investment evaluation was found by URL to be `complex', owing to the fact that `the framework of options which the Government has asked Union Railways to address is extensive, and the number of possible permutations between options is consequently very large',[67] but SNCF only carried out one fully detailed cost study of a possible Paris-Lyon alignment. SNCF was granted a large amount of discretionary power which BR never enjoyed. In that sense at least, SNCF behaved like an `arm' of the State (and was perceived as such at grassroot level during consultations), whilst BR was merely an `appendage'.

UK government control of the railway was in actual practice on the whole very vigorous. Yet at the same time, British central control, though strong enough to either launch a project which enjoyed far from unanimous support at BR (APT), or to stifle initiative, was not powerful enough to squelch opposing views, which were aired publicly, whilst the diffuse, French technostructure processed decisions in such a way that they were accepted as final by all interested parties at the centre and not argued out in the open: SNCF's preliminary studies, together with the *instruction mixte* procedure, resulted in the production of a single project. This meant that by the time the

[66] URL (March 1993), p. 4.

[67] Ibid., p. 75.

public inquiry was launched, the railway had the full weight of State authority behind it. This is in sharp contrast with the British situation, where several routes were examined in the full glare of publicity and where government and Railways Board, and sometimes private companies (Eurorail, Eurotunnel) were often at loggerheads, and seen to be so in heated exchanges in the public arena.

More generally the collegiate - so to speak - nature of Parliament, reflected in the Cabinet practice of debating policies of the day, contrasted with the more hierarchical arrangements in France, where the Council of Ministers mainly endorsed decisions made at lower levels. In the first case one had collective governance involving a multiplicity of actors on the same level (enshrined in the doctrine of Cabinet responsibility), whilst in the second, responsibilities were defined at each level in the hierarchy of power.

Thus we encounter the following paradox: public power in Britain was both more highly centralised and more dispersed (between different parts at the centre) whilst in France it was more both more highly concentrated (because of hierarchical arrangements) and less rigidly controlled. Strong central control in Britain was accompanied by a relative dispersal of power among competing groups of roughly equal standing, whilst in France the technostructure concentrated power inasmuch as it left out Parliament, local authorities, and even, ministers. The British Parliament for instance was far more deeply involved in decisions than its French counterpart and the British parliamentary process was a great deal more demanding; the decision to build the link to the Tunnel required the passing of the CTRL Bill. The French Parliament played an extremely peripheral role, the decision to build LGV being taken by ministerial decree (DUP of March 1976), with just one debate (at the Senate) on 17 December 1976.[68]

The above paradox was connected to the fact that open political debate was highly valued in Britain, whilst in France administrative efficiency and impartiality ranked higher.

B. The relative weights of administrative and political imperatives

Two divergent views concerning the role of the state in relation to civil society or the nation were manifest. In Britain, `democratic self-government' was the professed ideal, embodied in representative Parliament. In France national sovereignty lay with the people (not Parliament) and the State was the repository of popular sovereignty; in fact, the French State identified itself with the French Nation and saw itself as its embodiment (hence it was the guardian of the general interest far more than Parliament could ever be); this had resulted in `the overinvolvement of the State, guardian of sovereignty, which immediately suspects any individual or group of being factious, of attempting to undermine the general will by emphasising individual claims.'[69] This preconception also applied to political parties, seen as divisive forces. It was so entrenched that to

[68] Former Minister of Works E Pisani complained during that debate that `there [had] not been a genuine public debate at the Parliamentary level on this topic' (Sénat, *Séance du 17 décembre 1976* (Paris), p. 4601).

[69] Joël Roman, *Le Monde* (15/09/1992): p. 2.

all intents and purposes it put government in a subordinate position: `The continuity of the Administration, beyond political regimes, is a reality not to be neglected: the State is its business and the politician, the government, ends up by absorbing such values, by endorsing existing institutions, even if they stand in the way of their own interests or run contrary to their deepest beliefs.'[70] In France administrative values were superior to political ones and infused political behaviour.

The old doctrine of the absolute sovereignty of the Crown-in-Parliament meant that `parliamentary absolutism' lay at the heart of Britain's regime.[71] Government ministers were drawn from Parliament because they were meant to `represent' the people. The House of Commons was akin to an assembly of delegates with a small supporting staff (the Civil Service). In France, ministers need not have been elected and representation was not an overriding concern. The State was meant to `serve' the people; as such, it was akin to a professional organisation with a multitude of tasks. Hence British civil servants served the `government of the day' whilst their French colleagues were `at the service of the State'. In Britain political values ranked higher than administrative ones.[72] This meant that administrative values were infused with politicians' imperatives.

Whereas accountability of decision-making was perceived as an important issue in the UK, it was hardly raised as such in France. This is not to say that the British government was actually more accountable than the French one, but that it had to be seen to be accounting for its actions. In fact, the British Houses of Parliament may have played a greater role than their French counterpart, but it was Cabinet which had the final say when Parliament and Ministers did not agree on policy: the debate about the fixed link promised to the Commons by the Labour Transport Minister in 1974, prior to any decision on the Channel Tunnel, took place *after* the decision to cancel the project had been taken in January 1975; the change of policy was presented to Parliament as a *fait accompli* and ran against Parliamentary opinion, which had been in favour of the Tunnel by a ratio of 5 to 3 over the previous 3 years.[73]

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[70] Dupuy and Thoenig (1983), p. 129.

[71] Marquand (Jan. 1995), p. 17.

[72] Parliamentary supremacy also meant that `Parliamentary policy cannot be challenged in the courts'; one particular example was provided by a case brought against the BRB (who were alleged to have obtained a private Act, British Railways Act 1968, in a fraudulent manner), in which the House of Lords ruled that `The courts had no power to disregard an Act of Parliament, whether public or private, nor had they any power to determine whether the passing of an Act had been obtained by any irregularity or fraud.' (Newman, 1975, p. 245; and `British Railways Board and another v. Pickin' (1974), p. 246.) French parliamentary legislation and ministerial regulations on the other hand underwent legal scrutiny by the highest judicial power in the land, the *Conseil d'Etat* (which could veto their implementation) as was the case with the DUP Decree for Paris-Lyon.

[73] Bonnaud (1994), p. 212.

The above partially accounts for the peculiar dynamics of the policy processes brought to light by the case studies. Once Project C03 had gathered sufficient technico-administrative momentum, it was able to overcome political obstacles and survive a totally unfavourable change of President of the Republic; the initial APT momentum was lost when Labour regained power in 1974. In France, high politics had a marginal effect on the project, whilst in Britain they were decisive. Paradoxically, the initial national political contexts were favourable to APT and hostile to TGV, but the dynamics of decision-making reversed this situation. Similarly ministerial politics had a different impact on the new infrastructure schemes: split Cabinets regarding CTRL1 and 2 led to delays and policy reversals, whereas French government division over the Paris-Lyon issue only led to a fairly unconsequential delay. Finally it must be stressed that in both countries there was a high turnover of Transport Ministers, which noticeably affected British policy-making (even when the parliamentary majority remained unchanged) but barely stirred the French policy community. High politics had a far greater and damaging impact on the fate of BR's projects than on that of SNCF's, at least partly because the French Administration constituted a powerful buffer between the sector and the politicians. Thus the sector's remarkable capacity to insulate itself from political vagaries rested on the pivotal role played by a strong Administration. Both BR and DoT for their part were ill-equipped to resist the imposition of successive short-tenure ministers.

C. Procedural government and substantivist State

One cannot comprehend the British and French referential frameworks without a glance at underlying legal conceptions. Although both British and French political cultures are ultimately founded on the rule of law, that rule is envisaged differently: in Britain, the contractual tradition presupposes partners bound by contract, where everything has to be agreed by interested parties which are on an equal footing; in France, the Roman, *imperius* tradition implies unilateral law `from above'. Moreover, the British legal system revolves around the notion of jurisprudence whereby the law flows from custom and civil society, and evolves constantly owing to judicial interpretation. In contrast, French administrative law is `free from the shackles of binding precedent';[74] law was codified from 1804 under Napoleon and rests on a number of strict rules, not on tradition.

The reason for the emergence of the public service doctrine in France and its absence in Britain is that `romano-germanic law favours ... the conceptualisation of notions, whereas the Common Law family prefers the use of procedures, more concrete than the creation of notions. The public service concept arose in Roman Law countries. It is a Latin concept, inasmuch as it can be defined as an abstract, ill-defined notion, formulated by general rules ... it is in France that the concept is the more structured and the broadest, owing to notably the important place occupied by

[74] See Harlow (1977).

administrative law. On the contrary such a concept is foreign to the British Common Law tradition.'[75] The distinction procedures / substance is apparent here.

If we now turn to Jourdan's definition of the conception of power in feudal France, we find it strikingly similar to present day British conceptions and practices: `Power is ... personal and individualised, it emanates directly from civil society' and is not totally concentrated so that `The relative division of power translates as an absence of codification and unification of judicial rules, it is customs notably which regulates social relationships between individuals'.[76] Now the belief in the precedence of `customs' - which is enshrined in the Common Law of Britain - is a procedural belief: something is worthwhile simply because it has been accepted by a sufficient number of people over a sufficiently long period of time, not through its intrinsic value. Legal codes on the other hand demonstrate a faith in the possibility of basing justice on rational rules, which is essentially substantivist.

The different legal bases for public action in Britain and France thus take us back to an earlier point, namely the dichotomy between procedural and substantive policy-making, which has been more or less directly touched upon by a number of authors. Three are of particular interest. Lindblom defined two methods of policy formulation: the `root' and the `branch' methods (the latter better known as `muddling through').[77] The root method identified by Lindblom as comprehensive, seeking the best means to achieve desired ends and relying heavily on theory clearly forms an important part of the substantive approach; whilst the branch method, with its deliberately limited scope, its emphasis on wide-spread agreement by various actors and its more empirical analysis, brings together some of the main elements of the procedural approach. Hayward's description of `humdrum' decision-making as incremental, based on the criterion of acceptability, and devoid of explicit, medium to long-term objectives, applies to the processes in our British case studies, whilst his definition of `heroic' decision-making as aiming at comprehensive coordination, involving explicit, binding objectives, and based on rational analysis, clearly relates to our French case studies.[78]

In his discussion of the ideology of the general interest, Chevallier also seemed indirectly to define the two approaches. In his view political power may be exercised either by a `Mediator' or by a `Master':[79] in the first case (Mediators), `leaders stress their status as representatives of

[75] Montagner (1994): pp. 44, 45.

[76] Jourdan (Jan.-Feb. 1987): [pp. 89-118] p. 94.

[77] Charles E Lindblom, `The Science of "Muddling Through"', *Public Administration Review* 19 (1959): pp. 79-88.

[78] Hayward (1975), pp. 4-5.

[79] Chevallier (1978), pp. 40-41. Although he is actually analysing the two ways in which the general interest can be defined in Western countries, ways which may co-exist, I would argue that the `Master' is the dominant (though by no means exclusive) conception in France, whilst the `Mediator' is the dominant conception in Britain.

members [of society] and seek to bring out - by means of a very wide-ranging and open confrontation of viewpoints - a common denominator for all the contending interests; they turn into clever negotiators, mediators or catalysts who seek through compromise to iron out tensions, overcome oppositions ... The general interest is presented as the outcome of a process of progressive combining and aggregation of the members' private interests'; contact between members and leaders is common. This immediately brings to mind the elements of representation, debate and lobbying which we found to be so important in the British referential framework earlier (`political' rationality). In the second case (Masters), `leaders must ... retain necessarily lofty views and shelter themselves from pressures exercised by members; besides, the solutions they adopt must prevail in all cases, by force if necessary, over mere private interests. Full of their superior position, confident of detaining knowledge, leaders come to behave as "moralising dispensers of justice" who conceive their role as a ceaseless fight against corporate selfishness.' This description corresponds to the `technico-economic' rationality which we explored in earlier chapters.

