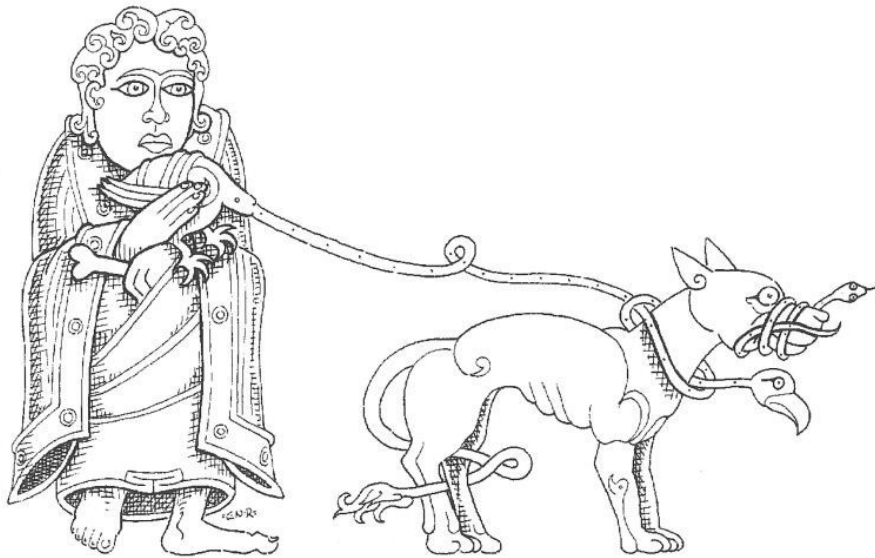# *TROWEL*

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Editors' Foreword

The publication of this, the fifth volume of *Trowel* is very much a reflection of the range, quality and volume of archaeological research currently been undertaken by both students and recent graduates of the Department of Archaeology, University College Dublin. Since its inception, *Trowel* has functioned as a unique forum for the communication of the ideas, research interests and concerns of those with least access to traditional established publications. The huge increase in the numbers of students undertaking original research at post graduate level requires a similar expansion in the facilities available for archaeological publication, something that the various bodies and institutions with responsibility for Irish archaeology have so far, failed to address. *Trowel*, mindful of its own limitations, can only act as one vehicle in alleviating the publication crisis affecting Irish archaeology.

The publication of *Trowel* is not without its difficulties. Firstly, as a student journal, it is primarily the product of the collective efforts of a number of individuals which necessitates the support and backing of the student body. Its annual publication therefore requires the co-operation of an editorial team committed to its production. Secondly, the seemingly continual rise in printing costs each year presents a challenge, which has been successfully addressed to date. However, these difficulties should not, in any way be regarded as a barrier to high quality publication. The recognition which *Trowel* has received since its regeneration in 1992 is testimony to its developing role within the wider body of archaeological literature.

In this volume of *Trowel* a complete list of all theses of archaeological interest held in the universities of Ireland, north and south, is presented. This is a continuation of the process begun in Vol. 4, where the theses held in University College Dublin were published. This original U.C.D. list has been reprinted here to provide the most complete listing possible to be referenced in one volume. It is hoped that with the co-operation of the institutions involved annual updates will be published.

The editors would like to thank all those who played a major role in ensuring the appearance of this publication. We are indebted to the Director and staff of the Irish Archaeological Wetland Unit whose continuing support and interest in the journal is graciously acknowledged. Thanks are also due to the individuals and institutions who provided the information contained in the thesis lists. The support of the Department of Archaeology and the Archaeological Society, University College Dublin is gratefully acknowledged. Thanks are extended to Dr Gabriel Cooney for his willing assistance, to Conor McHale whose acknowledged blend of artistic brilliance and eccentric wit is an essential ingredient and thanks also to Deirdre Daly.

Trowel in its present state owes much to the energy, dedication and vision of both James Eogan and Colm Jordan whose pioneering spirit enabled them to plunge into the undergrowth and revive the slumbering beauty that was *Trowel!* They retired in 1993 from the editorial board and we wish them well in all their future endeavours.

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Chris Corlett
Bernard Guinan
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A SORT OF CONSENSUS-A view of the current state of theory in archaeology

Stephen Johnston[*]

> "The best lack all conviction, while the worst
> Are full of passionate intensity,
> Surely some revelation is at hand."
>
> W.B. Yeats, "TheSecond Coming" (1921)

Viewing the current state of archaeological theory in terms of a conflict between the unrealistic positions of processualism and post-processualism masks several broad areas of consensus among theoretical archaeologists. These include an understanding of the importance of rigorous recording methods in fieldwork, the explicit use of theory in interpretations, the value of multiple ways of viewing the past and the need to make theory more accessible to a greater number of students, amateurs and professionals.

Introduction

Using the itinerary of the last two conferences of the Theoretical Archaeology Group (Southampton in 1992 and Durham in 1993) as some sort of index of the state of theoretical archaeology we find a spectrum of themes that don't on the surface seem to have any linking structure or coherence. As an illustration, the titles of sessions and individual lectures included: "Archaeology and human ecodynamics"; "cognitive archaeology"; "redefining archaeological categories"; "theatre and archaeology"; "a contextual archaeology of metals"; "Giddens' theory of structuration and archaeology"; "simulation, chaos and archaeology"; "timing space: territories and temporalities"; "complex behaviour in human and non-human primates"; "visual information and the shape of meaning"; "intra-site analysis and structured deposition"; "photo-journalism and funerary practice"; "synthesizing socio-biology with structural anthropology".

This represents only a fraction of the bewildering array of approaches on offer in a combined total of circa 350 papers. This diversity seems to suggest that the current state of archaeological theory is that of a chaotic sea of competing positions. Some order could be imposed by the adoption of the mutually opposed umbrella-terms, processualism and post-processualism, but the contention of this article is that an attempt to conceive of theory today as a conflict between these terms masks the true situation. This article will hope-fully show that underneath the confusion, this apparently divided house enjoys more of an unspoken consensus than it has known for decades.

Overview

A desire to pigeon-hole is deeply rooted in the foundations of our subject. We like things to be clearly provenanced with a neat label, however vague and uncertain an understanding that label may represent. Firmly establishing a pot style as belonging to the Neolithic is somehow reassuring, even when our ideaof what the term 'Neolithic' really stands for may be complex, dynamic and poorly defined. Nowhere can this tendency be better seen than in the tapestry of "-isms" that makes up theoretical archaeology. Here, what starts life as a term of convenience

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can rapidly become a banner to rally around, an ideology to swear allegiance to and an adjective to be applied both derisively and admiringly by its detractors and supporters respectively. Just as in archaeological typology, revelation about what is really represented by the material we have labelled often comes only when the old names are stripped away and a new classification proposed. Theoretical archaeology appears to arrive such a point, where a large amount of the work being done seems to sit uneasily with what have become entrenched sectarian divisions (Trigger 1992, 532).

In recent years the bulk of overviews of the subject have broadly characterised the current state of archaeological theory as a conflict between the opposed camps of processualism and post-processualism, personalised as an intellectual punch-up: Binford and Renfrew versus Hodder and Tilley, or something to that effect. Before offering a picture of the current state of theory, it is necessary to look at the two positions in as abstract a way as possible, ignoring the individual personalities and influences which have shaped the two approaches, stripping away their histories, and looking simply at their claims about archaeology.

The difference between the two positions can be reduced to a dispute over the nature of archaeological knowledge.

Processual archaeology

Processual archaeology takes the standpoint that if rigorous scientific method is used, real objective knowledge about the past can be established - we can find out what the past was actually like. This view draws on positivism, the belief that it is possible to use sensory observations to distinguish between correct and incorrect propositions about human behaviour, provided scientific method is adhered to (Trigger1991, 66). Put another way, if we are scientific enough in our excavations and our analyses, we can extract incontrovertible facts about the human past from the archaeological record.

Because processual archaeology assumes that there is a high degree of regularity in human behaviour, we can compare these facts against information about other, better-known, societies; perhaps ones which have been observed ethnographically. What is known about these other societies can be used to construct theories about what past conditions the phenomena we are studying may represent. We can then check our theory against the facts that we have extracted from the record. If a theory can account for all the known facts, it can be assumed to be correct (Binford 1989).

The past is perceived as the product of a number of general processes, including universal human behavioural responses to material stimuli, the natural environment, and general social processes (Barrett 1994,164).

The goal of processualism could be seen as establishing a small number of general laws which are assumed to govern human behaviour in the same way that the natural sciences attempt to discover general laws which govern the universe. Once established, it would be possible, given a set of initial conditions, to predict how a particular type of society would behave over time, and in response to changes in external conditions (Watson, Le Blanc & Redman 1971; Binford 1983; 1989)

Post-processual archaeology

Post-processual archaeology's stand-point could be described as the converse of this view. It denies that the archaeologist can acquire objective

knowledge about the past. All observation, post-processualism argues, is theory laden, distorted by preconceptions and expectations. All truths are relative to specific social and historical circumstances, and it is both impossible and irrelevant to try to say which interpretation is the "true" one. Through this cynicism about objective knowledge, the archaeologist is seen as a subjective individual interpreter, and archaeological theory as current ideology projected into the past (Trigger 1991,68)

Post-processualism rejects the possibility of constructing general laws, and instead can be seen to concentrate on establishing relations between material culture and human behaviour which are specific to particular cultures and their individual contexts (Hodder 1982; 1991a). Patterns in the behaviour of human populations derive from people acting on their individual perceptions of how the world works, perceptions heavily influenced by their historically specific cultural context (Barrett 1994,164). In other words, human responses to the world and to each other are mediated by their culture.

Going further along this line of reasoning, there can be no universal types of social unit, as each society is constituted by the practice of its individual members, acting on their culturally-specific knowledges and assumptions (Shanks & Tilley 1987b, 59). Thus the use of generalised models of culture is inappropriate. Each culture can only be explained with reference to itself, and any meaning must be seen as being conferred by the relationship of all the elements of the culture to each other. The meaning of the archaeological record is irreducible to the elements that go to make it up, it can only be understood as a whole (Shanks & Tilley 1989a, 4). This leads on to the idea of material culture as a text created by individuals in the past, with its meaning derived from the total cultural system. This text is then open to any number of readings by archaeologists (in the form of reports or interpretations) which are in turn equally considered as texts to be read by other archaeologists.

There is no way to choose between alternative views, or readings, of the past except on political grounds. The main reason for the study of the past becomes a political, revolutionary, radical critique of the present (Shanks and Tilley 1987a, 195-206). Archaeology ceases to be a source of knowledge about the past.

Criticisms

At this point it should be reiterated that the above sketches characterise (perhaps even caricature?) the ideal states of the two positions. Few practitionerswould recognise these descriptions as representing their own standpoints. I have deliberately chosen this perspective not because it might offer an insight into the actuality of either set of ideas, but because it is against these epistemological and ontological underpinnings that criticisms from both camps are concentrated. I have tried to depict Renfrew's "straw men", mythical philosophical constructs set up not by the proponents of a position, but by its opponents (Renfrew 1989b, 467).

Post-processual criticisms of processual archaeology centre around the fallacy of pure objectivity, the flawed notion that there is a single truth about the past, and the impossibility of constructing laws of human behaviour. Tilley (1991b) succinctly re-states some of these core criticisms. He accuses "scientific archaeology" of assuming that "the archaeologist has

no effect on the form and nature of that which is being investigated" (ibid, 17), that there is no choice or subjectivity involved in studying evidence, extracting data and testing theory "our gaze...is supposedly theoretically innocent" (ibid 18). As O'Connor (1991) observes, it is not clear which processualists, if any, make these assumptions. The presence of theory in observation is now widely accepted. The processualist archaeologist "approaches the evidence on the premise that a close examination of it in the light of current theory might serve to modify working interpretations concerning past events and conditions" (O'Connor 1991, 1). With the exception of a few extremists, many processualists would be circumspect about using calorie optimisation models, or reducing human behaviour to simple laws, and accept the importance of meaning, contingency, and history (Hodder 1989, 15). What is retained is the idea of systematic analysis of the material, and a requirement that an interpretation should be consistent with the available evidence (O'Connor 1991, 2).