These two modes of public action rested on divergent views of the legitimate basis for public action: the French technico-economic approach rested on the superiority of substantive, rational knowledge, whilst the British approach reflected principles (embodied in strict procedures) such as democratic consent, public debate and political representation. The technico-economic `object-drivenness' of French public projects explored earlier tied in with basic characteristic assumptions about knowledge and the State. It was taken for granted that knowledge acquired by State experts was more comprehensive and neutral than anything the private sector could fathom. There was a drive from the late 1950s both at State and public firm level, to improve the understanding of public economy with a view to rationalising decision-making. The modelisation of `reality' in newly-set up State / public firms research units was justified because it provided useful, albeit imperfect, instruments at the service of public power. The normative view that knowledge ought to be perfected and widely disseminated was very widespread. In Britain, there was a preference for reliance on concrete, professional experience, viewed as a better guide to decision-making since it was based on actual facts (preferably in the private sector).[80] With this essentially sceptical approach, no modelling procedures were sufficiently comprehensive and accurate to render the full complexity of `reality'; modelling was bound to be inadequate - unless carried out on a grand (expensive) scale - and therefore hardly worth attempting. As experience was necessarily more limited than models of reality, decisions were accordingly of limited scope.

At the same time, it was well-established `knowledge for action' which French State experts were keen to use, whilst in Britain there was a preference either for fully-fledged `scientific knowledge' (which was always open to being challenged and overturned) or for `rule-of-thumb' practical operating knowledge. Clearly two theories of knowledge were at work in the referential

[80] E.g. in 1969-70, Ted Heath assembled two working parties of businessmen and business consultants to analyse British government and advise the Conservative leadership on the reform of government (see Heclo and Wildavsky, 1981, p. 271).

frameworks, which I cannot begin to unravel in the short space that is left.[81] But these translated into different practices, which are easy to document within the framework of our case studies: BR were unwilling for a long time to explain fully what they were doing or to see their unique, practical expertise challenged by other bodies (e.g. TRRL); this attitude was institutionalised to some extent in the arm's length relationship, which basically demanded that everyone `stick to their own patch'. When *scientists* were taken on by BR, they found willing hears within MoT/DoT. SNCF on the other hand were keen to demonstrate the depth of their expertise, not based solely on their unique operating experience but also on cutting-edge research by State *engineers* (in the broad, technico-economic French acception of the term). This zealousness was fully appreciated, not to say encouraged, by State officials.

Knowledge for action was needed as the basis for decisive public action, encapsulated in the terms *volontarisme* (public will or purposefulness) and *volonté de l'Etat* (will of the State), which are in common usage in French political discourse. The French referential framework did not overly concern itself with the democratic issue. It was predicated on the assumption that expertise cannot be improvised by politicians, that being elected does not confer wisdom on an individual, and that rational policies can only be formulated by thoroughly trained, experienced and disinterested servants of the State. In Britain on the other hand, securing consent was perceived as paramount and one found a lingering suspicion of any government which tried to identify the needs of society before society itself had become aware of them. The prevalent view was that civil society had a natural capacity for self-regulation (something akin to Adam Smith's `invisible hand' in the economy) and ought to be left to take care of itself; elected politicians were meant to give people what they wanted, rather than what an unelected administrator in central government might think they needed. In France, someone as long-serving as Marceau Long (a Vice-president of the *Conseil d'Etat*), had no hesitation in saying that `To enable people to live together and to direct the future of society so as to fulfil its deepest aspirations: that is at the heart of the State and of its political function. It is the guardian of social cohesion'.[82]

It would be fascinating to trace the origins of these two philosophies of public action, which are so distinctive. Although it is well beyond the scope of this work, I will venture one suggestion. Marquand has argued that the British `gentlemanly-capitalist state of the nineteenth century ... sought to make the world safe for gentlemanly capitalism'; that is `to make sure that the rules of the global order were observed' everywhere: `markets had to be open; debts had to be paid; and the canons of fiscal orthodoxy had to be observed.'[83] In other words, proper `capitalist'

[81] Theories of knowledge were bound up with different conceptions of reason (empirical practical v. abstract theoretical). For an excellent discussion of the two concepts of reason in British Conservative thought, see A Vincent, `British Conservatism and the Problem of Ideology', *Political Studies*, XLII (1994): pp. 211-220.

[82] Words spoken in the New Year address of the High Civil Service to the President of the Republic, 3 January 1992 (quoted in *Le Monde*, 3/04/1992, p. 2).

[83] Marquand (Jan. 1995), pp. 11-12.

procedures had to be followed. French elites on the other hand periodically bemoaned the economic backwardness of France; Colbertism was in fact born at a time when it was felt that French industry lagged behind its English competitor. Such a perception gave rise to the desire to catch up and quite naturally to the setting of precise objectives. The British framework emphasised and institutionalised profit maximisation in the short term (a financial `principle'), rather than productive power in the long term (an economic `substance'), as in the French framework.

D. State mystique and symptomatic absence

It is somewhat ironic that democracy should have been of so little concern to French policy-makers, since the defining event in French politics was the Revolution of 1789, whilst the British polity - which had retained much of its pre-democratic character - exhibited much anxiety about accountability.[84] 1789 ushered in modernity for the French State; but the defining event for the British state (in home affairs at any rate) was the Counter-Revolution of the 1790s and the early years of the nineteenth century, the period of the hard-fought Napoleonic Wars; under the threat of a new order imported from abroad, it gathered all its strength and successfully called on the past - and reconstructed it to suit its own purposes - to preserve the existing status quo. These antithetical responses to revolutionary change became embedded in state practice in both countries; thus most of the time we contemplate two opposing movements: a French polity looking forward to an uncharted future that remains to be built and a British one seeking to re-assert the perceived superiority of traditional ways and to preserve past achievements, `preferring the imperfect but functioning institution' born of experience to `promised perfection' based on theoretical speculation.[85]

Over time, a French State `mystique' evolved: serving the State was the aspiration of the brightest in any generation; they would join an elite State school where the *sens de l'Etat* would be inculcated to them. The primary connotations of the word *Etat* were prestigious. If there was a problem on the national scale, people's expectation was that the State should step in, for the Administration possessed a high degree of legitimacy and credibility: `the Administration occupies a particular status in the French civic culture. Though cynicism is widespread, for instance with politicians being perceived as motivated by the search for personal advantage ... on the other hand the Administration is a counterpower, the guardian of boundaries in the name of higher principles such as law and the nation.'[86] The reverse side of the coin, providing fiscal revenue to fund State intervention was by and large tolerated. As Coleman has pointed out, one's country is something in which one has a certain investment, for which sacrifices (e.g. tax money) are occasionally required

[84] For a full discussion of the early modern features of British political life, see Nairn (1990), in particular pp. 152-209.

[85] Vincent (1994): p. 211.

[86] Dupuy and Thoenig (1983), p. 133.

to keep it going.[87] French public policy was based on the perception that the population were prepared to `invest' more, perhaps because of a stronger sense of national destiny and because economic rewards were obvious in what used to be - until very recently - a closed economy.

British public policy had to take into account the fact that the economic actors who `mattered' were used to living in a more open economy (Empire then Commonwealth), and that there was a more diffuse sense of identity in a multinational state. There was a perception after 1945 that the British people were less inclined to `invest' in the upkeep, modernisation and development of the country as a whole and would rather have `jam today' than invest in tomorrow. This perception connected effortlessly with the political tradition of constraining public power (and expenditure), which Hayward called `traditional self-restraining methods of government'.[88]

Instead of a `State mystique' as in France, one sensed in Britain a symptomatic absence of the state in any Continental sense.[89] This translated an uneasiness about unrestrained public power, or even power more generally: one never ceases to be amazed at the frequency with which the famous quotation `Power corrupts. Absolute power corrupts absolutely' (Lord Acton) is cited in Britain. Although in the British political system `Concentrated executive power was always there in reserve' there was until 1979 an `unspoken proviso that it should be kept in reserve as much as possible.'[90] Even in Labour thinking we find strands of distrust for state power. Although the Labour Party is seen as the traditional party of the state, industrial corporations (such as the railways) created in 1945-1947 by the Labour government were meant to be immune both from vested interests *and* from government intervention. The `arm's length' relationship was thus applied by Labour to the railway to shield it from unwarranted political meddling. On a more general level, Tony Benn has written that `No serious socialist in the Labour Party, with its deep roots in

[87] J S Coleman, `Individual Interests and Collective Action', *Papers on Non-Market Decision-Making*, 1, 49-62 (1966).

[88] Hayward (1975), p. 6.

[89] Why was the political will to modernise, or more generally to conduct pro-active policies, felt to be necessary in France throughout the postwar period and not in Britain (except for short spells of time)? Perhaps one needs to look at the experiences of revolution in the two countries in order to begin to understand such a discrepancy. Britain was the first country to experience a political revolution against Absolute Monarchy, but did not complete it: hence in the words of Nairn, it was an `immature revolution' (Nairn, 1990. See works by other New Left Gramscians, arguing that Britain's political revolution was the least bourgeois of the European political revolutions, in particular Perry Anderson, *English Questions*, London: 1992). Similarly with the Industrial Revolution, Britain was a pioneer. Other European countries, particularly France, sought to catch up in industrial terms through the exercise of political will. But political will had not been necessary in Britain and once the `spontaneous' industrial change had run its course, Britain stood at a standstill while others surpassed her. Thus the `early start' meant that both the political and the industrial revolutions had remained at `immature' stages; Britain had made `an incomplete and ultimately unsuccessful' passage to modernity (Marquand, Jan. 1995, p. 7). It is as though the Industrial Revolution had been a happy accident in which the state played no part whatsoever (the free play of autonomous individuals) and as a result British elites had trusted circumstances more than deliberate design, which would explain why they favoured market forces so much and trusted state action so little.

[90] Marquand (Jan. 1995), p. 20.

Christian ethics, co-operative experience, solidarity, dissenting radicalism and Marxist humanism has ever argued for the rigid imposition of state control, for our whole history has been a struggle to disseminate power by establishing and extending political and economic democracy.'[91]

This self-denying ordinance regarding the exercise of power was not at all found among French elites; they viewed power in a positive light as something to be used to promote national growth and progress. Their British counterparts on the other hand were very sensitive to the fine line between use and abuse, which led to a self-conscious practice of public power. This is not the same as saying that the British state was weak and the French strong. The former was only `minimal' *in conceptions* but there was a `formidable battery of powers available to the central state',[92] a fact which became palpable during the Thatcher/Major premierships, not least in the railway sector. And the latter's `strength' depended not so much on formal powers as on its ability to enter into meaningful partnerships with economic actors (such as SNCF) and to train national policy elites to conform to one mould.