Similarly, the major criticisms made of post-processualism relate to the dangers of unfettered subjectivity, the denial of a real past, and the perceived impotency of archaeological investigation which results (Shanks & Tilley 1989b). Far from indulging in subjectivity, much post-processualist thought is concerned with dealing with it. Shanks and Tilley (1987a, 56-9) are opposed to quantification in archaeology because, they argue, many archaeologists mistakenly assume that quantification alone provides value-free data. Hodder (1991a, 185) highlights the importance of scientific means of analysis, including statistics, chemical, physical and metrical studies, for discerning and testing patterns, relationships, dates and sources, but points out that once this scientific analysis is complete, the patterns produced still have to be interpreted. These arguments propose an additional degree of rigour in analysis, the necessity of accepting the subjectivity of the archaeologist in dealing with the quantified data.

Trigger observes that post-processualists correctly maintain that the social and political orientations of archaeologists and their society influence their methods and interpretations, however, "it is hard to accept Shanks and Tilley's contention that evidence plays little or no role in determining what archaeologists believe" (Trigger 1992, 72). In reality, recent post-processual writings do accept the importance of the data in shaping theory. Chris Tilley, frequently demonised as the most extreme of the post-processualist archaeologists (for example, Renfrew, (1989b, 469) portrays him as a "wilder figure...prowling in the methodological undergrowth") has gone so far as to state "archaeological evidence provides resistance to theoretical appropriation" (Tilley 1991b, 17). Hodder argues that the material remains of the past are real and organised and they "create thoughts in us" (Hodder 1989, 16) and can be used to challenge interpretations of the past (Hodder 1991b, 12). These positions are a step away from the hyper-relativism that is the target of much processualist criticism.

What is disputed far less frequently is the value of some of the concepts and methodologies presented by archaeologists working under either banner. We find even Binford accepting Hodder's idea of material culture as meaningfully constituted and active in the structuring of society (Barrett 1990, 46). Binford embraces this particular element of the post-processual programme because it is firmly rooted in an ethnographic study (Hodder 1982). This is an important point. While Binford as a hard-line processualist rails against relativism in post-processualism, he is quite prepared to endorse Hodder's ideas about material culture, arguably the most powerful methodological contribution to emerge from post-processualism. Along these lines, Trigger suggests "the possibility of a middle way that combines some elements of a positivist approach with a greater awareness of the impact that subjective aspects of human behaviour have upon both the formation and the interpretation of the

archaeological record."(Trigger 1989b, 30). It seems clear while there is no shortage of concession on both sides, this is hidden by the persistent attacks on the respective inability of positivism or relativism to successfully model reality.

It is my contention that this clash of ideals is no longer relevant to archaeological debate. The difference between these two positions is insurmountable. Essentially they represent two discrete views of the universe, of the nature of reality. Any argument between proponents of these two positions must be unresolvable, because they represent statements of belief. As Marcen & Risch (1990, 94) observe, at its roots this divide can be viewed as another incarnation of the rift between Wittgenstein's positivist and relativist works, and is just as irreconcilable. Renfrew has described post-processualist criticism as creating "re-runs of the debates occurring a decade or so earlier in the philosophy of science" (Renfrew 1989b, 468), but this is an accusation that could equally be made against many processualists.

In this light I propose to identify what might be described as the underlying achievements of the theoretical archaeology debate thus far. By this I refer to areas of broad consensus about the nature of archaeological knowledge about the past, irrespective of an absolute processualist or post-processualist background. I don't mean to suggest that some notional majority of theoretical archaeologists accept all the points listed below, and hence this must be the current state of theory. Instead this is a summing up of positions that seem to be accepted to a greater or lesser degree by archaeologists pursuing a wide range of theoretical approaches. This 'sort of consensus' could be seen as representing the net gains in understanding the nature of the past that have resulted from the last 30 years of debate.

The current state of archaeological theory, a sort of consensus

(1)   **The presence of theory in observations**. Virtually every archaeologist would now accept that when you excavate a site, or analyse material, or construct an interpretation, the kind of questions you ask, and the kind of answers that you give are influenced by your particular context - your interests, your beliefs, your expectations, your previous experiences and maybe even your funding requirements.

However it is also accepted that while there is no way of eliminating all these biases, this is not a disaster. If you can be rigorous and systematic in your recording of material, and in clearly stating your aims, your methodology, and perhaps your theoretical viewpoint, then to some extent your recording biases can be understood and dealt with by those who want to use your work. The problem arises when the presence of values and theories isn't acknowledged by the archaeologist.

(2)   **The existence of a Modified Objectivity**. A general acceptance that the material remains of the past do have an intrinsic reality. They are patterned or organised in a certain way, and this patterning, whatever it may mean, is really there. They can be used to test and to alter our theories. Any interpretation of the past can be challenged by reference to the data (Hodder 1989,16; 1991b, 12)

(3)   **It is possible to relate to the people of the past**. For the last 100,000 years at least we have all had one thing in common: biology. There are certain universals in the thought processes of *Homo sapiens sapiens*, a legacy of our common evolutionary heritage (Mithien 1989). Making use of the terms Noam Chomsky uses to conceptualise linguistic ability, our consciousness arises out of, but transcends, the same biological hardware. The particular "switches" of our individual mental configuration may be set by cultural experiences, but the

hardwiring is universal (Chomsky 1980). This doesn't mean that people in the past thought about their world in the same ways we do, or perceived their situation in the same way we might, but they were not alien, not "other", but human, and as such potentially understandable (Maimer 1993,148).

(4)   **The importance of context, or the holisticapproach**. The best way to interpret the past is to gatheras much evidence as possible: material culture - tools,ornaments, houses, funerary deposits; past environment - landscape, climate, resources, etc.."A pollenanalysis will not of itself explain whether early Post-Glacial Europeans had a precious grasp of dialecticalmaterialism or picked their noses, but it will contributean impression of how, to modern eyes, the landscape inwhich these people moved, acted and thought mighthave looked" (O'Connor 1991, 4). If we have a pictureof the physical worlds that past peoples moved in, itmight be possible to use our common humanity toexplore how they might have perceived their world.Our interpretations are more valid the more we knowabout what we are interpreting, our attempts at assigning meaning more likely to succeed the more we knowabout the context that meaning was constructed in.There exists the possibility that developments in technologies like virtual reality could be used to reconstructand explore the environments of the past cheaply andflexibly, as has already been attempted for Mayan temples and the built environment of Roman London.

(5)   **The value of multiple perspectives on the past**.There should be an end to the authoritative voice in archaeology, the interpretation which says "This is how it was". Because we know that we are dealing with an incomplete set of evidence, and that our analyses are fraught with prior assumptions and biases, we should present our interpretations as provisional, as steps on the road towards a better understanding (Godsen 1991). In this light, it is not wrong to use functionalism, systems approaches and ecology in attempts to describe and explain the past, as long as these, and all other, perspectives are acknowledged as only offering partial interpretations (Mithien 1991). It is thus perfectly valid to use computer models of cost-surfaces to examine cultural landscapes (Stead 1993); to use different ideas of how people see time in an attempt to understand social roles (Picazo 1993); to apply Giddens' theory of structuration to aspects of prehistory, (Mizoguchi 1993;Barrett 1994); or to use non-linear dynamics to explore people's relationship with their environment (Moore 1993): all projects discussed at the most recent T.A.G. conference. These different frameworks of explanation can only help a fuller understanding of the past (Tilley 1991b, 15). This acceptance of the value of a plurality of perspectives is the source of the immense diversity of approaches alluded to in the introduction to this piece.

(6)   **The value of multiple aims in archaeology.**Similarly, if people want to use the archaeological record to explore the changing role of women through time (Gilchrist 1991), or as a validation of revolutionary Marxism (Knight 1992), or to look at people's changing relationship with the landscape over long periods of time (Fenton-Thomas 1993), or to see how material culture is used to structure society (Hodder 1991a), or just to explore the diversity of human achievements and failures, the richness of different perspectives (John Barrett's discussion of his paper at TAG '94) - all these are useful so long as archaeologists are careful about how they use the evidence, and make their theories open to comparison with the data, and criticism that results. There can be no general overriding aim for archaeology-yet. If there is ever to be a coherence of purpose it can only come through the kind of experimentation that has constituted at least one strand of post-processualism (Shanks 1992).

(7)   **The need to make theory accessible**. There is a realisation that theoretical archaeology is distancing itselffrom the rest of the profession because of a tendency tocouch

its discussions in difficult philosophical, politicaland sociological terminology (Bintliff 1991). Instead ofencouraging archaeologists to incorporate theory intotheir work, this has produced a polarisation of "practical" archaeologists and "theoretical" archaeologists(Hodder 1991). Shanks and Tilley (1989a, 8) have saidthat "if the complex could be put into the simple, thenof course it could not have been very complex in thefirst place". Trying not to sound too naive, it strikes thisauthor that the problem is not some inherent complexity of the concepts being addressed, but the manner inwhich they are discussed.

While the process of legitimating the development of an argument by reference to larger intellectual trends may be valuable in the initial stages of its formulation, the significance of an idea can better be communicated to a wider audience of archaeologists through practical application in a case study or example. It is this anecdotal quality, the application of theory to a specific set of data, which allows books like Barrett's Fragments from Antiquity (1994) and Tilley's Material Culture and Text (1991a) to communicate their "complex" points so clearly. As Godsen (1992, 806) has pointed out, forms of expression are needed which can involve the majority within our discipline in the theory debate. Clarity of expression is not, as Shanks and Tilley (1989a) might argue, "anti-intellectual", it is an acceptance that the bulk of students, amateurs, and professionals simply do not have the time needed to pursue every aspect of archaeology in enormous depth.

It is as unreasonable to expect every archaeologist to read Foucault, Derrida, Giddens, Ricouer, Popper, and a host of others, in order to read archaeological theory, as it would be to ask archaeologists to understand the blueprints for an accelerated mass spectrometer in order to read a radiocarbon date.

Conclusions

Much of the above may seem to be a concerted effort to reinvent the wheel. There is little here that hasn't appeared in a more developed form elsewhere, but my intention has not been to arrive at yet another new approach for theoretical archaeology. I have tried instead to highlight the underlying consistency in many of the assumptions under which today's archaeological theory is formulated, a consensus that is masked and obstructed by the overbearing and schismatic nature of the processual/post-processual debate.

In presenting what I consider to be these very general areas of agreement amongst theoretical archaeologists, I am in no way trying to put forward a programme in the manner that Renfrew and Shanks and Tilley have done in recent years (Renfrew 1989a; Renfrew & Bahn 1991; Shanks & Tilley 1987a; 1987b; 1989a). Rather, it is an attempt to communicate a personal view of what is happening in (Anglophone) theoretical archaeology today; an impression created largely by a browsing of the more accessible literature, opinions expressed in several book reviews which have appeared in recent years, the proceedings of the most recent T.A.G. conferences and the points raised in a M.A. group seminar dealing with theoretical perspectives in archaeology. All the material I have considered has been in the English language. It could be argued that this kind of unsystematic approach is of little value in forming a picture of the overall shape of current theory, particularly when compared with a comprehensive chronicle like Trigger's A History of Archaeological Thought (1989a) or a detailed focus on one branch of archaeology, such as Renfrew's (1993) consideration of cognitive archaeology. In response, I would argue that it is our perceptions of theoretical archaeology that will influence our practice of it, and for this reason exploring the impressions which the current state convey is an important part of the debate.

In conclusion I'd like to look briefly at one reflection of this broader theory debate in Irish theoretical archaeology. In the pages of *Antiquity*, Peter Woodman and Gabriel Cooney have been engaged in an interesting discussion about issues in Irish prehistory, including theoretical approaches to its study. It is worth noting how reluctant each author is to adopt a traditional label for their position:

> "*I suppose this shows* I really am a processualist, concerned with approaches such as middle-range theory..." (Woodman 1993, 640), [My Emphasis]

> "*My own approach might be described as a post-processual one, but rather than following a particular agenda or taking a specific theoretical stance I would argue that we have to appreciate the value of a range of perspectives in assessing the archaeological record to understand the past*" (Cooney 1993, 633), [My emphasis].

The dissatisfaction with the suitability of the terms *"processual"* or *"post-processual"* for the positions both authors actually hold is quite evident, but there seems to exist a feeling that they really shouldbelong to one of the two groups regardless of "...how little this dichotomous view corresponds with reality" (Trigger 1992, 531). Both Woodman and Cooney explicitly advocate a tolerance for other perspectives and approaches in their articles, so this self-labelling cannot be seen as representing an Irish processual/post-processual schism of the type criticised above. It does however serve to illustrate the kind of influence such a split can have. It is to be hoped that a less divisive, more consensual, theoretical archaeology can take root in Ireland, and that we can avoid the kind of unproductive name-calling that has hampered an understanding of theory on the wider stage.

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AN IMPORTED REVOLUTION? Urbanisation in Ireland Before AD 1100

Jens Beutmann[*]

Introduction and definitions

In dealing with the history of towns one cannot avoid defining the term itself. Many approaches have been suggested. While in the 19th century the 'town' was defined in a legal sense (i.e. the possession of a charter), a broader approach was developed in Weber's article "Die Stadt" in 1920 following the work of Sombart (1907). Weber saw the ideal town as a large settlement whose inhabitants gained their livelihood primarily from non-agricultural occupations, while the local market supplied their everyday needs. It had a de gree of political and legal autonomy and a military significance as a fortification (Weber 1920, 621-637).

There is a danger in relying too much on a definition. Reynolds is correct in suggesting a distinction between /definition,/ whose main aim is to define an area of research, and 'description', which is the more comprehensive result of research (Reynolds 1977, ix). Furthermore, a definition of a word should not be too far removed from its everyday meaning. Even Graham, working within a conceptual framework, admits that "no one definitional scheme can thus be separated from a perceptible input of intuition" (Graham 1987b, 175). Therefore, I suggest defining the town as a significantly larger than average settlement that is densely built up and whose inhabitants gain most of their livelihood through a diversity of non-farming activities1- The phrase 'significantly larger than average settlement' implies that in early societies a town may have had only a few hundred inhabitants. One criticism may be that this fails to distinguish between late Medieval cities like London and 10th century towns like Dublin. However, all these towns served specific central place2 functions in their societies.

The topic of this paper is urbanisation, this means it deals more with the process of urban development rather than with fully evolved settlements as defined above. Settlements which fall into this category will be called 'pre-urban' irrespective of whether they ever reached the status of the fully fledged town or not. Terms such as '*emporium*' and '*portus*' will be avoided as Wallace and others have pointed out the problems they pose. Here the term 'urbanisation' describes a process that affect society in general and not the development of particular settlements into towns. Using such criteria, Jankuhn (1976) included settlements like Helgo or Feddersen Wierde which were far from developing into towns, however, they illustrate a transformation in society preceding urbanisation. This may indicate an early evolutionary development of the town during the early Middle Ages, rather than a sudden occurrence of this phenomenon. Nevertheless, the deliberate foundation of single towns by a central authority is possible, if this authority was aware of what a 'town' was, what resources it required and what advantages it offered.

In Ireland, the main issues are whether towns were a product of urbanisation and to what extent they were introduced by a foreign power, prior to the Anglo-Norman invasion.

Native developments

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There are several factors which may have contributed to the development of towns. Clarke and Simms (1985) cite four types of pre-urban cores which cover the basic possible functions of towns. These are 'trading settlements' for long distance trade, 'stronghold settlements' for protection, 'cult settlements' for religious purposes and 'market settlements' for local and regional trade. Clearly much overlap occurs within these basic functions, for example 'cult' settlements offered protection to both traders and non-traders.

As this definition suggests, it is the varying economic characteristics of pre-urban cores that distinguish them from each other. Evidence of trade in Early Medieval Ireland is relatively scarce. As Doherty (1980, 67-8) points out this is not only due to poor archaeological preservation, but also to the structure of society during the period. In his opinion the circulation of goods and services in a reciprocal, kinship-based society is largely restricted to a ceremonial gift exchange, whose main aim is the establishment of social bonds, and not economic ones3- Trading with the aim of making profit was considered to be anti-social because it constituted a danger to the whole community. As foreign merchants were not bound by kinship into society they could run successful businesses, but in turn they required the security guarantees of local kings as they were not protected by the legal system (*ibid* 79). A sanctified area in a monastery could serve the same purpose. Only the church and nobility could probably afford long distance trade goods, thus, the close links between central power and early trade become clear. Graham mentions some emporium-type locations, such as Dalkey Island; Nendrum, Co. Down and Knockdhu, Co. Antrim, but states that "no suggestion of urbanisation is involved" (1987a, 8). In the writer's view the existence of central trading places as opposed to exchange through travelling merchants or peddlers is a possible factor in urbanisation, irrespective of whether these places themselves developed into towns or not. An additional reason which could have caused the church and nobility to encourage trade was the prospect of tolls and taxes.

Written sources tell us little about the extent of trade and production during this period. Nevertheless, Doherty (1980, 69-71) has produced evidence that the 8th and 9th centuries saw an economic development due to increases in population and agricultural production. This led towards the development of local markets in close proximity to centres of authority. In the 10th and 11th centuries such markets were established in some of the most important monasteries (Graham 1987a, 8).

There is little archaeological evidence for trade in this period. Pottery finds from high status settlements have indicated the existence of some wine and olive oil trade from circa AD 500 onwards, but the scale of this trade remains unclear. Since it is difficult to detect local trade from the available archaeological evidence, it is necessary to examine the metalwork of this period. The best metalwork pieces reveal a technical proficiency that could only have been achieved by specialists. Such craft workers had not only to supply their own raw materials but also their own daily requirements such as food. The main buyer of prestigious metal artefacts was the church and evidence of metalwork has been found in excavations of several monastic settlements (e.g. Nendrum and Clonmacnoise). This concentration of non-farming activities around monasteries already indicates one step towards urbanisation.

Some of these monastic settlements covered quite an extensive area. The twelve examples that have been examined by Swan have an outer enclosure of between 4 and 20 hectares (Swan 1985, 98). If these areas had been densely built up, the population of these settlements would have been sufficient to classify them as towns, even if the inner enclosure was reserved for religious purposes. Without extensive archaeological excavations information about the population densities must be obtained from written sources. For example, from the

12th century some reports survive concerning raids or fires in which large numbers of houses were destroyed.

It is no wonder then that monastic settlements have been put forward as the most likely candidates for the term 'town' in recent research of pre- and non-Viking Ireland. If one regards the economic function of pre-urban cores or early towns as a means of distributing a surplus4 in the hands of the powerful, itwas predominantly the church that was able to gather and offer such a surplus in the centuries before the arrival of the Vikings, and before the change from a kinship-based society to territorial kingdoms (Doherty 1985, 45, 55). However, if these monasteries ever reached town status, they did so at a time when the Vikings had already set up at least pre-urban settlements in Ireland, thus, their on influence the indigenous urbanisation of Ireland must be acknowledged.
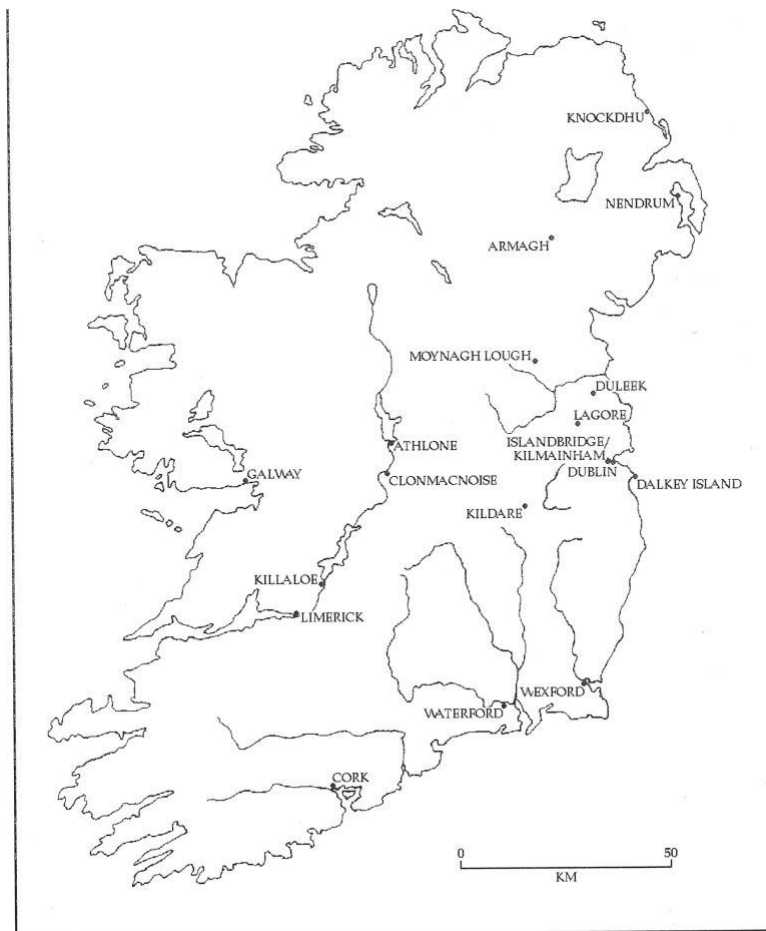
Secular native town development has also been suggested. Butlin (1977, 17-8) mentions that many towns in Ulster are sited on raths, however, this may be coincidental in view of the high number of known raths in Ireland and the assumption that certain sites are attractive to settlers of all periods. Some secular centres such as Garry duff I, Moynagh Lough and Lagore, however, do have strong evidence of metal-working and other crafts (Edwards 1990, 68). They may indicate the types of developments that Jankuhn (1976) observed in Scandinavia and Germany in which craftsmen moved away from purely agricultural communities and concentrated in specialised settlements like Helgo, Feddersen Wierde or the southern settlement (*Südsiedlung*) of Haithabu (Hedeby). Imported pottery indicates that these sites, like the Irish examples, were involved in long distance trade. Such a movement would have rationalised production and created the opportunity for craftworkers to learn from each other. Might the resident kings of Lagore have gained much of their wealth and power by controlling this resource as the "*Hauptling*" of Feddersen Wierde appear to have done? (Haarnagel 1975, 22).

The Viking impact

When the Vikings arrived in Ireland there already existed the criteria necessary for certain urban functions. Kings, noblemen, and in particular the church were looking for prestigious goods and had discovered that profit could be generated by the taxation of trading settlements (Doherty 1980, 69). There was an agricultural surplus to be distributed. Booty and slaves

gained through raids by the Irish and Vikings had to be traded, a fact which should not be disregarded in a society where "warfare was the most significant form of socio-economic interaction" (Hodges 1982,194).

The initial reason for establishing the Dublin *longphort* in 841 appears to have been the need to have had a protected settlement as a base for raids. The extensive Viking cemetery found in the last century at Islandbridge/Kilmainham contained graves of warriors, merchants, women and possibly craft workers. However, it may not belong to the *longphort*, as the annals provide evidence of further Norse settlements in the area (Clarke 1991, 97). Indeed, the location of this *longphort* is not clear. While some archaeologists (e.g. Bradley 1992, 43-4) argue for the area close to the Islandbridge cemetery because contemporary Scandinavian burial grounds were usually close to dwellings, historians believe that the *longphort* was between the monastic settlement Dubh Linn and Áth Cliath, probably at the 'Black Poor itself near where Dublin Castle now stands. Even more importantly, the frequent references to the names Ath Cliath and Dubh Linn in connection with the *longphort*, would pose serious questions as to the reliability of the sources, if we accept that the real settlement stood at Kilmainham, another contemporary monastery (Clarke pers. comm.). However, as of yet no traces of 9th century settlement have been found, despite the many excavations that have taken place in the suggested area of the *longphort*.