There was more to the British tradition than the constraint of public power on purely moral grounds. A more pragmatic reason can be found in the fact that from the eighteenth century British identity was inherently imperial,[93] whilst French identity was first and foremost national (and after 1789 Republican). Imperial identity meant that imperial affairs had precedence over home affairs: the `central state ... managed the provinces through a tacit form of indirect rule ... that left local affairs to local elites ... the crucial clause in this unwritten territorial constitution was that the interests of provincial Britain came second to the requirements of the global system.'[94] The British state did not focus on *national* development but on maintaining *international* influence in finance and trade; precisely the reverse order of French State priorities. Thus an inward-looking France equated State and domestic development whilst an outward-looking Britain directed state attention to international matters; the British state was quite literally absent from the domestic scene. It does not follow however that it had no developmental role whatsoever; Marquand points out that `it *did* use public power to promote international competitiveness ... on behalf of the "gentlemanly capitalist" service sector in its south-eastern heartland, not on behalf of the "ungentlemanly capitalist" manufacturers in the provinces.'[95] In short, it was more sensitive to the interests of (international) trade and finance than to those of (domestic) production, the mirror image of the situation in France.

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[91] In *The Guardian* (20/04/1992): p. 21.

[92] Marquand (Jan. 1995), p. 20.

[93] Ibid., p. 9. He argues that Britishness was `of necessity, imperial, oceanic, extra-European ... Empire was not an optional extra for the British; it was their reason for being British' (ibid. p. 18).

[94] Marquand (Jan. 1995), p. 12. See also J Bulpitt, *Territory and Power in the United Kingdom, An Interpretation* (Manchester: 1983).

[95] Marquand (Jan. 1995), p. 13.

The British referential framework did however to a remarkable extent focus on restraining power and emphasised the unfettered exercise of individual freedom. The French framework focused on `nationalising' power, that is putting it at the service of the whole Nation, and emphasised the effective exercise of collective power for the benefit of all individuals.

To sum up, French State culture revolved around the supremacy of the impersonal Administration over individual politicians, the steady development of a public managerial culture designed to optimise public expenditure, the harnessing of public and/or private forces towards public ends, and the belief in economic and social perfectibility. All these elements were at least partially compatible with each other, and some were mutually reinforcing, which accounts for broad policy continuity. Although Project C03 could appear at first sight to be far removed from these general considerations, it in fact displayed all of these central features. As for British government culture, it was grounded in the supremacy of elected individuals over professional experts, the minimisation of public expenditure, the innate superiority of the private sphere, and a deep-seated belief that individuals and organisations were best left to look after their own interests. Some of these elements stood in contradiction with each other, or were not shared by all political parties, which often led to policy paralysis and reversals. Both the Advanced Passenger Train and Channel Tunnel Rail Link illustrated these essential features.

4. THE REFERENTIAL FRAMEWORKS UNDER CHALLENGE

Referential frameworks are not fixed. Although prevailing conceptions and practices can be extremely resistant to change, evolution does take place. Challenges to established state practice may be of a very traditional nature, either internal (domestic changes, e.g. in public opinion, internal shifts in the balance of power) or external (foreign developments). Challenges may also be of a wholly unprecedented nature (European integration, global economic interdependence). Furthermore, within their respective national settings the frameworks are only in a dominant position. They are by no means accepted by all members of the national policy-making elite, or of the public, and have to contend with rival claims to legitimacy. In this section, I briefly discuss the most salient of these challenges within the framework of the case studies.

A. Traditional challenges

Although with regard to Paris-Lyon the exercise of French public power was conducted in the traditional centralising, high-handed manner, with choices made almost exclusively on grounds of technical efficiency, it was beginning to face open criticism. The 1970s saw the beginnings of a legitimacy crisis of French State practices: State technical competence was questioned, along with the neutrality of procedures; prevailing practices were attacked as being anti-democratic and the right of the State to intervene in the life of the nation was challenged.[96] New trends began to

[96] Charon (1979), pp. 144-145.

undermine the doctrine of the general interest. The `authoritarian state logic, whether it had the appearance of *le fait du Prince* or that of technocratic decisions',[97] had been granted legitimacy through the largely unchallenged claim of `Industrial Colbertism' that the State had a monopoly of the general interest.[98] But it was now pointed out that this monopoly was potentially dangerous, and that the Republican state model made it possible for `arbitrary decisions to be imposed, under the guise of the general interest'.[99] Technico-economic criteria have also gradually been challenged by other criteria such as environmental and regional ones. Local and individual interests are no longer willing to comply with `superior' interests. French practice is becoming somewhat more procedural. But the attempt at combining the two modes of public action (procedural and substantivist) presently taking place in France is proving extremely trying because the two rationales are so distinct and because institutional habits are so ingrained: Fourniau points out that the instigators of the Bianco Circular (Circular No 92-71 of 15 Dec. 1992, reforming the *utilité publique* procedure for large national infrastructure projects) `expressed a desire to democratise public decisions' whilst `the Authorities see the circular primarily as a way of using local debate to renew the legitimacy of a fundamentally unchanged technical and economic approach'.[100] This points to the resilience of established practices.

In Britain, the dominant referential framework has equally been under fire. Public and business opinion has become increasingly critical of transport policy, both on environmental grounds and on the grounds of its inefficiency. Narrow financial criteria traditionally used in the appraisal of capital investment rail projects have been successfully challenged and CBA has been introduced in connection with CTRL. However, the range of criteria taken into account is still relatively narrow: e.g. benefits of the Channel Tunnel and its rail link to the regions of the North and Scotland have not been included in the appraisal criteria. Here too, change is slow and new practices possess strong affinities with old ones.

In both countries, the referential frameworks have also exhibited a high degree of resilience to foreign influences. For instance the planning experiment in Britain in the 1960s was very openly inspired from French State practice but remained no more than a short-lived experiment because there was no institutional capacity for the planning approach, and a great deal of intellectual dislike for its underlying principles. In France in the 1980s, in the wake of Anglo-American neo-liberal thinking, parties both of the Left and Right started to re-examine the role of

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[97] Joël Roman (philosopher) in *Le Monde* (15/09/1992): p. 2. He also argues that today a more contractual approach involving negotiations is being learnt.

[98] Elie Cohen interviewed in *Le Monde* (23/02/1993): p. 2.

[99] Roman, *Le Monde* (15/09/1992): p. 2.

[100] J M Fourniau, `Making the decision more transparent: Recent changes in the treatment of major transport infrastructures in France', *PTRC 22nd European Transport Forum* (London: PTRC, September 1994).

the modern State. Its omnicompetence was questioned. As Duhamel and Pisier have argued,[101] the new trend in French politics is now to re-evaluate the respective places of State and civil society, a trend illustrated by the significant number of press articles and high level gatherings around that very theme;[102] *Le Monde* even declared: `The notion of the State is in crisis'.[103] Concurrently, there has been a `rehabilitation of the firm'[104] or in the words of Michelle Cini, a `legitimisation of private interests'.[105] It is somewhat premature to conclude however that by the end of the 1980s, `Right and left in France agreed that despite their success in the past, the era of state-led development was past'.[106]

Might the more far-reaching changes to the referential frameworks be wrought by shifts in the balance of power between various policy-making factions? Such shifts did occur in France, where DATAR's creation and ascendency had adverse consequences on the railways, but SNCF subsequently regained much of its former influence. In Britain, such shifts did not concern the railway itself as much as the Transport administration. The temporary ascendency of government scientists at MoT/DoE greatly favoured APT. On the whole however, such shifts were likely to be reversed if they ran against the grain of established practice.

B. A new type of challenge: European integration

Besides the intermittent influence of traditional domestic and international developments, British and French policy machineries had to cope on a day-to-day basis with a far-reaching transformation of their working environment: the creation and development of the European Community. But for over two decades, the EC's Common Transport Policy (CTP) barely existed in the railway sector and national policy-making remained largely undisturbed, with the exception of the PSO concept, introduced in 1974. Differences of approach to railway policy were felt to be so great that policy-making at the European level focused on road issues, which were somewhat easier to solve.

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[101] Olivier Duhamel, Evelyne Pisier, `Services publics, opinions publiques', in Yves Mény (ed.), *Idéologies, partis politiques et groupes sociaux* (: , 1989).

[102] For instance, a conference jointly organised by *Le Monde* newspaper and the *Ecole nationale d'administration* on 26-27 September 1991, *Où va l'Etat?*; another conference, organised by alumni of ENA, *Les Etats modernes à la recherche d'une nouvelle efficacité* on 16-17 January 1992 (as reported in *Le Monde*, 18/01/1992, p. 9 and 19/01/1992, p. 8).

[103] *Le Monde* (5/10/1991): p. 2.

[104] C Stoffaes, `Industrial policy and the state: from industry to enterprise' in P Godt, *Policy-Making in France* (London: Pinter, 1989).

[105] Michelle Cini, `The renewal of the French ruling elite', *Politics*, II, 2 (1991): p. 10.

[106] Holmes and Sharpe (1989): p. 9.

It has been argued that the extremely slow progress of the CTP, one of the three foundation policies in the Treaty of Rome (Article 3), was due to a conflict between the Anglo-Saxon and Continental approaches towards transport; the former being essentially commercial and concerned with maximising efficiency whilst the latter treats transport provision both as a state obligation and a policy instrument.[107] If we substitute `French' for `Continental', it is clear that the case studies vindicate this diagnosis. There were other conflicting elements in the British and French approaches to transport policy, which I now discuss.

Given the features of the dominant French referential framework analysed in the course of this work, it is not surprising that French governments should be promoting Europe-wide networks, viewed as `a powerful factor for the construction of a concrete Europe.'[108] The nation-building ethos is being reiterated, albeit on a wider scale. Conversely British governments, at least since Thatcher, have stressed deregulation and the phasing out of public subsidies. So whilst the EC adopted for the first time in 1989-1990 a multiannual action programme in the field of transport, the UK government took a restrictive view of the role of the European Commission `in developing a transport infrastructure in the European Community', arguing that its role `should be "restricted to the coordination of national planning"'.[109] The French preference for integrated policies was incompatible with the British wish for plain coordination.

Since 1990 the EC has been `more concerned with the development of an integrated transport policy, a major part of which is the funding of a network of infrastructure',[110] and thinking and long-term plans have been more in tune with features of French State practice since the Maastricht Treaty (Dec. 1991), a milestone in the development of the CTP. The Treaty provided for the construction of Trans-European-Networks (TENs) in transport (as well as in the energy and telecommunication sectors). By 1993, high speed rail infrastructure projects had become part of the policy agenda and subsequently acquired a high political profile. The Commission's approach to railway matters since 1993 has been highly reminiscent of the French Masterplan approach, involving the prioritisation of specific schemes and targeted spending. The Commission's *White Book on growth, competitiveness and employment* (Dec. 1993) recommended a large-scale programme of investment into infrastructure networks; it itemised 26 transport projects which deserved priority consideration and gave transport pride of place, listing in its infrastructure action plan 9 high speed rail projects adding up to 60% of the proposed investments; also it argued that it was the Commission's task `to identify priority projects and to concentrate on them what EU funds

[107] See K J Button, *Road Haulage Licensing and EC Transport Policy* (London: Gower, 1984), pp. 11-15.

[108] Martinand (1986): p. 90.

[109] According to critic Lord Clinton-Davis (1991): p. 12.

[110] Susan Baker, `Travelling Fast to Get Nowhere: Transport Policy in the European Union', *Politics*, 14(2) (1994): p. 72.

there were available'.[111] Finally, once the High Level Group set up by the Economic Affairs Commissioner, Henning Christophersen, had selected 14 of those priority projects, it became clear that one of the aims of TENs was `to effect a modal shift in traffic from road to rail ... Thus, whereas today roads carry roughly 80% of passenger traffic whilst rail carries less than 10%, the balance of investment in the 14 priority projects is just the other way round. Roughly 80% is earmarked for rail projects - 10% only will go to road construction.'[112]

French policy-makers were no strangers to such blatant interventionism, having for decades sought to develop rail traffic and protect it from unfettered road competition, but such a strong focus on public transport was unfamiliar to British central government. So how was this integrated approach viewed in Britain, where a case-by-case approach was preferred? One official acknowledged that there was a different `train of thought' on the Continent; whereas the ideal of local planning was dominant in Britain, the concept of spatial development and the tradition of central planning were strong in France and had `flowed across' into the European polity; the UK welcomed EU initiatives that could develop European trade and provide financial support to national projects but did not have to think in terms of network because it was an island.[113]

Such stark differences in outlook were problematic at the level of European policy-making. By the early 1990s, some in the French Administration were calling for the formulation of a new concept, `European public service', whose objective would be `to seek simultaneously utility, quality, economic and social efficiency.'[114] Clearly, this was an extension of the public service concept, developped within France from the mid-nineteenth century, from the national to the European sphere. The French government embraced wholeheartedly the concept of European-wide transport networks and devised new domestic high speed rail policy with a full awareness of the implications at European level. In fact one could almost view the emergence of a European high speed rail network as an extension of French national railway policy, fully aided and abetted by the French railway operator, grounded in a technico-economic rationale. The British government for its part allowed purely domestic and ideological considerations to constrain the potential commercial benefits of the London - Paris international link; although the Tunnel represented an unprecedented commercial opportunity for BR international services, central government appeared unwilling - or unable - to exploit it to the full. On the other hand, it was keen to secure a European financial

[111] See Robert McDonald, `TENs cost hundreds of billions', The Economist Intelligence Unit, *European Trends* (1st quarter 1995), p. 2.

[112] Dr Rana Roy (ECIS), `Bottlenecks in infrastructure: common causes, common solutions', paper presented to the European Society of Transport Institutes Conference, *The harmonisation of transport policies throughout Europe* (Budapest: 15-16 June 1995): p. 12.

[113] Interview with European Secretariat official, Cabinet Office. The facts that services through the Channel Tunnel were running by the time of the interview and that the official was relatively young do not seem to have altered this very traditional outlook.

[114] Martinand (1991): p. 59.

contribution, which goes some way towards explaining the delays experienced by the scheme. Therefore both in British domestic and European policies the same politico/financial rationale prevailed.

It is interesting to note that of the four UK priority projects on Christophersen's Transport List (1994), two are of direct relevance to our case studies: the London-Channel section of PBKAL, and the modernisation of WCML (on which the APT train had been intended to run). These two important railway schemes had foundered against national financial stringency and lack of planning commitment but a new lease of life might be provided by EU level long-term decisions and funding.

Clearly, both the impact of national conceptions and practices on European transport policy-making, and the impact of EU policies on national transport policies are extremely important developments which constitute a very worthy topic for future research. As regards our case studies, the latter type of impact was only in its infancy and influenced policy development very little, whilst the former was very much in evidence but regrettably lies beyond the scope of the present work.

CONCLUDING REMARKS

Despite the evolving nature of the referential frameworks, and the diverse challenges which they faced, in the 1990s many of the elements of the British and French frameworks noted in the case studies remained prominent.

On the whole, the French State in action within the framework of the case studies was not quite as described in the existing literature: TGV was not a *dirigiste* project but an SNCF strategy to gain commercial credibility. The project did however rely on state power for its implementation. This power was not so much inherently coercive, based on strong lines of hierarchical command (though it was, partly) as the result of its ability to work hand in hand with the actors in the sector concerned (e.g. local councils, Fiscal Services, farmers' unions). Also it was based on the cultural hold of notions of public service, and on the perceived primacy of State over society in a number of essential areas. This is what I called a State mystique. It conferred legitimacy to the concentration of public power in the higher reaches of the State apparatus, and to the use of the decree-making procedure for a very substantial project such as LGV Paris-Lyon was.

British central government could not in any way be described as weak, though it might lack a sense of solid purpose. It was keen to promote R&D of a scientific type and to provide start-up funds, but disinclined to play an obviously pro-active role and provide guidance as regards planning for (costly) infrastructure. It exhibited great strength when it came to financial control and intervention in the affairs of the railways was fairly common. It possessed surprising reserves of formal powers which could be used, as indeed they were under Mrs Thatcher, and even under John Major (railway privatisation was backed by very few, even within the Conservative Party). At the same time, central government was singularly devoid of public purpose, even under Labour and

displayed short-term financial concerns more commonly associated with the private sector, because the referential framework was devoid of commitment to public action in the productive segment of the national economy. This symptomatic absence was the counterpart of the culture of individual freedom and public accountability. It justified the dispersal of public power within the broad centre of the state apparatus and the use of lengthy but more democratic procedures.

Several main features of the French referential framework (medium to long-term planning, focused capital investment, systems approach) were highly compatible with the requirements of railway development. Those of the British framework (short-term policy-making prone to reversal, periodical capital investment famines, case-by-case approach) were inimical to large-scale railway projects, particularly those involving infrastructure. But this is not to say that the divergent paths of high speed railway development followed by the two countries can be explained solely in terms of the referential frameworks. I have already stressed in the course of this work that my purpose was not to explain policy outcomes but to derive features of the frameworks of public action from the close study of sectoral policies over a given period.

In practice, the French State mystique meant that the alliance of boldness in public policy (brand new, costly infrastructure) and the drive for effectiveness (proven techniques both for track and rolling stock) turned Project C03 into a successful transport system. The symptomatic absence of state purpose in the British case meant that the alliance of conservatism in public policy (old infrastructure upgraded at the least cost) and scientific discovery (revolutionary APT technology) were preferred. Boldness in public policy was definitely not part of the referential framework if it also involved substantial financial commitment, a point amply demonstrated by the CTRL stories.

The British anti-industrial bias, which adversely affected railway development, had its roots in the international economy rationale which historically informed the British referential framework. The corresponding dominance of financial imperatives was dictated by the needs of the financial services sector which underpinned the imperial system. French industrial patriotism, which actively encouraged capital expenditure on industrial infrastructure such as the railways, had its roots in a domestic economy rationale focused on productive achievement. The procedural emphasis on political debate in Britain was part of a legalistic government culture centred on consent, self-governance and a fair hearing. The substantivist stress on socio-economic efficiency in France belonged to a State culture focused on national achievements as the ends, political will enforcing policies formulated by experts as the means. It is in the light of these twin economic and political legacies that we can understand how French public policy came to be infused with technico-administrative values, whilst British public policy was often torn between political and financial imperatives.

ABBREVIATIONS

British

ACARD	Advisory Council on Applied Research and Development
APT	Advanced Passenger Train
BR	British Rail
BRB	British Railways Board
BREL	British Rail Engineering Ltd
BTC	British Transport Commission
CBA	Cost-benefit analysis
CBI	Confederation of British Industry
CM&EE	Chief Mechanical and Electrical Engineer
CPO	Compulsory Purchase Order
CTCC	Central Transport Consultative Committee
CTRL	Channel Tunnel Rail Link
DoE	Department of the Environment
DoT	Department of Transport
DTI	Department of Trade and Industry
ECML	East Coast Main Line
EFL	External Financing Limit
EFR	External Financing Requirement
EPS	European Passenger Services
HMG	Her Majesty's Government
HST	High Speed Train
IC	InterCity
IRR	Internal Rate of Return
JRDC	Joint Research and Development Committee
JRDWG	Joint Research & Development Working Group
JSG	Joint Steering Group
JTRC	Joint Transport Research Committee
MCA	Multi-criteria analysis
M&EE	Mechanical and Electrical Engineering
MinTech	Ministry of Technology
MoT	Ministry of Transport
NEDO	National Economic Development Council
NRDC	National Research & Development Corporation
PFI	Private Finance Initiative
PSO	Public Service Obligation
RRR	Required Rate of Return
RTC	Railway Technical Centre
SRA	Special Replacement Allowance
STOL	Short Take-Off and Landing Aircraft
TDR	Test Discount Rate
TRAG	Transport Research Assessment Group
(T)RRL	(Transport and) Road Research Laboratory
URL	Union Railways Ltd
VTOL	Vertical Take-Off Aircraft
WCML	West Coast Main Line

French

BCEOM	*Bureau central des études d'outre-mer*
CE	*Calcul économique (public)*
CEP	*Centre d'Essais des Propulseurs*
CIAT	*Comité interministériel d'aménagement du territoire*
CNAM	*Conservatoire National des Arts et Métiers*
CNRS	*Centre national de la recherche scientifique*
DATAR	*Délégation à l'aménagement du territoire et à l'action régionale*
DDSF	*Direction départementale des services financiers*
DETMT	*Département des Etudes de Traction et de Matériel*
DTT	*Direction des Transports Terrestres*
DUP	*Déclaration d'utilité publique*
ENA	*Ecole nationale d'administration*
ENPC	*Ecole nationale des ponts et chaussées*
ENSTA	*Ecole nationale des sciences et techniques appliquées*
EPIC	*Etablissement public industriel et commercial*
FDES	*Fonds de développement économique et social*
FIF	*Fédération des industries ferroviaires*
GEFAU	*Groupe d'études fer-autoroute*
GIE	*Groupement d'intérêt économique*
IRT/ INRETS	*Institut (national) de recherche sur les transports (et leur sécurité)*
LGV	*Ligne à grande vitesse*
LOTI	*Loi d'orientation des transports intérieurs*
MdT	*Ministère des Transports*
Finance	*Ministère de l'économie et des finances*
P&C	*Ponts & Chaussées*
P-L	Paris - Lyon
P-S-E	Paris - South-East
SAEI	*Service des affaires économiques et internationales*
SCF	*Service des chemins de fer*
SEA/SA	*Société d'Etudes de l'Aérotrain/Société de l'Aérotrain*
SETRA	*Service des études techniques des routes et autoroutes*
SNCF	*Société nationale des chemins de fer*
TGV	*Train à grande vitesse*
TRI	*Taux de rentabilité interne*
X	*Ecole polytechnique*

Other and bibliographical abbreviations

AHCIF	*Association pour l'histoire des chemins de fer en France*
BAM	British Archival Material
CEMT	Community of European Ministers of Transport
CGP	*Commissariat général du Plan*
CUP	Cambridge University Press
ECIS	European Centre for Infrastructure Studies
EIU	The Economist Intelligence Unit
ESRC	Economic and Social Research Council
FAM	French Archival Material
FNSP	*Fondation nationale des sciences politiques*
FT	*Financial Times*
HC	House of Commons
HCSP	*Haut Conseil du Secteur Public*
HMSO	Her Majesty's Stationery Office
ICE	Institution of Civil Engineers
IWPICT	Interdepartmental working party on inter-city transport
JO	*Journal officiel de la République française*
OUP	Oxford University Press
PTRC	Planning and Transport Research and Computation
PUF	*Presse universitaire de France*
RFSP	*Revue française de sciences politiques*
RGCF	*Revue générale des chemins de fer*
RGI	*Railway Gazette International*
RHCF	*Revue d'histoire des chemins de fer*
UIC	*Union Internationale des Chemins de fer* (International Union of Railways)
WP	White Paper

SOURCES

I Unpublished

AHICF. *Les très grandes vitesses ferroviaires en France: histoire d'une décision, genèse d'une innovation*, Sixième Journée scientifique de l'Association pour l'histoire du chemin de fer en France (Ministère de l'Equipement, Paris: 31 March 1994).

Boocock, David. `Future Electric Locomotives and Coaches for the InterCity Business', unedited draft of article for *RGI* of June 1985.

British Archival Material (BAM): *Investment in the Rail Passenger System - Multiple Units - Advanced Passenger Train*, Department of Transport, London (letters, memoranda, internal notes, minutes of meetings, internal reports).