Clarke stresses the importance of the settlements that already existed when the Vikings founded their *longphort*. In his opinion Áth Cliath, first mentioned in the 6th century, was a settlement of farmers and fishermen, possibly attached to a royal ringfort close to the Liffey-ford. Dubh Linn was a monastery whose abbots and bishops were mentioned from the 7th century onwards. Clarke (1991, 93) sees this surviving in the street pattern west of St. Stephens Green where several important long distance routes converged. Yet, the relationship between native Irish and Norse settlements remains unclear, even a continuity in the succession of settlements is arguable (Wallace 1982, 132, 139). However, Clarke's research shows that the Vikings did not enter virgin territory.

The *longphort*-phase lasted for six decades until 902, when it was captured by Irish kings and the inhabitants fled to England. The Vikings returned in 914/5 and a new phase of urban development began in Ireland. In 917 they installed a settlement on the highly defensible ridge between the Rivers Liffey and Poddle, perhaps where the *longphort* had been. Evidence of this development was found in the excavations of Wood Quay in Dublin (Wallace 1986, 215-9). From the outset a division of the area into plots occurred, although the evidence of this is somewhat vague in the earlier levels. A low rampart, which probably completely surrounded the settlement, was constructed, as excavations in Ross road have recently confirmed5, and not much later a more substantial defence was constructed.

Wallace (1982,134-5) has observed similarities between the fortifications of Dublin and contemporary Anglo-Saxon burhs and towns, especially those settlements that have, unlike Scandinavian sites, a bank towards the riverside. Furthermore, he doubts whether the Dublin house-types and other town-like features could have evolved in the short *longphort* period. As the Dublin Norse (and probably some Irish and English allies) returned from fifteen years of exile in Northern England where they were in close contact with Anglo-Saxon towns, it seems plausible that they may have brought back the concept of the 'town'. "Dublin appears therefore to have been a deliberate foundation and not a natural development from a primary core of one kind or another" (Wallace 1992, 11). However, Clarke also points out that the Dublin Norse may have had contacts with English urbanisation before their exile (1991,101-2).

Clarke, although admitting that the site was probably abandoned for fifteen years believes in a stronger continuity from the *longphort* phase to the dun, as the settlement was called in the Irish sources from AD 937 onwards (pers. comm.). His main evidence comes from annalistic references which record the capture of the settlement by the Irish in 902 and its recapture by the Vikings in 917. The 917 expedition was even led by members of the Viking dynasty who had originally established the *longphort* (Clarke, *pers. comm.*).

The Dublin excavations also revealed much information about the economic basis of Viking Age Dublin. Long distance trade is indicated by imports such as luxury craft work, ivory and amber from the north Atlantic, England and the Continent (mainly Northern France), and perhaps from as far away as central Asia. The written sources emphasise the slave-trade and mention the export of cloth and hides. Transit trade from North to South was also important (Wallace 1985, 132; 1986, 222).

Local trade involved food, fuel, building materials and raw materials for craft work. Souterrain ware, probably from the north-east of the country, has been found in Dublin (Edwards 1990, 188). Even the production of agricultural tools like ploughshares and spades seems to have taken place (Wallace 1985,133-4). The existence of comb makers, bone workers, wood turners, coopers, shoemakers, leather workers, amber workers and different kinds of smiths have also been revealed, while specialised builders, carpenters and shipbuilders can be inferred (Wallace 1986, 221). Numerous high quality trial pieces show the close connection with Irish metalwork of the period. Indeed, some of the finest artefacts from throughout the country may have been produced in Dublin.

All this evidence illustrates the strong relationship between a town such as Dublin and its hinterland. The functions that it served, whether or not it was long distance trade, required a surrounding area that was able to support such a settlement6- Some of these functions may have been designed to serve the hinterland, as the production of ploughshares and some prestigious metalwork suggests. We may call Dublin a town very soon after its re-foundation in 917, or at least from the second half of the 10th century onwards.

The Annals suggest that the Dublin dwellers in the 10th century raided their 'hosts' with greater regularity than those of the 9th century and that they were also involved in the power struggles between the Irish kings. Three battles (980 Tara, 997 Glenn Mama, 1014 Clontarf) around the turn of the millennium only forced them to reconsider their military ambitions (Clarke 1991, 103-10, 116-7). The *dún* was plundered and burned at least five times between 944 and 1015. It is, however, difficult to imagine, how peaceful trade and bloody warfare could exist almost simultaneously. This again emphasises the importance of places of trade where security for merchants was guaranteed. A world of warfare needed 'neutral' places to make trade possible.

Other Viking towns such as Waterford, Limerick, Wexford and probably Cork were founded at the same time as the second Dublin phase. The history of Waterford began with the establishment of a *longphort* in 914, although later annals state that Scandinavians had already settled there in the 9th century. The *longphort* was initially, as in the case of Dublin, a raiding base. It was built on a ridge between the River Suir and St. John's River. The 'chequered' street pattern reveals a certain amount of planning, but the town grew step by step (Bradley & Halpin 1992, 105-110). The earliest archaeological remains date from the 11th century, when Waterford already was a "permanent settlement of urban character" (Hurley, 1992, 50). A fortification does not appear to have been only put into place until the end of the 11th century. The streets were paved with gravel and stones and the main house

type was similar to Dublin Type 1 (ibid, 50-68). An interesting aspect is the similarity between the topographical location of the Waterford settlement to that of Dublin.

By 892 Vikings had settled in Wexford. They again chose a site where a tributary stream entered a main river, although the Bishopswater stream seems not to have offered much protection, as it did not flow into the River Slaney at an angle to provide a peninsula, though it did form a safe haven in the form of a pool at its confluence. During excavations Dublin Type 1 houses were found (Bourke 1989).

Central power, neutrality and foreign merchants; some theories and comparisons

The importance of kings and princes in the deliberate foundations of towns has often been emphasised. There are a number of examples of entire towns being founded in this way, such as those of Anglo-Saxon kings in the late 9th and 10th century or German princes in the late 12th and 13th century in Slavonic areas. Irish kings knew how to use the advantages of large monastic settlements and achieved some power in these places (Doherty 1985, 61-3), however, there is no evidence that they deliberately founded towns de novo.. Monasteries may have developed into towns, but were not founded as such. If there was a deliberate foundation of towns by a political or military power, then only the Viking leaders come into consideration.

Sjoberg (1960, 27, 68-76), puts forward a rather diffusionist view and considers 'social power' as the most important factor in urbanisation. This power was necessary to secure the supply of basic necessities for the town by collecting tribute or taxes from farmers and to safeguard their economic functions by keeping the trade routes open. Although the Vikings controlled the Irish Sea, probably no power could have controlled the land trade routes. However, the possibility of the Vikings receiving tributes from hinterland populations has to be borne in mind.

Central power was important for guaranteeing the security of traders. A certain security could also have been achieved by placing trading stations in neutral border areas. This point is particularly interesting in the context of the Irish situation as many of the monasteries lay on territorial borders (Edwards 1990, 104-5), as did the major Viking towns. In the case of Dublin, Clarke uses this as an argument to support his view that Áth Cliath was possibly a trading stationbefore the Vikings arrived (Clarke 1977, 43-51). Nevertheless, the Vikings could have chosen the site for the same reason, especially if one considers that their second arrival coincided with a power-vacuum in the south and west of Ireland (Wallace 1985, 108). This would suggest a deliberate foundation of a trading station in an area where no Irish king could claim a clear predominance.

Hodges (1982) describes temporary markets or fairs as the first type of emporium, and, despite a lack of clear evidence, suggests Dalkey Island as such. Better nominees for this category would probably be the *oenachs*. The next step would have been 'semi-permanent' settlements with resident craft workers and visiting foreign merchants. This is especially plausible if one considers that in pre-industrial societies the emphasis on trade lies in acquiring rare goods rather than selling them. These places can potentially develop into central places that function as regional economic foci and often develop political significance (Hodges 1982, 50-2). The capturing of Dublin by Diarmait mac Mael na mBó in 1052 would have marked the full transformation into the last stage of town development, although Hodges (ibid) sees this as the case from 10th century onwards. Doherty suggests that the

aftermath of the battle of Tara, Dublin became an important political centre for ruling Ireland (*pers. comm.*).

Clarke & Ambrosiani (1991, 87-8, 173) put forward a broader approach and argue that urbanisation begins with settlements with single specialised functions, developing into early market-places with permanent residents before finally developing into full towns. They stress the point, that the success of urbanisation depends on the prosperity of the hinterland7-

Conclusions

Irish Society changed dramatically during the last centuries of the first millennium AD. The economic system transformed from reciprocity to redistribution, and a feudal8 system began to evolve. This was paralleled, and possibly caused, by an improvement in agricultural technology, which led to the production of an exchangeable surplus. Increasing specialisation made possible more sophisticated craftwork. The church and the higher strata of secular society were the main beneficiaries of this development. They encouraged, whether consciously or not, a concentration of merchants and craftsmen within their vicinity. This process in its most advanced stages led to the development of settlements that some writers call monastic towns.

During this phase the Vikings arrived in Ireland. After an initial phase in which they probably exploited the increasing wealth of the country, they established settlements that evolved within a few decades into towns. Their agricultural and other economic experience accelerated the process of urbanisation. It is even possible that they took over or settled beside pre-existing monastic settlements. The success of these foundations would not have been possible had the Irish socio-economic system not been able to support them and perhaps had need of their functions in return.

The question of whether the Irish 'urban revolution' (Childe 1936) was an imported or domestic development remains unsolved. The problem of whether the postulated economic rise started before the arrival of the Vikings or after it needs to be addressed. One of the oldest historic-philosophical questions that especially affects this topic still remains, is history created by single far-sighted individuals or by processes and structures beyond the capability of any conscious guidance?

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Footnotes

1 Compare Sjoberg 1960,11 and Reynolds 1977, ix.

2 The term "central place functions77 is here defined in the broad sense of a settlement which serves more than its own inhabitants (Denecke 1973, 39)

3. Materialistic (i.e. Marxist) historians would probably emphasise the economic value of these transactions and call the ceremonialvalue just a means of justification and power guarantee for the "upper-class". Compare Graham 1987b, 177.

4 i.e. Graham, 1988.

5 Claire Walsh, in a paper given at the First Annual Symposium on Medieval Dublin, 24th April 1993, Dublin

6Compare Clarke 1991,115, Simms 1981,115 and Bradley 1988

7 Irish examples J Beutmann. Clarke and Ambrosiani think more of the development of one settlement through the three stages.

8 This word is more than problematic. I use it here for a society which is based on territory instead of kinship and in which the lower strata of society are linked to the higher by certain tributes. The reader should not think too much about it!

IRON AGE POTTERY FOUND IN THE BOGS OF NORTH GERMANY AND DENMARK

Blaithín Kennedy[*]

> *"The larger bog finds, due to their often lavish abundance of artefacts have been the focus of so much scientific research, that the more extensive group of smaller bog finds has been up to now practically disregarded"*
>
> (Jankuhn, 1964; translation by the author)

In the past, scientific interest was very much focused on the larger more spectacular finds discovered in the bogs of North Germany and Denmark. There are, however, two bodies of work which have focused some attention on the finds from the bogs in these areas, Jankuhn (1964) produced a study on Iron Age bog finds found in Schleswig-Holstein, North Germany, and Becker (1970) examined the pottery vessels found in Denmark. In addition, there are numerous reports of isolated finds published prior to 1940, some of which date back to the last century. Many of these reports lack the approach and detail necessary for modern study. In addition, the majority of the pottery is domestic ware, which is extremely difficult to date accurately. These factors have contributed in making the task of assessment and interpretation all the more difficult.

Jankuhn (1964) recorded well over seventy individual finds from Schleswig-Holstein, North Germany, only a very small portion of which had found their Way into small local museums. For many, he had to rely on the accounts of turf cutters to ascertain the findtontext and was therefore unable to give a chronological date for a considerable number of the finds from this area. Jankuhn (1958, 209) offered helpful advice for anyone else attempting further research in this area;

> *"The investigation of every bog deposition is an exercise which cannot be carried out by just one individual working alone. It is necessary for numerous regionally and chronologically restricted investigations to be carried out".*
>
> (translation by the author)

Despite these sources of error and uncertainty, both Jankuhn and Becker still considered it worthwhile attempting some analysis of the material.

There has been a tendency to automatically interpret pottery and bog finds in general, as from a sacred context, unlike dry land finds which are assigned to secular contexts. This paper is intended to show that a large group of the finds from bogs can be explained other than in terms of a sacred context.

Depositions of pottery in bogs are found in Sweden, Norway, Jutland, on the Danish Islands, in Schleswig-Holstein and other parts of North Germany. According to Becker (1970, 126-7) the centre of this custom is Jutland and Schleswig-holstein, while Jankuhn(1964, 391) is inclined to believe that Jutland and the Danish Islands form the core area. In Denmark, the Early Roman Iron Age is the richest period for this type of deposition, though the Pre-Roman Iron Age is also well represented. Becker (1970, 127) states that there is an average of 34.6 finds per 100 years of the Pre-Roman Iron Age, in comparison to 62.5 finds per 100 years of the Early Roman Iron Age. The majority of pottery finds from the bogs in Schleswig-

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Holstein date from the Late Pre-Roman Iron Age and the Early Roman Iron Age. Jankuhn (1964) noted that finds are exceptionally rare in the Late Roman Iron Age and in the Age of Migrations.
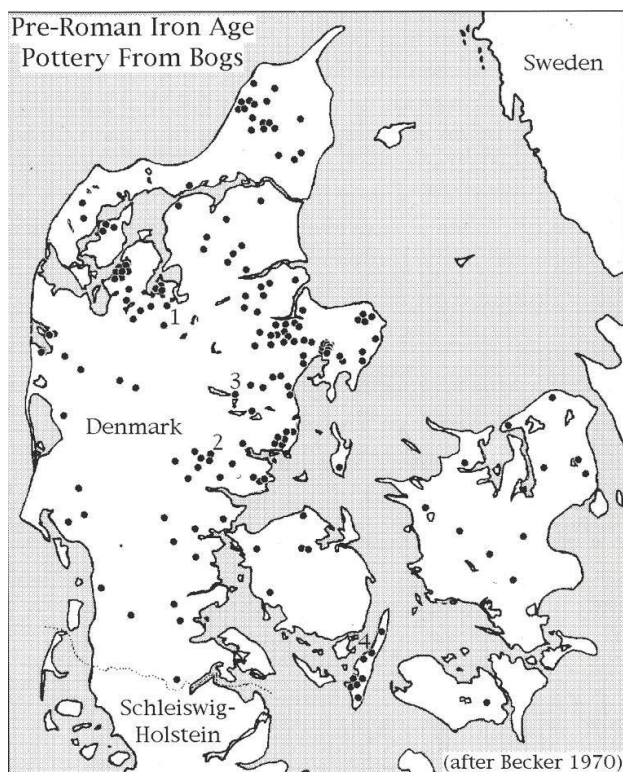

Fig. 1 1.Kvodsted; 2.Uldum; 3.Forlev Nymolle; 4. Stengade

Becker (1970) observed that the distribution of pottery was found in varying concentrations in most Danish bogs (figs. 1&2). Two factors affect the known distribution, for example, on the island of Bornholm, there is little land suited to the growth of boglands. The discovery of finds in bogs is often governed by the intensity of turf cutting practised in an area. However,the majority of the pottery dating to the pre-RomanIron Age comes from the eastern part of CentralJutland, whereas the area of Vendsyssel in NorthJutland, dominates the picture in the Roman Iron Age.Becker also argued that although the Danish Islandswere intensively settled in the Pre-Roman and Late IronAge times, there are very few finds of pottery recordedfrom this area. In Northern Jutland there are four timesas many finds recorded for the Pre-Roman Iron Age asfor the Early Roman Iron Age. This pottery evidence isalso reflected in the settlement pattern for this area,which contrasts with the rest of Jutland, where the settlement pattern remained very much consistentthroughout the two periods. There is also a concentration of finds in the eastern side of Middle Jutland forthe Pre-Roman Iron Age. The number of finds recordedfor the Early Roman Iron Age from here drops dramatically, even though this area is recognised as having anunusually high concentration of graves dating to thisperiod (Becker 1970, 127). On the evidence available,Becker deduced that a decline in the number of potteryvessels deposited in bogs took place during the transition from the Early Roman Iron Age to the Late RomanIron Age. On the Island of Fünen, no such break in thesettlement pattern has been identified, yet the numberof vessels deposited declines during the same period asin Jutland. Therefore, it would appear that no directlink can be made between this class of find and the settlement variations occurring in Denmark. Jankuhn(1964) observed a similar change occurring inSchleswig-Holstein, however, in this case the trend isalso reflected in the settlement pattern.

The remainder of this article will discuss the finds from bogs where pottery is the dominant element. Pottery vessels (intact or fragmented), have been found in bogs in association with wooden posts, stakes, branches, stones and animal bones or in isolation.

Fig. 21.Bukkerup; 2.Turup; 3.Tibirke; 4.Skaevinge; 5. Käringsjon (Halland)
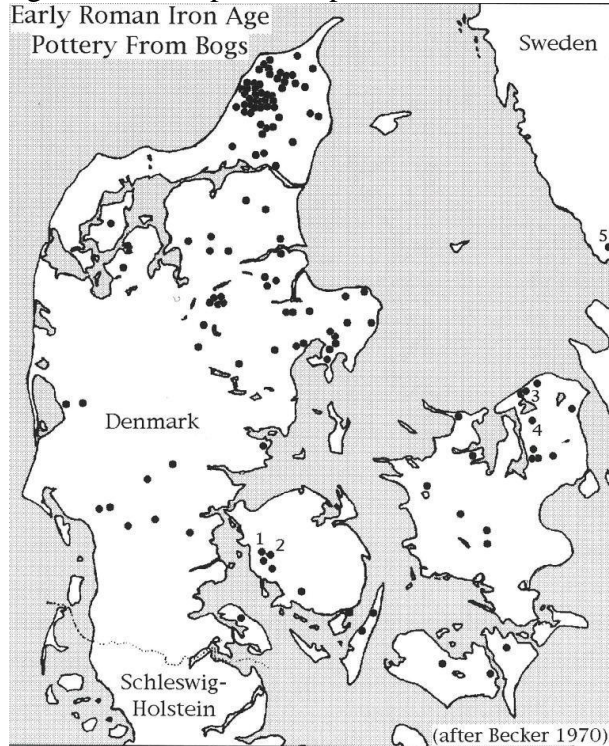
Becker (1970, 129) divided the material into three loosely defined main groups, 'Uncertain', 'Possible' and 'Sacrificial' finds. This was simply a conventional method of dealing with this vast and often confusing body of material. Through a convincing array of examples, Becker shows that several of the pots are best interpreted as coming from a secular context. For example, a series of pits were found in the bog at Norre Smedeby, North Schleswig, Denmark. One pit contained dried turf sods which were worked into shape by hand. Other pits contained sherds of pottery, dated to around the birth of Christ. Also, the remains of two troughs were found at two different locations in this bog. A post surrounded by a scatter of stones was found in one pit. Becker (1970, 132) believes that this site represents Iron Age turf cutting activities.

Occasionally, some turf cutting pits appear to have been reused to dispose of human sacrifices, for example the body of a woman from Domlandsmoor, Schleswig-Holstein, Germany (Jankuhn 1985, 192). Rectangular cut sods of turf and one potsherd were found under the body. The remains of two troughs are said to have been found in this bog. A report from Uldum Kaer, Jutland mentions that pottery and human bones were found within the same area of this large bog. However, there is otherwise very little evidence to suggest a significant connection between Iron Age human sacrifices and the deposition of pottery vessels in bogs (fig. 1, no. 2).

In two of the reports mentioned above, wooden troughs are said to have been found. Clearly they were intentionally brought into the bog and perhaps they were used to transport the dried sods out of the bog, functioning much in the same way as a sleigh. Alternatively, they may have served as a means of transporting and storing fresh drinking water for the turf cutters. If this is the case, then several of the pottery vessels could be interpreted as water flasks. This may explain some, but certainly not all of the pottery that occurs in isolated pits in the bog. Several wooden implements, in particular wooden spades, are found in association with pottery, once again suggesting turf cutting activities (Becker 1970, 202).

Quoting Kvodsted in Jutland, which was originally thought to be a sacred spring containing sacrificial offerings, Becker (1970) re-interpreted this site as evidence for turf cutting (fig. 1, no. 1). Several pits, the majority of which were empty, were found within a limited area of this bog. Pottery sherds and part of a trough were found in one of the pits (Becker 1970, 134).

A series of pits from Ruder Moor in Schleswig-Holstein, several containing pottery, was similarly interpreted by Becker. However, the author of the original report, Schwabedissen (1951, 50) felt that it was impossible that all of these pots were used just to bail water out of turf cutting pits. He suggested that these vessels were deliberately deposited and were in

some way connected with religious or cult activities. Schwabedissen (1951) discovered that the pottery from this site is of the same type as that found in the cemeteries dating to around the birth of Christ, a type known as '*Henkletassengruppe*' (fig. 3a), except, those found in the bog are in comparison, miniature versions of this domestic type. Perhaps these pots symbolise 'the real thing' and therefore represent a type of votive offering.

Evidence for turf cutting in the Iron Age is quite convincing. We know that it also took place in areas of dense forests, indicating that turf served other uses besides lighting the home fire. So what was the turf being used for? Jankuhn (1958, 196) suggests that the black turf was better suited than charcoal to iron extraction and smelting. Becker (1970, 135) believes the site of Alboge, Jutland as representing waste from a potter's workshop or some similar activity. He based this supposition on a lump of unfired clay found under a pile of stones in the bog. Pots and potsherds, some showing heat deformation, were also found. As turf gives an intense and even heat when burnt, it indicates the possibility that turf may also have been used to fire pottery kilns in Iron Age times.

Not all pottery found in pits in bogs can be cited as evidence for turf cutting or pottery production. At Stengade Mose on the Danish Island of Langeland, pottery dating to Period I and II of the Pre-Roman Iron Age, was found in a series of pits (fig. 1, no. 4). Several of these pits were filled in or covered over with hacked branches of trees. Stones were found scattered between the branches in one pit. At the bottom of another, five stones were discovered, each approximately 10- 15cm in size. Charcoal and the shattered bones of a small cow were the contents of a third pit (Becker 1970, 137). It is questionable as to whether this site does in fact represent the food remains of turf cutter meals.

In the extensive bog of Uldum Kaer, several pits were found close to each other. One of the pits had an upright post positioned in the bottom of it, with pottery sherds scattered around it. Due to insufficient evidence, Becker (1970, 138) declined to state whether this site was another example of turf cutting or whether it was some sort of a ritual site. Sites with close parallels are found in Schleswig-Holstein, Germany. A pit dug deep in the bog at Wagersrott contained a pointed hazel rod, stones and pottery vessels containing a "softblack mass". The pit was covered over with grass sods and a layer of hazel sticks. On top of this layer was a decorated pot, supported by three stones under its base (Jankuhn 1958, 206). At Rieseby, Schleswig-Holstein, Early Roman Iron Age pottery was discovered in a pit. The pots were surrounded with small wooded stakes, driven into the bottom of the pit. Criss-crossed wooden branches acted as a protective covering on the pit. One of the pots had string threaded from one handle to the other, with a stor\e bound up in the string (Schwadedissen 1949, 68). Jankuhn (1958, 212) believed these two finds to be very similar to the sacrificial well site at Smederup in North Schleswig, Denmark, where pottery was also thrown into the well. Tacitus tells us that certain lakes and other watery locations were sacred places of the Celts. He mentions similar practices being associated with the cult of Nerthus, the Celtic goddess of fertility. It could be suggested that these pots, deposited in bogs, represent sacrifices to a Celtic goddess.