Calder, G. `High speeds and the CM&EE', draft lecture (c1975).

Correspondence with former Deputy Director General, SNCF.

Correspondence with former Deputy Head of DTT, Ministère de l'Equipement.

Correspondence with former Head of Railways Division, DTT, Ministère de l'Equipement.

Correspondence with former Chief Scientific Officer, MoT / former Deputy Director, TRRL.

Correspondence with Côte d'Or Senator.

Duncan, Kenneth and Dunleavy, Patrick. *Understanding the Politics of Transport* (London: ESRC paper, London School of Economics).

French Archival Material (FAM), *Ministère de l'Equipement*, Paris (letters, memoranda, internal notes, minutes of meetings, internal reports).

Horton, Bob. Railway Studies Association lecture, London School of Economics (16 March 1994).

Lapautre, René. *Perspectives du transport par chemin de fer en France*, Lecture to Oxford School of Geography (2 Feb. 1969).

Lapautre, René. *La SNCF et la politique des transports: Perspectives d'évolution du chemin de fer en France*, Lecture to Transport Economics students at ENPC (21 May 1969).

Parker, (Sir) Peter. *A Way to Run a Railway*, 41st Haldane Memorial Lecture (23 Feb. 1978).

Pélissier, Jacques. *La réalisation du train à grande vitesse (T.G.V.) Paris Sud-Est et les premiers résultats de sa mise en service*, Conférence à l'Assemblée Générale de l'office du tourisme de Genève (23 May 1984).

Reid, (Sir) Bob. *The Permanent Way*, Stamp Memorial Lecture, Senate House, London (18 Nov. 1992).

II Interviews (on a strictly non-attributable basis)

UNITED KINGDOM

Former Permanent Secretary, Transport (1).
Former Permanent Secretary, Transport (2).
Former Deputy Secretary (BR Policy), Transport.
Former Under-Secretary, Deputy Secretary, Permanent Secretary, Transport (3).
Former Under-Secretary (Railways), Transport.
Former Principal Private Secretary to Minister of Transport.
Former Principal Private Secretary to Minister of Transport.
Former Head of Finance, DoT.
Former senior TRRL / DoT scientist.
Former Chairman, BRB.
Former Vice-Chairman, BRB.

Former Chief Secretary to BRB.
Former Director of Research, RTC (1).
Former Director of Research, RTC (2).
Former APT Project Engineer, BR.
Former Chief M&EE, BRB.
Former Director M&EE, BR.
Former APT Project Manager, BR.
Former Minister for Transport.
Official, European Secretariat, Cabinet Office.

FRANCE

Former Deputy Head/Head of SAEI, MdT.
Former Head of SAEI / DTT, MdT.
Former Head of Transport Section at SAEI.
Former Head of DTT, MdT.
Former Deputy Head of DTT, MdT.
Former Head of Railways Division, MdT (1).
Former Head of Railways Division, MdT (2).
Former Head of Roads Directorate, MdT.
Head of Technical Safety, DTT, MdT.
Former Head of financial control of transport, Finance.
Former Chair of FDES Committee for public sector transport investment, Finance.
Former *Chargé de mission*, Transport Unit / Deputy Head, Budget Directorate.
Former *Chef de mission*, Treasury Directorate, Finance.
Former *Chargé de mission*, Budget Directorate, Finance.
Former Director of IRT.
Former President of SNCF.
Former Deputy DG, SNCF (1).
Former Deputy DG, SNCF (2).
Former Head of Economics, Research Dept, Deputy DG, SNCF.
Former Head of SNCF Research (1).
Former Head of SNCF Research (2).
Former Head of Rolling Stock, SNCF.
Former engineer, SNCF Research; engineer GEC Alsthom.
Former Head of New Line, SNCF.
Former Energy Delegate, PM's Office.
Former Head of DATAR.
Former Minister, President of FIF.
Former Minister of Transport (1).
Former Minister of Transport (2).
Former technical adviser to President Georges Pompidou.
Former Minister of Finance.
Former *Directeur de cabinet*, Transport Minister.

III Official reports / documents

Barron, T R, British Railways Board. *Inter-City Policy* (Feb. 1977).

British Railways Board. *The Development of the Major Trunk Routes* (Feb. 1965).

British Railways Board. *Inter-city Passenger Business: A Strategy for High Speed* (May 1971).

British Railways Board. *Reports and Accounts 1972*.

British Railways Board. *Transport Policy: An opportunity for change* (July 1976).

British Railways Board. *British Rail and the Channel Link* (1986).

British Railways Board. *Noise and the New Channel Tunnel Rail Link* (Dec. 1988).

British Railways Board. *Rail Link Project, Comparison of Routes* (June 1991).

British Transport Commission. *Modernisation and Re-equipment of British Railways* (1955).

Central Transport Consultative Committee for Great Britain. *Annual Report: 1974* (London: HMSO, 1975).

Central Transport Consultative Committee. *Fares Fair* (Dec. 1977).

Chancellor of the Exchequer. Budget Speech of 16 March 1993 (London).

Comité spécialisé No. 8 du FDES. *Rapport du Groupe de travail chargé de mettre à jour l'étude de transports terrestres à grande vitesse sur l'axe Paris - Sud-Est* (Paris: Ministère des Finances, July 1973).

Commissariat général du Plan. *Rapport du Groupe d'Etude de l'orientation générale des activités du chemin de fer à moyen terme (1985)* (Paris: August 1964).

Commissariat général du Plan, Commission des transports. *Rapports des comités du VIe plan, 1971-1975: Transports intérieurs*, Tome I (Paris: la Documentation française, 1971).

Commission d'enquête du Sénat (Président Hubert Haenel). *Rapport sur l'évolution financière de la SNCF* (Paris: June 1993).

Commission des comptes des transports de la nation. *Les transports en France en 1979-80*, Collections C100 (Paris: INSEE, 1982).

Commission de vérification des comptes des entreprises publiques. *Treizième rapport d'ensemble*, No. 5030 (Paris: 1973).

Committee of Inquiry into the Engineering Profession. *Engineering our future: report of the Committee of Inquiry into the Engineering Profession* (`Finniston Report'), Cmnd. 7794 (London: HMSO, 1980).

Conseil économique et social. *Rapport Vedel sur le financement des entreprises publiques* (Paris: JO, 3 Dec. 1976).

Cour des comptes. *Rapport au Président de la République sur l'activité, la gestion et les résultats des entreprises publiques* (Paris: JO, 1979).

Cour des Comptes. *Rapport sur l'exécution des lois de finances, année 1985* (Paris: JO, 1986).

Départements de Seine-et-Marne, Yonne, Côte-d'Or, Saône-et-Loire, Ain, Rhône. *Société Nationale des Chemins de Fer Français. Projet de ligne nouvelle à très grande vitesse Paris-sud-est. Enquête sur l'utilité publique: avis de la commission d'enquête* (Mâcon: 10 June 1975).

Department of Industry. *Industry, Education and Management* (London: August 1977).

Department of Transport. *Transport - A guide to the Department* (London: 1989).

Department of Transport. *Background to APT*, public release (London: issued 10/05/1994).

Department of Transport. *The Channel Tunnel Rail Link project*, public release (London: issued 10/05/ 1995).

Economic Consultants Ltd. *The Channel Tunnel: its economic and social impact on Kent* (London: HMSO, 1973).

Engineering Council. *The 1983 Survey of Professional Engineers: A Survey of Chartered and Technician Engineers* (London: 1983).

Giscard d'Estaing, V. *Aménager la France: textes et déclarations de Valéry Giscard d'Estaing, Bilan 1974-1978*, Supplément, No. 313 of *Actualités-Service* (Paris: SID, undated).

Haut Conseil du Secteur Public. *Evolution et gestion du secteur public: rapport 1986* (Paris: la Documentation française, 1988).

Haut Conseil du Secteur Public. *Evolution et gestion du secteur public: rapport 1988* (Paris: la Documentation française, 1989).

HC 383: see Transport Committee.

Interdepartmental working party on inter-city transport. *Comparative Assessment of New Forms of Inter-City Transport*, TRRL Report SR1 (Dec. 1970), TRRL Report SR2, TRRL Report SR3 (Final Report, Dec. 1971) (London: Department of the Environment, Department of Trade and Industry, Ministry of Aviation Supply).

INSEE/Quarré, Dominique. *Annales statistiques de la fonction publique 1945-1969-1989*, Insee Résultats No 169-170 (Paris: INSEE, 1992).

Mairie de Dijon. *Bulletin municipal officiel*, Séance du 29 octobre 1973.

Ministère de l'Economie et des Finances. *Appréciation de la rentabilité économique des investissements* (Paris: Jan. 1968).

Ministère de l'Equipement, Direction des Transports Terrestres. *Schéma directeur national des liaisons ferroviaires à grande vitesse* (Paris: Ministère de l'Equipement, du Logement et des Transports, May 1991).

National Board for Prices and Incomes Report No 72. Proposed Increases by British Railways Board in Certain Country-Wide Fares & Charges, Cmnd. 3656 (London: HMSO, 1968).

NEDO Report. *A Study of UK Nationalised Industries* (London: HMSO, 1976).

Prescott, John. *Moving Britain into Europe: A high-speed future for transport* (Labour Party: c1991).

Secrétariat d'Etat aux Transports. `Décret du 23 mars 1976 déclarant d'utilité publique et urgente les travaux de construction d'une ligne nouvelle de chemin de fer à grande vitesse entre Paris et Lyon' (Paris: *JO*, 24 March 1976).

Select Committee on Nationalised Industries. First Report, *The Role of British Rail in Public Transport*, vol. I, session 1976-77 (London: HMSO).

Committee on the Review of Railway Finances, DoT. *Railway Finances: report of a committee chaired by Sir David Serpell* (London: HMSO, 1983).

SNCF. *Un train pour demain: la nouvelle ligne Paris sud-est* (Paris: 1976, No. 19).

SNCF. *Rapport d'activité, 1976-1989* (Paris).

SNCF. *French Railways in 1987* (Paris).

SNCF. *Contrat de plan Etat - SNCF 1990-1994* (Paris).

SNCF. *Chronologie des principaux évènements de la grande vitesse ferroviaire en France* (Paris: SNCF, Service des Nouvelles Infrastructures et de la Grande Vitesse, March 1994).

Transport Committee of the House of Commons. *Report 1986-87: Financing of Rail Services*, HC 383-I/II (London).

Union Railways. *British Railways Board Report* (London: March 1993).

WP, *Transport Policy*, Cmnd. 3057 (London: HMSO, 1965).

WP, *Nationalised Industries: A Review of Economic and Financial Objectives*, Cmnd. 3437 (London: HMSO, 1967).

WP, *Railway Policy*, Cmnd. 3439 (London: HMSO, 1967).

WP, *Cash Limits on Public Expenditure*, Cmnd. 6440 (London: HMSO, 1976).

WP, *The Nationalised Industries*, Cmnd. 7131 (London: HMSO, March 1978).

IV Published

Primary

Adley, Robert. *Tunnel Vision* (London: Conservative Political Centre, 1988).

Avenas, Paul. `Les caractéristiques de la ligne', *La vie du rail*, No. 1499 (Paris: 29 June 1975).

Avenas, Paul. `Enquêtes préalables et coordination', *RGCF* (Paris: Nov. 1976).

Bazin, J F. *Les défis du TGV* (Paris: Denoël, 1981).

Benn, Tony. *Out of the Wilderness: Diaries, 1963-67* (London: Hutchinson, 1987).

Benn, Tony. *Against the Tide: Diaries 1973-77* (London: Hutchinson, 1989).

Blancard, Jean. `Comment fut prise la décision de construire le TGV Sud-Est', *Réalités industrielles* (Paris: Oct. 1990).

Bonavia, Michael R. *Twilight of British Rail?* (Newton Abbot: David & Charles, 1985).

Bonavia, M R. *The Channel Tunnel Story* (Newton Abbot: David & Charles, 1987).

Boocock, David and King, B L. `The development of the prototype Advanced Passenger Train', *Proceedings of the Institution of Mechanical Engineers*, Vol. 196 (London: 1982), with discussion (S21-S34).

Boocock, D and Newman, M. `The Advanced Passenger Train', *Proceedings of the Institution of Mechanical Engineers*, Vol. 190 (London: 1976), with discussion (D163-D172).

Bouley, Jean. `L'heure des grandes options: les innovations essentielles apportées par le matériel Paris - Sud-Est', *RGCF* (Paris: Dec. 1976).

Bozon, Claude and Gastaut, Gérard. `Le bilan de l'expérience au ministère de l'Equipement et du logement', in Huet and Bravo (1973).

Brunot, A and Coquand, R. *Le Corps des Ponts et Chaussées* (Paris: CNRS, 1982).

Buck, Christopher. `Railways', *Engineering*, special issue, Vol. 226, No. 1 (Jan. 1986).

Campbell, Ian. `Speed at the right price', *RGI* (May 1980).

Castle, (Lady) Barbara. *The Castle Diaries 1964-1970* (London: Weidenfeld and Nicolson, 1984).

Castle, (Lady) Barbara. *The Castle Diaries 1974-1976* (London: Weidenfeld and Nicolson, 1980).

Castle, (Lady) Barbara. *Fighting All the Way*, (London: Macmillan, 1993).

Clinton-Davis (Lord). `A committed European's evaluation', in McKenzie (ed.) (1991).

Collis, Hugh and Hill, Terry. `Planning high speed railways in Europe', *Proceedings of the 21st European Transport Forum: Transport Policy and its Implementation* (London: PTRC Education and Research Services Ltd, 1993).

Dreyfus, Gilbert. `Les transports: perspectives techniques et économiques', *Bulletin du PCM*, No. 6 (Paris: June 1967).

Esambert, Bernard. *Pompidou, capitaine d'industries* (Paris: Odile Jacob, 1994).

Fédération des industries ferroviaires. *Qu'est-ce que l'industrie ferroviaire?* (Paris: undated).

Florence, Jacques. `Les ruptures dans l'exploitation du réseau SNCF avec l'arrivée des TGV', *RGCF* (Jan. 1994).

Fontgalland, Bernard de. `La construction de voies ferrées prend un nouveau départ en Europe', *Bulletin du PCM*, No. 9 (Paris: Oct. 1968).

Fontgalland, B de. *The world railway system* (Cambridge: CUP, 1984).

Fontgalland, B de. *Cheminots sans frontières* (Paris: IA Diffusion, 1988).

Fournier, Jacques. *Le train, l'Europe et le service public* (Paris: Odile Jacob, 1993).

Frybourg, Michel. `Les effets de l'innovation sur l'offre de transport (de techniques conventionnelles ou nouvelles) pour les voyageurs', *5e Symposium international sur la théorie et la pratique dans l'économie des transports: les transports dans la décennie 1980-90*, Athens 22-25 Oct. 1973 (Paris: CEMT).

Frybourg, M (ed.). *L'innovation dans les transports* (Caen: Paradigme, 1987).

Frybourg, M. `Les infrastructures d'accompagnement', in ICE (1989).

Garde, Raymond. `L'architecture générale des rames TGV', *RGCF* (Dec. 1976).
Garde, R. `From the Thyristor to the TGV', *Rail Engineering International* (August-Sept. 1981).
Gaulle, Charles de. *War Memoirs*, Vol.2, *Unity, 1942-1944* (London: Weidenfeld & Nicolson, 1959).
Guibert, Roger. *Service public et productivité: Etude des relations réciproques des notions de service public et de productivité avec application au problème des transports*, doctoral thesis, with preface by Louis Armand (Paris: Société d'édition d'enseignement supérieur, 1956).
Hailsham (Lord). `Reflections from a former Lord Chancellor', *The House Magazine* (19 June 1989).
Henderson, Sir Nicholas. `Channel Tunnel - the early stages', in ICE (1989).
Henes, J. `The Channel Tunnel - the effect in the UK', in ICE (1989).
Hiatt, Lee and Prideaux, John. `Elaboration de modèles de la demande de services ferroviaires rapides au Royaume-Uni', in CESTA /Ministère de l'Urbanisme (1985).
Hinton (Lord). *Engineers and Engineering* (Oxford: OUP, 1970).
Huet, Philippe and Bravo, Jacques. *L'expérience française de rationalisation des choix budgétaires* (Paris: PUF, 1973).
Hurd, Douglas. Conservative Political Centre annual lecture, Blackpool (9/10/1991).
Hutter, Roger. `Le tunnel sous la Manche', *L'année ferroviaire 1960* (Paris: Plon, 1960).
Institution of Civil Engineers. *The Channel Tunnel* (London: Thomas Telford, 1989).
Jones, Sidney. `APT: the market and the product', *RGI* (Dec. 1971).
Joy, Stewart. *The Train That Ran Away: the inside story of British Railways' chronic financial failures since nationalisation* (London: Ian Allen, 1973).
Kinnock, Neil. `Speech by the Rt Hon MP, Leader of the Labour Party to the Annual Conference, Blackpool, Tuesday 2nd October 1990', *Conference News* (London: Labour Party Campaigns and Communications Directorate, 1990).
Leboeuf, M. `L'évaluation économique et financière des projets de TGV', in CESTA /Ministère de l'Urbanisme (1985).
Ledsome, Colin. `APT', *Engineering*, Vol. 221, No. 2 (Feb. 1981).
Leitch, (Sir) George. *Report of the Advisory Committee on Trunk Road Assessment* (London: HMSO, 1978).
Lévy, M. `Evolution des procédures juridiques et de concertation en France', in CESTA /Ministère de l'Urbanisme (1985, II).
Marsh, (Lord) Richard. `APT: the market and the product', *RGI* (Dec. 1971).
Marsh, (Lord) Richard. *Off the Rails: An Autobiography* (London: Weidenfeld and Nicolson, 1978).
Marsh, (Lord) Richard. *Politics and industry: the great mismatch* (London: the Hansard Society, 1979).
Martinand, Claude. `Les réseaux et le service public', *Metropolis*, No. 73/74 (Paris: 1986).
Martinand, Claude. `Les grands réseaux et l'Europe: transport, énergie, communications. Pour une approche nouvelle combinant efficacité, concurrence et service public', *Flux*, No. 6 (Paris: Oct.-Dec. 1991).
Martinand, Claude. `Quels outils de régulation?', in Bauby and Boual (1994).
Mathieu, G. *Le schéma directeur des liaisons à grande vitesse* (Paris: SNCF, paper presented at Sixième Journée scientifique AHICF, 30 March 1994).
Metcalf, M. `Règles empiriques en vue de la planification de services ferroviaires rapides', in CESTA /Ministère de l'Urbanisme (1985).
Newman, M. `The Research & Development Programme of the Advanced Passenger Train', *Proceedings of the Institution of Civil Engineers*, Vol. 55, Part II (London: 1973).

Palmer, John. `Liaisons interrégionales à grande vitesse au Royaume-Uni', in CESTA /Ministère de l'Urbanisme (1985, I).
Parker, (Sir) Peter. *1994*, the first Lubbock lecture on management (Egham: Maurice Lubbock Memorial Fund, 1980).
Parker, (Sir) Peter. `High speed travel on both sides of the Channel', *Rail Engineering International*, Vol. 10, No. 3 (Aug.-Sept. 1981).
Parker, (Sir) Peter. *For Starters: the Business of Life* (London: Jonathan Cape, 1989).
Pélissier, Jacques. `The High Speed Train of the SNCF Paris-Sud-Est', *Rail Engineering International*, Vol. 10, No. 3 (August-Sept. 1981).
Pisani, Edgard. `Administration de gestion, administration de mission', *RFSP*, Vol. 6, No. 2 (Paris: 1956).
Prescott, John. *Moving Britain into Europe: A high-speed future for transport* (London: House of Commons, undated).
Price, B T. `Transport in the Eighties' (lecture delivered to the British Association for the Advancement of Science, 8 Sept. 1970), *Advancement of Science*, Vol. 27, No. 133 (London: the British Association for the Advancement of Science, March 1971).
Prideaux, Hiatt, and Lee. `Elaboration de modèles de la demande de services ferroviaires rapides au Royaume-Uni', in CESTA /Ministère de l'Urbanisme (1985).
Rickard, John. `United Kingdom', in Economic Research Centre (1990).
Ridley, Nicholas. *My Style of Government: the Thatcher Years* (London: Hutchinson, 1991).
Roumeguère, Philippe. `Principales conclusions du rapport du groupe de travail', *RGCF* (Paris: March 1974).
Roumeguère, P. `Safe running of TGV commercial services at 260 km/h and more', *Rail Engineering International* (August-Sept. 1981).
Rühl, Aad. `Rail capacity on the British side of the Tunnel', *Proceedings of the 17th European Transport Forum* (London: PTRC Education and Research Services Ltd, 1989).
Smith J G. `Exploiting BR's high-speed hardware', *RGI* (London: Dec. 1971).
Tessier, Marcel. `La ligne nouvelle à grande vitesse Paris - Sud-Est: les études préliminaires', *La vie du rail*, No. 1499 (Paris: 29 June 1975).
Verrier, Guy. `Méthodologie des lignes nouvelles à très grande vitesse', *La vie du rail*, No. 1499 (Paris: 29 June 1975).
Walmsey, D A. *A fleet-size model for Inter-City services*, TRRL Report SR 308 (1978).
Wickens, A H. `The Advanced Passenger Train', *Advancement of Science*, Vol. 27, No. 133 (London: the British Association for the Advancement of Science, March 1971).
Wickens, A H. `R&D on high speed railways - achievements and prospects', *Transport Reviews*, Vol. 3, No. 1 (Jan.-March 1983).
Wickens, A H. `New technological developments in rail-wheel techniques in the United Kingdom', ECMT, *High-speed traffic on the railway network of Europe* (Paris: ECMT, 1986).
Williams, Hugh. *APT: A Promise Unfulfilled* (London: Ian Allen Ltd, 1985).
Wilson, Harold. *The Labour Government, 1964-1970: a Personal Record* (London: Weidenfeld & Nicholson and Michael Joseph, 1971).
Wilson, H. *Final Term: the Labour Government 1974-1976* (London: Weidenfeld, 1979).

Secondary

Abell, Peter. `Some Aspects of Narrative Method', *Journal of Mathematical Sociology*, Vol. 18, No. 2-3 (1993a).
Abell, Peter. `Narrative Method: A Reply', *Journal of Mathematical Sociology*, Vol. 18, No. 2-3 (1993b).