Arbmann (1941, 94) is of the opinion that it is not so much the pots, as their contents that were sacrificed. Chemical analysis carried out on the vessels from Karingsjon, Halland in Sweden shows that the vessels had earlier contained entrails (fig. 2, no. 5). Arbman also pointed out that the animal bones and pottery from Skedemose, Oland in Sweden, as well as those from several other sites, really represent only a small portion of the original sacrifice. The real offering consisted of the heart, liver, entrails and blood. We know from the report

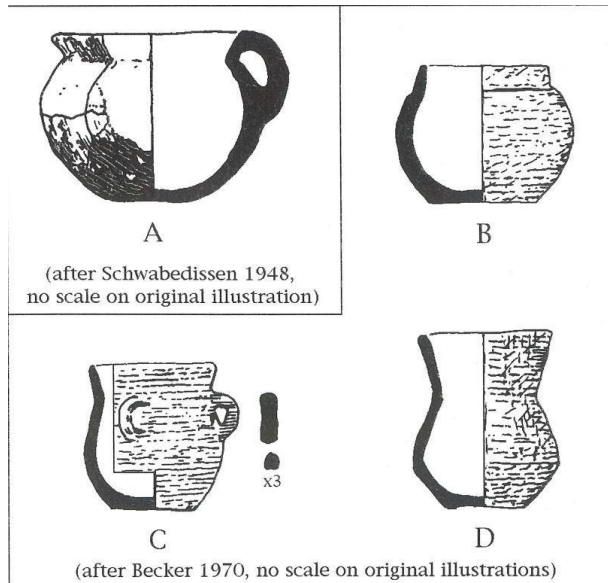from Wagersrott that the pots contained a "soft black mass". Is this the residue of entrails or animal fat?

Fig. 3A. '*Henkletassengruppe*' type vessel from Ruder Moor; B, C & D. Examples of pottery from Fjaltring

In Ireland, there are almost a hundred recorded finds of butter found in bogs (Halpin 1984). More than half of these finds were found inside a wooden container. In addition, there are no references to pottery from a non-settlement context in Irish bogs. This stands in contrast with depositions of dairy products in North Germany and Scandinavia. Irish butter in bogs has always been considered a practical way of keeping the butter from going rancid and is not regarded as having a sacrificial or cult significance.

Karingsjon in Sweden is not just significant because dairy products were discovered in the vessels found here but also because the pots themselves were packed closely together on a type of wooden platform, constructed in the bog (Jankuhn 1970, 200). In 1880, at Fjaltring, Jutland a similar discovery was said to have been made (ibid). Twenty to twenty five pots were grouped together at the edge of the bog, on a platform made from stones and tree trunks. The pottery dates to around the fifth century AD (fig. 3 B, C & D). In Hecht Moor, Kreis Schleswig in Germany, pottery, bundles of flax and other implements were found at the edge of this bog, again on a platform of brushwood and tree trunks (Jankuhn 1964, 385).

Stones appear quite frequently in association with pottery in bogs. Becker had the opportunity of examining a practically undisturbed site in Skaevinge Bog, Nordseeland, Denmark (fig. 2, no. 4). Scattered within a small mound of stones were Early Roman Iron Age pots. The mound was originally 2m in diameter and 36cm at its highest point. The majority of the stones were about the size of a man's fist. Under the mound was a pit containing a large jug (broken) and three other vessels. Each pot had a stone (5- 8cm) in side (Becker 1970,146). An almost identical find comes from Busdorf in Schleswig-Holstein, Germany, where a pit containing three pottery vessels and some small stones was discovered (Becker 1970, 150). At Forlev Nymoll, Jutland (fig. 1, no. 3), a 3m long tree trunk was discovered under an evenly constructed mound of stones (fig. 4). Through a series of cuts, the tree trunk was given the suggestion of a female form, possibly that of a goddess. Beside the figure were two piles of pot sherds, dating to the Pre-Roman Iron Age. Two bundles of flax and several pots (broken) had been placed on the stone mound. Scattered in the immediate area around the mound were smashed cow, horse, sheep, dog, and hare bones. Three puzzling pieces of wood were found in association with the female figure, two of which resemble a pair of skies, the third a club (Jankuhn 1958, 204). A similar site from Rosbjergaard, North Jutland consisted of a stone mound again containing pottery, which has been dated to Period III of the Pre-Roman Iron Age. Two pieces of wood also from the mound, show traces of a female form. Sophus Muller interpreted thisfind as being an altar with the remains of the deity and the offering bowls still in situ (Becker 1970,162).
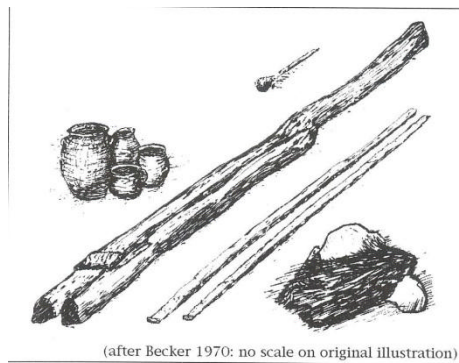
Fig. 4An anthropomorphic timber and other finds from Forlev Nymoll

(after Becker 1970: no scale on original illustration)

All of these examples suggest that the motivation behind their construction was religious. The stones are of a carefully selected size and were deliberately brought into the bog. Clearly considerable effort went into the construction of the stone mounds. In Swedish folklore, there is a custom called the '*Steinwurfritus''*, i.e. the ritual of stone throwing. This involved the casting of stones into holy or sacred lakes and wells. Arbmann (1941, 36) put forward the suggestion that the stones were symbolic substitutes for food offerings, such as bread. The occurrence of anthropomorphic forms at some of these watery locations, substantiates Tacitus' accounts of the sacrificial offerings made to the fertility goddess Nerthus.

A large number of pottery finds from bogs are found with animal bones and they are often interpreted as being the remains of food offerings. The archaeological evidence here is slightly distorted by the fact that the bogs located in Middle and West Jutland are so strongly acidic that the bones (if any) have little chance of surviving.

Bukkerup on the island of Fiinen, Denmark has provided a good example of an animal being offered as a sacrifice (fig. 2, no. 1). According to turf cutters, there are forty-eight accounts of pottery being found in this bog, but the majority of these reports contain insufficient information. However, it appears that several pots were found in association with the limb bones of domestic animals, primarily those of cows. The bones consisted of the front and back legs, including the shoulder blades and part of the hip bone. Their actual position suggests that they were deposited while the flesh was still on the bones i.e. as meat joints. Other finds show that the bones were stripped of their fleshand bound with some form of cord before being deposited. Fifty-two pots were discovered in this bog, the majority of which were empty. That is not to say, that they did not originally contain an 'offering' as the evidence from Karingsjon suggests. On the island of Fiinen, Denmark, eight small mounds of animal bones were found in Turup Bog (fig. 2, no. 2). Seven of these mounds contained vessels dating to the Early Roman Iron Age. In four cases, it was possible to identify the front and back leg bones of young cows. Becker (1970, 159) describes several other similar finds in his report and identifies this group as the Typ Bukkerup.

A variation of this type of offering comes from Lundtorf, Jutland. The pots are noticeably larger and the animal bones were placed inside the pots. Twenty to thirty pots were found in this bog, two of which contained the bones of one year old sheep. The skulls of the sheep were split along their length and their thigh bones were cut through. The height of these pots is approximately 36cm and they were identified as domestic ware jars dating to the Early Roman Iron Age (Becker 1970, 154). Near Varbro, North Jutland, a substantial find was made of 114 vessels, 55 of which were still intact. The majority of the pottery dates to the Early Roman Iron Age. A substantial quantity of animal bones were found, both inside and scattered around the pots. It was possible to identify the remains of a horse, a cow, 11 dogs and c.18 sheep. Except for the intact dog skulls, most of the bones consisted of the animals' extremities i.e. toes, hooves and elbows. Some of these bones showed traces of having been burnt. Becker (1970, 151) interpreted this site as the leftovers from feasting. At Varbo, the bones of wild animals and birds are noticeably absent. This does not mean that wild animals were not hunted and domestic fowl were not kept. Instead, it shows a deliberate selection of which animals were suitable for or worthy of sacrifice. These may be the sacrifices of

farming folk, offering part of their domestic stock to their god as an expression of their thankfulness for a good harvest and fertility in their animals.

The sacrifice of domestic dog appears to have been of a special type. A vivid example of this comes from Tibirke Mose on the island of Seeland, Denmark (fig. 2, no. 3). Four pots were discovered, three of which Becker (1970, 155) examined in situ. One pot contained a small stone, with other fist-sized stones placed around the pot. The mixed up bones of two dogs were found in the peat layer directly over the pot, with the skull of one of the dogs resting on the pot's rim. A smaller but wider rimmed pot was found nearby. It was also associated with dog bones. There are several other examples of this phenomenon which confirm that this is not an unusual occurrence.

In the archaeological record, some very peculiar finds have been discovered. From Hindorfer Moor, Schleswig-Holstein comes the strange report made in 1883, of "black pots" being found 7-10 feet (2.1-3m) deep in the bog. Inside the pots were bundles of red coloured female hair. Between the pots were scattered several triangular flint flakes, while under them lay numerous cow horns and a large deer skin with hair and claws (Jankuhn 1958, 201).

Hazelnuts turn up quite regularly with pots in the bog. Parts of wagons, usually the wheels and occasionally the axle have been found in similar contexts, examples of which come from Tellingstedt and Jorlude (Jankuhn 1958, 201). Flax was found at some of the sites already mentioned. The cultivation of flax was probably of considerable economic significance in the Pre-Roman Iron Age and in the first centuries A.D. Therefore, flax may have been considered a suitable offering from a farming community. On the other hand, the frequent finds of flax in bogs can also be explained in terms of one of the technical processes for flax i.e. 'Rosting'. Ripe flax is stored in water to remove its outer husk. The constant wetness of bogs would make it ideal for the large scale production of flax (Jankuhn 1964, 385).

At Thorsjberg, a complete vest of chain mail survived because it was packed into a pottery vessel. However, in general, iron weapons and iron implements are not found in association with pottery. Both Jankuhn (1964) and Becker (1970) are in agreement that there is a definite decrease in the custom of depositing pottery vessels in bogs during the transition from the Early Roman Iron Age to the Late Roman Iron age. In contrast, the deposition of metal articles increases from the end of the Early Roman Iron Age onwards. Metal objects, in particular weapons, were deposited en masse at sacred locations in bogs, for example at Thorsjberg, Ejsbol, Illerup Adal and several other sites.

This survey hopefully demonstrates the vast selection of finds from bogs, focusing in particular on the pottery. An array of explanations has been presented here to explain the occurrence of pottery in this context, such as turf cutting, pottery production, iron smelting, as well as sacrificial offerings to a fertility goddess. The offerings are not just confined to the pottery itself, but extend to the accompanying artefacts as well, such as the remains of domestic animals, flax, dairy products, stones, wooden implements and anthropomorphic wooden pieces. All of these offerings come from an agricultural background, based on farming and stock breeding. The importance of fertility for a farming community does not need to be elaborated upon here. The finds of female-like figures attests to the idea of a Goddess Cult. It is interesting that cereals aremissing from the record, although the cultivation and consumption of cereals is well recorded. The last meal of the Tollund Man was a porridge made from oats and other cereals (Glob 1969).