Abromeit, H. *British Steel: an industry between the state and private sector* (Leamington Spa: Berg, 1986).
Adam, Jean-Paul. *Instauration de la politique des chemins de fer en France* (Paris: PUF, 1972).
Aldcroft, Derek and Freeman, Michael. *The Atlas of British Railways History* (London: Croom Helm, 1985).
Armatte, Michel. `L'économie à l'école polytechnique', in Belhoste (1994a).
Association des amis de Louis Armand. *Louis Armand: 40 ans au service des hommes* (Paris: Lavauzelle, 1986).
Audiganne, Armand. *Les chemins de fer aujourd'hui et dans cent ans*, Vol. I (Paris: Capelle-Librairie, 1858).
Avenas, Jean. `La grande vitesse: atout pour la SNCF et pour l'industrie française du matériel ferroviaire', *La vie du rail*, `Spécial TGV', No. 1682 (25 Feb. 1979).
Badie, Bertrand and Birnbaum, Pierre. *Sociologie de l'Etat* (Paris: Grasset, 1979).
Bagwell, P S. *End of the Line?* (London: Verso, 1984).
Barlow, (Sir) William and Hector, Peter. `Engineering Education in Europe', in McKenzie (ed.) (1991).
Barnett, Corelli. *The Audit of War* (London: Macmillan, 1986).
Bastiat, Frédéric. *Harmonies économiques*, Vol. 6, 4th edition (Paris: O.C., 1860).
Bauby, M and Boual, Jean-Claude. *Pour une citoyenneté européenne: quels services publics?* (Paris: Editions de l'Atelier/Editions Ouvrières, 1994).
Belhoste, Bruno, Dalmedico, Amy Dahan and Picon, Antoine. *La formation polytechnicienne, 1794-1994* (Paris: Dunod, 1994a).
Belhoste, Bruno, Masson, Francine and Picon, Antoine. *Le Paris des Polytechniciens: des ingénieurs dans la ville* (Paris: Délégation à l'action artistique, Ville de Paris, 1994b).
Beltran, Alain. `SNCF and the development of high speed trains 1950-1981', in Whitelegg *et al* (1993).
Bernardet, Maurice and Lasserre, Jean-Claude. *Le secteur des transports: concurrence, compétitivité* (Paris: Economica, 1985).
Bonnaud, Laurent. *Le Tunnel sous la Manche: deux siècles de passion* (Paris: Hachette, 1994).
Boual, Jean-Claude. `L'Equipement, une situation complexe, en évolution', in Bauby and Boual (1994).
Bulpitt, J. *Territory and Power in the United Kingdom, An Interpretation* (Manchester: Manchester University Press, 1983).
Burnham, June, Glaister, Stephen and Travers, Tony. *Transport Policy-Making in Britain, With Special Reference to Roads*, a report for the Rees-Jeffreys Road Fund (The Greater London Group, London School of Economics and Political Science, Jan. 1994).
Button, K J and Pearman, A D. *The Practice of Transport Investment Appraisal* (Aldershot: Gower, 1983).
Button, K J and Gillingwater, D. *Future Transport Policy* (London: Croom Helm, 1986).
Centre universitaire de recherches administratives et politiques de Picardie, Faculté de droit et des sciences économiques de Reims. *Variations autour de l'idéologie de l'intérêt général*, Vol. 1 (Paris: PUF, 1978).
CESTA/Ministère de l'Urbanisme, du Logement et des Transports. *Les aspects socio-économiques des très grandes vitesses*, 2 vols. (Paris: la Documentation française, 1985).
Charon, Jean-Marie. *Les mouvements d'opposants aux décisions d'implantation d'aéroports et de la ligne nouvelle du TGV* (Paris: ARDU/Ministère des Transports, 1979).
Chéreau, Fabrice and Rodrigues, Stéphane. `Services publics et construction européenne', in Bauby et Boual (1994).
Chesnais, Michel. *Le renouveau du chemin de fer* (Paris: Economica, 1979).

Chevallier, Jacques. `Réflexions sur l'idéologie de l'intérêt général', in Centre universitaire de recherches administratives et politiques de Picardie (1978).
Cini, Michelle. `The renewal of the French ruling elite', *Politics*, Vol. II, No 2 (1991).
Cohen, Elie. *L'Etat brancardier: politiques de déclin industriel (1974-84)* (Paris: Calmann-Lévy, 1989).
Cohen, E. *Le colbertisme "high-tech": économie des télécom et du grand projet* (Paris: Hachette, 1992).
Coleman, J S. `Individual Interests and Collective Action', *Papers on Non-Market Decision-Making*, 1, 49-62 (1966). Also in *Individual Interests and Collective Action: Selected Essays* (Cambridge: CUP, 1986).
Confederation of British Industry. *Transport and Distribution* (London: Allen & Co, 1990).
Coombes, David. *State Enterprise. Business or Politics?* (London: Allen & Unwin, 1971).
Dahan Dalmedico, Amy. `Rénover sans se renier: L'Ecole polytechnique de 1945 à nos jours', in Belhoste (1994a).
Dhombres, Jean. `L'image "scientiste" de l'Ecole polytechnique', in Belhoste (1994a).
Divall, Colin. `Professional Organisation, Employers and the Education of Engineers for Management: A Comparison of Mechanical, Electrical and Chemical Engineers in Britain, 1897-1977, *Minerva*, Vol. 32, No. 3 (1994).
Dixon, T J. `The Civil Service syndrome', *Management Today* (May 1980).
Dobbin, Frank. `Vive la différence!', in Whitelegg *et al* (1993).
Dobbin, F. `What do markets have in common? Toward a fast train policy for the EC', Andersen, Svein and Eliassen, Kjell A, *Making Policy in Europe: the Europeification of National Policy-Making* (London: Sage, 1993).
Dobbin, F. *Forging industrial policy: the United States, Britain, and France in the railway age* (Cambridge: CUP, 1994).
Donzel, André, Fourniau, Jean-Michel and Lolive, Jacques. *Les contestations du TGV Méditerranée* (Arcueil: INRETS, July 1994).
Dudley, Geoffrey F. `The Next Steps Agencies, Political Salience and the Arm's Length Principle: Barbara Castle at the Ministry of Transport 1965-68', *Public Administration*, No 72 (1994).
Dudley, G F and Richardson, Jeremy. `Explaining policy change: adversarial communities, policy arenas and the development of UK trunk road policy since 1945', *Public Administration* (forthcoming, 1995).
Duhamel, Olivier and Pisier, Evelyne. `Services publics, opinions publiques', in Mény (ed.) (1989).
Dupuy, François and Thoenig, J C. *Sociologie de l'administration française* (Paris: Armand Colin, 1983).
Durupty, Michel. *Les entreprises publiques*, 2 vols. (Paris: PUF, 1986).
Dutailly, Jean-Claude. `Les aides aux entreprises', *Economie & Statistique*, No. 169 (Sept. 1984).
Dyson, Kenneth H F. *The state tradition in Western Europe: A study of an idea and institution* (Oxford: Robertson, 1989).
Economic Research Centre. *Report of the 81st Round Table on Transport Economics: Private and Public Investment in Transport* (Paris: ECMT, 1990).
Edgerton, David. `The "White Heat" revisited: the British government and technology in the 1960s', *Twentieth Century British History* (forthcoming, 1996).
Enzensberger, H M. `Walking without grace', *The New Statesman/Society* (21 Sept. 1990).
Finer, S E (ed.). *Adversary Politics and Political Reform* (London: 1975).
Flegmann, Vilma. `Parliamentary Accountability', in Whitehead (ed.) (1988).
Ford, R and Suyker, W. `Industrial subsidies in the OECD economies', *OECD Economic Studies*, No. 15 (Autumn 1990).

Fourniau, Jean-Michel. *La genèse des grandes vitesses à la SNCF: de l'innovation à la décision du TGV Sud-Est*, Rapport INRETS No. 60 (Arcueil: INRETS, Jan. 1988).
Fourniau, J M. `Making the decision more transparent', PTRC, *Proceedings of the 22nd European Transport Forum* (London: PTRC Education and Research Services Ltd, 1994).
Fourniau J M. `L'avenir réinventé du transport ferroviaire', *Archicréé*, No. 262 (Paris: Nov.-Dec. 1994).
Fourniau J M. `Problèmes d'histoire des grandes vitesses ferroviaires, *RHCF* (Paris: Sept. 1995, forthcoming).
Fourniau, J M and Jacq, Francis. `Dialogues socratiques autour de la genèse du TGV', *RHCF*, No. 12 (Paris: forthcoming, Sept. 1995).
Fourniau, J M. Draft paper for International Research Seminar of Groupement de recherche `Réseaux' (CNRS), *Large Technical Systems and Networks*, Autun, 27-30 September 1995.
Fourniau, J M and Ribeill, Georges. `La grande vitesse sur rail en France et en RFA: Politiques de transports et stratégies industrielles', CERAT, *La grande technologie entre l'Etat et le marché: Politiques publiques comparées*, Actes du séminaire international, Grenoble, 8-9 Nov. 1990.
Freeman Allen, G. *The Fastest Trains in the World* (London: Ian Allen Ltd, 1978).
Gérardin, Bernard. `France', in Economic Research Centre (1990).
Glover, Ian. `Social science, engineering and society', *Higher Education Review*, Vol. 12, No. 3 (1980).
Glover I and Kelly, Michael P. *Engineers in Britain: A Sociological Study of the Engineering Dimension* (London: Allen & Unwin, 1987).
Glucksmann, André. *Les Maîtres penseurs* (Paris: Grasset, 1977).
Godineau, Michel. `Régulateur et opérateur dans le service public SNCF', in Bauby and Boual (1994).
Gourvish, Terry R. *British Rail: A Business History 1948-1973* (Cambridge: CUP, 1986).
Gourvish, T R. `British Rail's "business-led" organization, 1977-1990: government-industry relations in Britain's public sector', *Business History Review*, No 64 (1991).
Grant, Wyn. *Government and Industry* (Aldershot: Edward Algar, 1989).
Grémion, Catherine. *Profession: décideurs* (Paris: Gauthiers-Villars, Bordas, 1979).
Guibault, Michèle. `Calcul néo-classique et pratiques administratives', in Offner and Trigallo (1987).
Haas, P M. `Introduction: Epistemic Communities and International Policy Co-ordination', *International Organisation*, Vol. 46, No. 1 (1992).
Harlow, Carol. `Remedies in French administrative law', *Public Law 1977* (London: Stevens & Sons, 1977).
Harrison, Anthony. `The Framework of Control' in Whitehead (ed.) (1988).
Hayward, J E S and Watson, Michael. *Planning, Politics and Public Policy* (Cambridge: CUP, 1975).
Hayward, J E S (ed.). *Industrial Enterprise and European Integration: From National to International Champions in Europe* (Oxford: OUP, 1995).
Heclo, Hugh and Wildavsky, Aaron. *The Private Government of Public Money: Community and Policy inside British Politics*, 2nd ed. (London: Macmillan, 1981).
Heise, D R. `Narratives Without Meaning?', *Journal of Mathematical Sociology*, Vol. 18, No. 2-3 (1993).
Hirschman, Albert O. *The Passions and the Interests: Political Arguments for Capitalism before its Triumph* (Princeton: Princeton University Press, 1977).
Holliday, Ian, Marcou, Gérard and Vickerman, R W. *The Channel Tunnel* (London: Belhaven Press, 1991).