Tacitus' *Germania* offers us an insight in to the religious beliefs of Iron Age communities, living in this region. In chapter forty of Germania, he describes the cult of Nerthus. According to this text, Nerthus watched over the people and came to them in times of trouble. On special days, she is said to have travelledfrom village to village to visit her followers. On these days peace reigned, no one reached for his sword and all implements were locked away (Glob 1969). This description corresponds well with the archaeological evidence, weapons and iron implements are not combined with pottery depositions. Instead, we have the peaceful offerings of a farming community. This article has hopefully shown that the smaller bog finds offer an important and noteworthy contribution to the archaeological record and they can greatly assist us in our interpretation of Iron Age communities.

Acknowledgements

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CELTIC MONASTICISM - A DISCIPLINE'S SEARCH FOR ROMANCE ?

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Beneath the mud-encrusted exterior of the average archaeologist, there beats the heart of a romantic. As a profession, we are attracted by the lure of lost tribes and societies, the life-style enjoyed by unknown civilisations, the worship and cults of forgotten gods. This fantastical element in our thinking is a fundamental part of the discipline; it provides the tension which keeps archaeology in its rightful position, linked to the outskirts of the humanities. Without it, we become the poor relations of the physical scientists, our suppositions unprovable and our data sets irretrievably corrupted through time.

An integral element in the romance of archaeology lies in the distinction between the intensely local nature of the primary evidence and the distant cultures which may have provided the impetus for regional development. Here the distinction between the measurable data and the overall interpretation is at its most clear-cut. The former can be analysed with all the necessary tools of systematic enquiry, the latter remains a matter for impressionistic assessment and the exercise of judgement. The long-standing arguments about diffusion versus independent discovery lie at the very heart of all archaeological studies.

The attraction of the unknown in explanation of the measurable is particularly apparent in the study of Celtic monasticism in Britain. The testimony of Bede to the holiness of early Irish clergy, the Ossianic reveries of modern Nationalists in Ireland, Scotland and Wales, and the lack of a widespread expertise in Celtic languages, have all combined to produce a highly-coloured portrayal of Irish missionary activity in Great Britain and its possible impact on the landscape. Unfortunately, however, it is a depiction which makes a stronger appeal to feelings of patriotism than it does to scholarship and it slips rapidly out of focus when subjected to detailed analysis. The residue which occa-sionally lingers in the minds of archaeologists can result in interpretations which seem unlikely to prove acceptable to the independent observer.

An example of romantic bias in favour of 'Celtic saints' can be seen in the development of the theory of curvilinear enclosures around ecclesiastical settlements in Ireland and West Britain. As a general maxim, this was first formulated by Charles Thomas who suggested that circularity in itself was of longstanding ritual significance (1971, 51-3). Together with evidence drawn largely from Francoise Henry's study of ecclesiastical sites in West Kerry (1957), this led him to stress the element of enclosure in his four-fold categorisation of what he termed "full monasteries" (1971, 27-38):

1.   foundations in earlier secular forts

2.   foundations which take advantage of natural isolation such as island sites

3.   very large rectangular foundations such as Iona or possibly Clonmacnoise

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4.   a very strange category (for which no archaeological is evidence is cited) consisting of "all those where there is reason to suppose that a monastic enclosure (normally curvilinear) was constructed at or not long after the establishment was founded."

This would appear to have been a largely theoretical position for its usefulness as an aid to analysing field evidence is limited. At approximately the same period, however, Thomas' remarks were complemented by an extensive aerial survey of the northern half of Ireland by Leo Swan, designed to identify the nature of ecclesiastical enclosures in Ireland. His identification of the relevant sites was arrived at through a list of the following features: "round towers, high crosses, monastic cells, monastic ruins, churches, church ruins, churchyards, children's burial grounds, holy wells and ecclesiastical place-names" (Swan 1971, 25). As a result of his survey, he noted that a large number of ecclesiastical sites were enclosed and he suggested that there was a general tendency towards D-shaped enclosures with single banks and towards oval-shaped enclosures with double banks {ibid., 55). In subsequent publications, Swan extended his conclusions to the point where large, roughly circular enclosures were, in themselves, enough to suggest a pre-Norman ecclesiastical origin for a site (e.g. 1983, 268). His ideas proved attractive and were incorporated into survey work such as that of Hurley (1982, 314), where the "most definitive" material evidence for ecclesiastical sites was the presence of circular boundary enclosures.

The conclusions of both Swan and Thomas were enthusiastically received in Britain, in particular by those archaeologists working in regions which were poorly documented in the historical sources and which might be thought to have been affected by Irish custom. Under their influence, the two theories have become amalgamated into an ever more concrete model. Deirdre O'Sullivan, for example prefixed her study of curvilinear church-yards in Cumbria with the remark: 'There is no longer much doubt about the fact that most of the earliest Christian cemeteries, if they were physically enclosed at all, be they dug or cist, were normally surrounded by a circular or at any rate curvilinear boundary" (1980, 242). This conclusion does not appear to have been affected by the results of her own study which indicated that only 30% of the curvilinear ecclesiastical boundaries which exist in Cumbria have independent evidence for pre-Norman origins (ibid., 253).

The most extreme example of curvilinear-enclosure enthusiasm is probably to be found in a study of the undocumented British church sites of the Welsh borders (Brook 1992). In this, elaborate and painstaking efforts were made to quantify the circularity of enclosures on a scale of 1 to 8 and the results were expressedin percentages and compared with other, less tangible, elements which might suggest an early origin for a site. Given the passing reference to the lack of evidence for settlement plans prior to the nineteenth century, together with the statement that approximately a third have altered in plan since that date (ibid. 79), one might question whether the results are worth such efforts. More importantly, the model of 'Celtic saints' stubbornly measuring out circles in opposition to 'Saxon clergy', building neat rectangles does not appear helpful; it would seem to place far too much emphasis on the ethnic origin of the residents and far too little on the topographical constraints under which they laboured.

The Thomas/Swan model was elaborated in a period prior to extensive field work within Ireland and represents preliminary attempts to classify the archaeological remains of pre-Norman ecclesiastical settlement in this country. As presently formulated, however, it suffers from a number of weaknesses which should be taken into consideration in any attempt to refine the theoretical position. The evidence provided by Norman and St. Joseph (1969), for example, indicates that enclosure was a common feature of Irish settlement forms and that to

focus on ecclesiastical sites in isolation is to give ecclesiastical boundaries a significance which they probably do not deserve. Non-ecclesiastical sites such as Tara, which appears to have been uninhabited but prestigious in this period, were also enclosed. Nor does the model take account of those ecclesiastical sites which are not enclosed although at least one of the relatively few excavated sites failed to find any trace of enclosure, despite the cutting of "numerous trenches" with the specific aim of identifying a boundary (Kendrick 1939, 5). Of the other excavated sites, the evidence from both Church Island (O'Kelly 1958, 75-77) and Armagh (Brown & Harper 1984, 109-161) indicates that where enclosures exist, they are not necessarily contemporaneous with the settlement which they enclose. There are even indications at Armagh that the dramatic trench which encircles the ecclesiastical focus was filled with industrial refuse and pits during the period of Armagh's great political power in the early middle ages.

Moreover, the list of diagnostic features used by Swan includes material from all periods of ecclesiastical settlement; it seems, therefore, over optimistic to assume that the enclosures, as they appear today, necessarily reflect the constructions of a Pre-Norman period. The only large ecclesiastical enclosure to be surveyed *in extenso* in these islands is that of Iona where a complex system of earthworks has been identified. Despite excavation, detailed ground survey, aerial photography and geophysical survey, only one section (located immediately outside the graveyard) has proved datable and its connections with other earthworks remains unclear (RCAHMS 1982, 31-39). This section consists of a stone-lined drain of medieval date above a V-shaped ditch in which peat and brushwood provided radio-carbon dates focusing on the late sixth and early seventh century (ibid..38).

This early example of an enclosure associated with burials can be paralleled at Reask where Thomas Fanning identified an enclosure containing burials and suggested that it should be dated to the fifth to seventh-century phase on the site (Fanning 1981, 79-87; 157-8). In contrast, Ann Hamlin has pointed to historical evidence for enclosures associated with ecclesiastical habitations which were constructed as late as the twelfth and thirteenth centuries at Derry and Armagh (Hamlin 1976, 354, quoting Annals of Ulster 1162 and Annals of the Four Masters 1266).

Finally, a problem identified by Gearóid MacNiocaill - if any - existed between ecclesiastical *Termonn*; thought to denote an area of sanctuary and the *Maigen Digona* (MacNiocaill 1984, 155; see also Ó Corráin 1987, 304-6). The latter is defined by Binchy as follows:

> 'About the residence of every freeholder is a 'precinct', the extent of which varies according to his rank, called the *Maigen Digona*. This area is included in his 'house-peace' (cf. the *hausfrieden* of Germanic law), so that any grave injury inflicted upon another within its bounds makes the assailant liable for the honour-price of the owner in addition to the ordinary compensation due to the injured party" (Binchy 1941, 83). Does the similarity of this concept to that of ecclesiastical sanctuary have implications for the study of boundary enclosures?

If the interpretation of ecclesiastical enclosure is to move beyond a simple reiteration of the fact that they occur relatively frequently, then a more specific model, taking account of these and other points, will have to be created. It certainly does not appear that one can argue for early Irish missionary activity from the presence of a quasi-circular boundary.

In Scotland, the only part of Britain where there is relatively extensive evidence for a long-standing Irish ecclesiastical presence, there has been little attempt to classify the diagnostic

features of 'Celtic monastic' settlement. Where sites have been identified as 'Celtic monasteries', this has been done on an ad hoc basis, relying heavily on the testimony of local folk belief and possible Irish parallels (e.g. Simpson 1958, 118-119; RCAHMS 1946, 526). In areas where there is historical evidence for Irish missionary activity, place names from the early texts tend to be used in conjunction with field survey (eg. Crawford 1934, 202). It is only in a few instances that excavated evidence is cited; a rare example comes from the Brough of Birsay where Cruden (1965, 25) identified 'Celtic' settlement below an identifiably Norse layer.

It seems impossible to put forward models of settlement form where identifications are drawn from such heterogeneous sources, but it is worth noting in passing that enclosure is not overly stressed in Scottish publications. One might also note that the large ornate Class II slabs, which are thought to correspond in date and possibly in function to the Irish high crosses, are not found on sites identified as 'Celtic' or even 'monastic'. Instead, they appear to be located by roadways or in modern parish churchyards. Given that at least one eighteenth-century Scottish landlord moved medieval sculpture to a point where passers-by could admire it, it is not clear what importance should be attached to this distribution (Pennant 1790, 225).

Another element in Thomas' model of 'Celtic monastic settlement' which has struck a chord with some archaeologists, is the reference to island sites. Such a grouping has the advantage of combining the visual impact of sites such as Skellig Michael with the historical evidence for Iona, Lindisfarne and the island hermits of seventh and early eight-century Northumbria. However, it should be borne in mind that the names of many of the inhabitants of these islands - figures such as Cuthbert, Hereberht, Aethilwald, Felgild and Guthlac - were indisputably 'Saxon' in tongue, if not in culture (Colgrave 1940, 96-7; 124-5, 302-3: 1956, 88-9). One can best emphasise the necessity to refine the suggestion that the island sites invariably represent settlement by ascetic Irish saints by pointing to an instance of *reductio ad absurbum*. In one of a number of studies of island sites in the Orkneys, Roger Lamb wrote:

> "Along the cliff-coasts of the Northern Isles there is a remarkable and little-known group of sites in the most ridiculous-seeming positions on high off-shore rock-stacks, on small inaccessible islets, and on precipitous headlands joined to the mainland only by dangerous knife-edged ridges..."
>
> (Lamb 1973, 76)

> "The idea of living on a stack, as an extreme form of self-denial, surely would have been in keeping with the ascetic ideals of early monasticism, particularly after the Culdee revival."
>
> (Lamb 1973, 84)

It seems difficult to imagine that archaeologists on this side of the Irish Sea would have much sympathy with the view that the inherently bizarre must, of its very nature, speak of Irish origins. Instead the crumbling nature of the most common geological strata in the Orkneys (Old Red Sandstone) and the dating of settlement on the stack of Downpatrick, Co. Mayo to a period before the stack was formed, suggest a much more commonplace explanation: the dangerous situation of these sites represents changes in the landscape after the foundation of the settlement.