Holmes, Peter and Sharp, Margaret (eds). *Strategies for new technology: case studies from Britain and France* (New-York: Philip Allan, 1989).
Hostiou, René. `Enquête publique et démocratie', Ministère de l'Equipement, du Transport et du Tourisme, *Techniques, territoires et sociétés: l'argument écologique et l'aménagement*, No. 22-23 (Paris: June 1993).
Hudson Institute. *The U.K. in 1980* (London: Associated Business Programmes Ltd, 1974).
Hughes, Murray. *Rail 300: the World High Speed Train Race* (Newton Abbott: David & Charles, 1988).
Johnston, John and Long, R A. *British Railways Engineering 1948-1980* (London: Mechanical Engineering Publications Ltd, 1981).
Jones, Derek. `La formation des ingénieurs en Grande-Bretagne' in SEFI (undated).
Jordan, Grant. *Engineers and Professional Self-Regulation: from the Finniston Committee to the Engineering Council* (Oxford: Clarendon Press, 1992).
Jourdan, Philippe. `La formation du concept de service public', *Revue de droit public*, Vol. 103 (Jan.-Feb. 1987).
Kaufmann, Richard (de). *La politique française en matière de chemins de fer* (Paris: Librairie Polytechnique, 1900).
Lamming, Clive. *(La grande aventure du) TGV* (Paris: Larousse, 1987).
Lamming, Clive. *Evolution des politiques et des techniques de traction à la SNCF, 1937-1992*, thèse de doctorat ès-Lettres (histoire) (Paris: Université Paris IV, Oct. 1993).
Larkin, Edgar J and Larkin, John G. *The Railway Workshops of Britain: 1823-1986* (London: Macmillan, 1988).
Legendre, Pierre. *Histoire de l'Administration (de 1750 à nos jours)* (Paris: PUF, 1968).
Lindblom, Charles E. `The Science of "Muddling Through"', *Public Administration Review*, 19 (1959).
Marquand, David. *The State in Context: travails of an ancien régime* (Swindon: ESRC, 1995).
Maury, Claude. `Engineering education in France', in SEFI (undated).
McKenzie, John (ed.). *European Infrastructure Development* (London: Sterling Publications International Ltd, 1991).
Mény, Yves (ed.). *Idéologies, partis politiques et groupes sociaux* (Paris: Presses de la FNSP, 1989).
Mestre, J L. *Introduction historique au droit administratif français* (Paris: PUF, 1985).
Monbrun-Gutteriez, C. `Service public et rentabilité: La réforme de 1969', in Centre universitaire de recherches administratives et politiques de Picardie (1978).
Mongin, Philippe. `Modèle rationnel ou modèle économique de la rationalité?', *Revue économique*, Vol. 35, No. 1 (Jan. 1984).
Montagner, Bella. `La notion de service public en Europe', in Bauby and Boual (1994).
Mullard, Maurice. *The Politics of Public Expenditure*, 2nd ed. (London: Routledge, 1993).
Muller, Pierre. `Un schéma d'analyse des politiques sectorielles', *RFSP*, Vol. 35, No. 2 (April 1985).
Muller P and Jobert, B. *L'Etat en action: Politiques publiques et corporatismes* (Paris: PUF, 1987).
Murray, Robin. `The State after Henry', *Marxism Today*, special issue on the public sector (May 1991).
Nairn, Tom. *The Enchanted Glass: Britain and its Monarchy* (London: Picador, 1990).
Narkiewicz, A and Olga, J H. *Planning in Europe* (London: Croom Helm, 1978).
Nash, C A. `British Rail and the Administration of Subsidies' in Whitehead (ed.) (1988).
Nash, C A. `BR's tale of two trains', in Whitelegg *et al* (1993).
Newman, Phyllis E. *Town and Country Planning Casebook* (London: The Estates Gazette Ltd, 1975).

Niérat, Patrick. `Concurrence rail-route: les limites du réseau ferroviaire', *Recherche - Transports - Sécurité*, No. 18-19 (Paris: INRETS, Sept. 1988).
Nizard, Lucien. *Changement social et appareil d'Etat* (Grenoble: CERAT, 1974).
Nizard, L and Belanger, Pierre A. *Planification et société* (Grenoble: Presses Universitaires de Grenoble, 1974).
. Nock, O S. *Two Miles a Minute: the story behind the conception and operation of Britain's High Speed and Advanced Passenger Trains* (Cambridge: Patrick Stephens, 1980).
OECD. *Competition Policy in Regulated Sectors, with special reference to Energy, Transport, and Banking* (Paris: OECD, 1979).
Offner, J M and Ollivier-Trigalo, M. *Les grands projets de transport: langages de l'évaluation, discours de la décision*, synthèse INRETS No. 10 (Arcueil: INRETS, Nov. 1987).
O'Toole Barry J. *Private Gain and Public Service: the Association of First Division Public Servants* (London: Routledge, 1989).
Padioleau, Jean-G. `L'action publique: du substantialisme au pragmatisme', Ministère de l'Equipement, du Transport et du Tourisme, *Techniques, territoires et sociétés*, special issue `L'argument écologique et l'aménagement', No. 22-23 (June 1993).
Parès, René. *Le chemin de fer en France*, Notes et Etudes Documentaires, No. 4121-4122 (Paris: la Documentation française, 28 Oct. 1974).
Parris, H, Pestiau, P and Saynor, P. *Public enterprise in Western Europe* (London: Acton Society Trust, 1987).
Pestre, Dominique. `Le renouveau de la recherche à l'Ecole polytechnique', in Belhoste (1994a).
Picard, Alfred. *Les chemins de fer français*, Vol. I (Paris: Ministère des Travaux Publics, 1887).
Picon, Antoine. *L'invention de l'ingénieur moderne: l'Ecole des Ponts et Chaussées (1747-1851)* (Paris: Presses de l'ENPC, 1992).
Piquemal, Marcel and Lecot, François. *Les nouvelles fonctions publiques* (Paris: Berger-Levraut, 1986).
Pisier-Kouchner, E. *Le service public dans la théorie de l'Etat de Léon Duguit* (Paris: LGDG, 1972).
Polak, Jacob and Heertze, Arnold (eds), CEMT. *European Transport Economics* (Oxford: Blackwell, 1993).
Potter, Stephen. *On the Right Lines? The Limits of Technological Innovation* (London: Pinter, 1987).
Potter, S. `High-speed rail technology in the UK, France and Japan: Managing Innovation - the Neglected Factor', *Technology Analysis & Strategic Management*, Vol. 1, No. 1 (1989).
Potter, S. `Managing high-speed train projects', in Whitelegg *et al* (1993).
Potter, S and Roy, Robin. *Research & Development - British Rail's Fast Trains*, Open University Course T 362, Design and Innovation (Milton Keynes: Open University Press, 1985).
Potter, S and Roy, R. *The Development of High-Speed Trains*, Open University Course T 302, Innovation: Design, Environment and Strategy (Milton Keynes: Open University Press, forthcoming).
Powell, E R. `Deciding new railway infrastructures in the European Union: British and French experiences (1966-1994)', PTRC, *Proceedings of the 23rd European Transport Forum* (London: PTRC Education and Research Services Ltd, 1995).
Pryke, Richard. *Public Enterprise in Practice: The British Experience of Nationalization over Two Decades* (London: MacGibbon & Kee, 1971).
Quinet, Emile. *Les Transports en France*, Notes et Etudes Documentaires No. 4684-86 (Paris: la Documentation Française, 1982).
Réalités industrielles. `L'avenir à très grande vitesse' (Paris: Oct. 1990).
RGI. `APT programme moves ahead after searching reappraisal' (Dec. 1973).

RGI. `Prototype APTs take shape at Derby' (Jan. 1977).
RGI. `APT in perspective' (May 1980).
RGCF. Special issue, `Le TGV: Bilan et perspectives' (Paris: Sept. 1983).
RGCF. Special issue, `D'où viens-tu TGV?' (Paris: Aug.-Sept. 1994).
Ribeill, Georges. *Les cheminots* (Paris: la Découverte, 1984).
Ribeill, G. `Le développement à la française des réseaux techniques', *Metropolis*, No. 73/74 (Paris: 1986).
Richardson, Jeremy J. *Policy Styles in Western Europe* (London: Allen & Unwin, 1982).
Ridley, Tony. `The influence of the Channel Tunnel: both sides contrasted', in John MacKenzie (ed.) (1991).
Rose, Richard and Davies, Phillip L. *Inheritance in Public Policy: Change without Choice in Britain* (New Haven: Yale University Press, 1994).
Rowat, Donald (ed.). *Public administration in Developed Democracies: a Comparison* (New York: Dekker, 1988).
Rowley, A. `La modernisation économique de la France', La Documentation Française, *De Gaulle en son siècle*, Vol. III (Paris: Plon, 1992).
Roy, Rana. *Investment in Transport Infrastructure: The recovery in Europe*, ECIS report (Rotterdam: ECIS, Nov. 1994).
Salveson, Paul. *British Rail: the Radical Alternative to Privatisation* (Manchester: Centre for Local Economic Strategies, 1989).
SEFI. *Engineering education in Europe* (Société Européenne pour la Formation des Ingénieurs, undated).
Sfez, Lucien. *L'administration prospective* (Paris: Armand Colin, 1970).
Sfez, L. *La décision* (Paris: PUF, 1984).
Shonfield, Andrew. *Modern capitalism: the changing balance of public and private power* (Oxford: OUP, 1965).
Shonfield, A. *The Use of Public Power* (Oxford: OUP, 1982).
Simmons, Jack. *The Railways of Britain* (London: Macmillan, 1986).
Simon, H A. `From substantive to procedural rationality', S J Latsis (ed.), *Method and appraisal in economics* (Cambridge: CUP, 1976).
Sorge, A. `Engineers in management: a study of the British, French and German traditions', *Journal of General Management*, Vol. 5 (1979).
Steinmo, Sven, Telen, Kathleen Ann, and Longstreth, Frank Hoover. *Structuring politics: historical institutionalism in comparative analysis* (Cambridge: CUP, 1992).
Strohl, Mitchell P. *Europe's High Speed Trains: a study in geo-economics* (Westport: Praeger, 1993).
Suleiman, E N. *Les hauts fonctionnaires et la politique* (Paris: Le Seuil, 1976).
Suleiman, E N. *Elites in French Society: the Politics of Survival* (Princeton: Princeton University Press, 1978).
Suleiman, E N. *Bureaucracy and Policy-Making: A Comparative Overview* (New York: Holmes & Meier, 1984).
Thatcher, Mark. `Organisational structure and regulatory reform: the extension of competition in Britain and France', *Journal of European Public Policy*, Vol. 1, No. 3 (Oct. 1994).
Thatcher, M. `Regulatory reform and internationalisation in telecommunications', in Hayward (1995).
Thoenig, J C. *L'Ere des technocrates: le cas des Ponts et Chaussées* (Paris: l'Harmattan, 1987).
The Times. `Special Report on passenger services' (17 March 1972).
La Vie du Rail. `Spécial TGV', No. 1682 (25 Feb. 1979).
La Vie du Rail. `Spécial record du monde', No. 1785 (19 March 1981).

Vincent, Andrew. `British Conservatism and the Problem of Ideology', *Political Studies*, XLII (1994).
Ward, Samways and Benton, `Environmental Politics and Policy', P Dunleavy *et al*, *Developments in British Politics 3* (Basingstoke: Macmillan, 1990).
Whitehead, Christine. `Introduction' in Whitehead (ed.) (1988).
Whitehead, Christine (ed.). *Reshaping the nationalised industries* (Oxford: Policy Journals, 1988).
Whitelegg, John, Hulten, Staffan and Flink, Torbjörn. *High Speed Trains: Fast Tracks to the Future* (Hawes: Leading Edge, 1993).
Wiener, Martin. *The English Culture and the Decline of the Industrial Spirit 1850-1980* (Harmondsworth: Penguin, 1985).
Wistrich, Enid. *The Politics of Transport* (London: Longman, 1983).
Wright, Vincent (ed.). *Continuity and Change in France* (London: George Allen & Unwin, 1984).
Wright, V (ed.). *Privatization in Western Europe: Pressures, Problems and Paradoxes* (London: Pinter, 1994).