In opposition to Lamb's putative "Culdees", one can point to the position of Lismore, located at the mouth of Loch Linnhe and probably documented in seventh-century Irish annals. (There is a problem in distinguishing between this site and that of Lismore in Co. Waterford).

The Scottish Lismore is ideally placed on the sea-lanes for Movern, Iona, Appin, Lorn and the Outer Hebrides as well as for controlling the route up the loch to Moray and the Cromarty Firth (MacDonald 1973). Although there were undoubtedly clerics who sought deserta (isolated dwelling places) in Scottish seas (Anderson 1990, i.6, i.20, ii.42), there seems no reason to believe that they were the only or even the most prevalent type of Irish cleric in this region.

The historical context of the Northumbrian references can also be used to infer more prosaic originsfor island sites. David Rollason has pointed to the location of Lindisfarne, immediately off the coast from the royal centre at Bamburgh and has suggested that the island may even have provided the harbour for the royal Northumbrian fleet (Rollason 1987,14-17). In relation to the smaller, more isolated sites, Claire Stancliffe has convincingly identified a seventh and eighth-century practice whereby important clerics would retire to such sites during Lent as part of their preparations for the Easter celebrations (Stancliffe 1989). This type of practice would appear, to be the explanation for the tiny eyrie on the south peak of Skellig Michael where the single inhabitant had to rely on rain for his water supply (Horn, White-Marshall & Rourke 1990). Although such rain was no doubt forthcoming, it seems impossible to conceive of a settlement of this type being occupied for long periods.

A balanced assessment of British archaeological studies of 'Celtic monasticism' would also have to take account of the romantic attitudes to their material among Irish archaeologists. Coptic fabrics and the Gaulish fathers of Lerins have long been part of the background to Irish ecclesiastical studies while the identification of Mediterranean pottery and Greek porphry in Ireland has added new ingredients to an already heady mixture (Thomas 1976, Lynn 1984). As yet, however, the implications of such evidence have not been fully absorbed into an archaeological model for ecclesiastical settlement. Instead we have our own western Nirvana, as represented by the apparently primitive and frequently undatable settlements on the Atlantic coastline. These are said to be inhabited by holy hermits, equipped with worn-out sandals and a sturdy bachall, who were viewed with enthusiastic reverence by the surrounding population. The image of such men is drawn from the moral treatises of medieval Christendom and their lack of particularity to the Irish scene is vividly illustrated in a text from the other side of Europe: Eugippius' Life of Saint Severin, telling of a man who worked on the borders of the Alps in the east of modern Austria:

> "He often withdrew, however, to a secret abode, which the neighbours called Burgum, a mile away from Favianis, in order to escape the people who came in such numbers to see him and to draw nearer to God by uninterrupted prayer...He subdued his flesh by innumerable fasts; he also taught that a body too richly fed was soon to bring the soul to ruin. He never wore shoes at all; even in the middle of winter, which in those countries brings ice and severe frosts - he would always walk barefoot and thus gave an impressive proof of endurance" (Bieler 1965, 61-2). Archaeologically, the lack of widespread settlement or of industrialisation along the western coasts in later periods appears to have led to very long standing traditions of monument construction. Added to the simple nature of these edifices, their dating becomes extremely difficult. In 1958 M.J. O'Kelly was able to use existing building techniques to put forward an explanation for the cladding around an early medieval house (1958, 70) and in 1947 Francoise Henry compared the method of building a cist grave on Caher Island to "that still used for building tombs on the adjoining mainland"

> (Henry 1947,28).

Even the presence of early cross-slabs on such graves is not an infallible guide to their date. Specifically in relation to the apparent preservation of early tombs on Iniscealtra, Macalister pointed out that at Clonmacnoise:

> "It appears that among the local peasantry these stones are regarded with a reverence well deserved but unfortunately for the study of Irish Art, taking the form of adapting them as tombstones or even of burying them with the coffin in newly-made graves"
>
> (1908, vii).

Nor were such activities confined to the peasantry. There are accounts of Catholic missionaries of the Counter-Reformation who, arriving in the Hebrides after their training on the European mainland, created new monuments and amalgamated island customs into their teaching:

> "In the Village on the South Coast of this Isle there is a Well called St Katherine's Well; the Natives have it in great Esteem, and believe it to be a Catholicon for diseases. They told me that it had been such ever since it was consecrated by one Father Hugh, a Popish Priest, in the following manner: He obliged all the Inhabitants to come to this Well, and then imploy'd them to bring together a great heap of Stones at the Head of the Spring, by way of Penance. This being done, he said Mass at the Well, and then consecrated it; he gave each of the Inhabitants a piece of Wax Candle, which they lighted, and all of them made the Dessil, of going around the Well Sunways, the Priest leading them; and from that time it was accounted unlawful to boil any Meat with the Water of this Well"
>
> (Martin 1716, 277).

Historically, monuments resulting from such activities may reflect much older practices although we have no information on this point. Archaeologically, however, one must identify the structure described here as belonging to a late seventh-century or early eighteenth-century milieu.

Since this has largely been an outline of attitudes to Celtic monasticism from outside Ireland, perhaps one should leave the last word with the Continental scholars. In 1961, Ludwig Bieler wrote of the early Irish missionaries: "We must forgive them that they make rather loud propaganda for themselves" (1961, 16). To which the Swiss archaeologist Rudolf Moosbrugger-Leu replied with some ire (1971, ii 93): "It is not our place to forgive but to make a sober assessment of the facts!"

Acknowledgements

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URBAN EXCAVATIONS -On the crest of a wave ?

E. Eoin Sullivan[*]

The aim of this article is to identify and explain fluctuations in the numbers of urban excavations carried out in Ireland during the period from 1970 to 1991.The data in this article was derived from the published 'summary accounts of archaeological excavations' which have appeared in issues of Excavations and The Journal of Irish Archaeology since 1970 to the present. To enable comparisons, all excavations were classified on the basis of date and the location of each site. The excavations were dated as either pre or post 900 AD This date is taken to represent a general starting point for the establishment of port towns by the Scandinavians. Excavations in urban areas which includes watching briefs, trial trenching and those of 'non archaeological significance' are classified as urban excavations. Excavations in rural areas were subdivided on the basis of date as either 'pre 900 AD' (rural /prehistoric) or 'post 900 AD' (rural/medieval). The latter classification differentiates between rural medieval excavations (e.g. castles and priories) and urban medieval excavations.

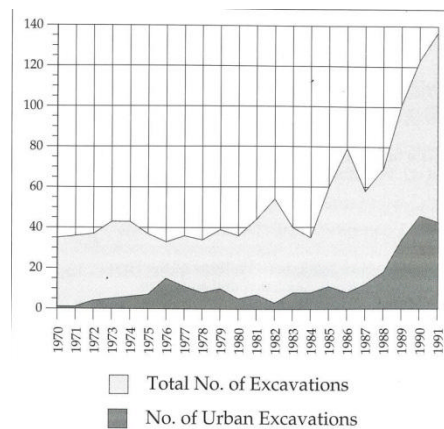## Numbers of urban excavations

Fig. 1

The number of urban excavations carried out for each of the twenty-two years studied shows a pattern of growth followed by decline, expressing itself in a wave like motion, with the crest of each wave centred on the years 1976 and 1990 respectively. During the early 1970's there was a gradual increase in the number of urban excavations. These urban excavations weredistributed in equal proportions between Carrickfergus and Dublin. This gradual increase peaked in 1976 with a two-fold increase on the previous year's total. The excavations in the northern town of Carrickfergus and Armagh, accounted for 60% of all Irish urban excavations in that year.After this climax in the mid 1970's there was a gradual decrease into the late 1970's and early 1980's. By 1982 the total of urban excavations had dropped to three. Throughout the middle and late 1980's the overall trend was one of steady increase, with the number of urban excavations per annum never falling below eight. In 1983 Waterford city was excavated for the first time, and by 1987 four of the twelve urban excavations took place in this city. The northern towns accounted for seven of the eight urban excavations in 1984, but this fell to only 18% for the following year.

The late 1980's and early 1990's are marked by a dramatic increase in the number of urban excavations (fig. 1). In 1989 there was nearly a two-fold increase compared to the previous year's total. These increases were due primarily to the Urban Renewal Act of 1986, in which the government of the Republic of Ireland offered tax incentives to encourage development and redevelopment within designated areas of the city centres. The cities of Dublin, Galway, Limerick and Waterford dominate, representing 35%, 12%, 15% and 15% of urban excavations respectively. This increase peaked in 1990, with forty-six urban excavations dispersed predominantly through the southern half of Ireland with only four taking place in the north of the country. In numerical terms Dublin dominated with nine excavations

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followed by Galway with eight, Waterford and Kilkenny with five down to Limerick and Cashel with four and three respectively. In 1991, excavations took place for the first time at Ennis, Navan, Birr, Newcastle West and Mullingar. The full-scale research excavation of the 1970's which occurred in the northern towns and cities contrasts with the rescue excavations in the southern towns and cities since the mid 1980's. Since the 1970's there has been a decrease in the actual area of the sites under excavation due to the increased occurrences of trial trenching and watching briefs.
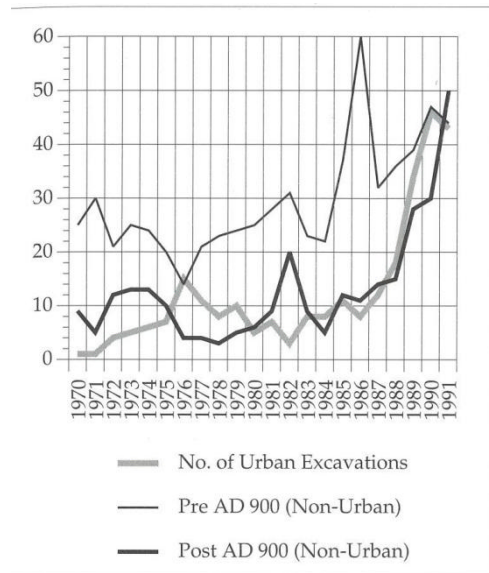
Fig. 2

'Pre 900 AD/Rural' excavations

The trend from 1970-1982 for the 'pre 900 AD' excavations is a mirror image of that for the urban exca-vations(fig. 2). From 1970 to the mid 1980's the numbers show that any increase or decrease in the numbersof either 'urban' or 'pre 900 AD rural' excavations was at the expense of the other, and while these values fluctuated the total number of all types of excavations remained consistent with an average of thirty-nine excavations per annum. The numbers of prehistoric rural excavations continued to increase, reaching a maximum in 1986 due to the excavations associated with the laying of the gas pipelines.

Between 1986 and 1990 the numbers of urban excavations rose at a faster rate than prehistoric rural excavations. Though the magnitude of the urban excavations increase was offset by an overall increase in the numbers of total excavations. Based on the actual numbers of excavations carried out in Ireland, one can conclude that the dramatic increase in the number of urban excavations carried out between 1986 and 1990 was not at the expense of the more research orientated prehistoric excavations but was due to an overall increase in the total numbers of excavations being carried out in the state. There is a continued importance attached to strategically planned rural excavation, which concentrates on prehistoric archaeology as compared to the medieval archaeology of urban areas and this can best be witnessed by the setting up of the state sponsored 'Discovery Programme' in 1991.

URBAN EXCAVATIONS SINCE 1970
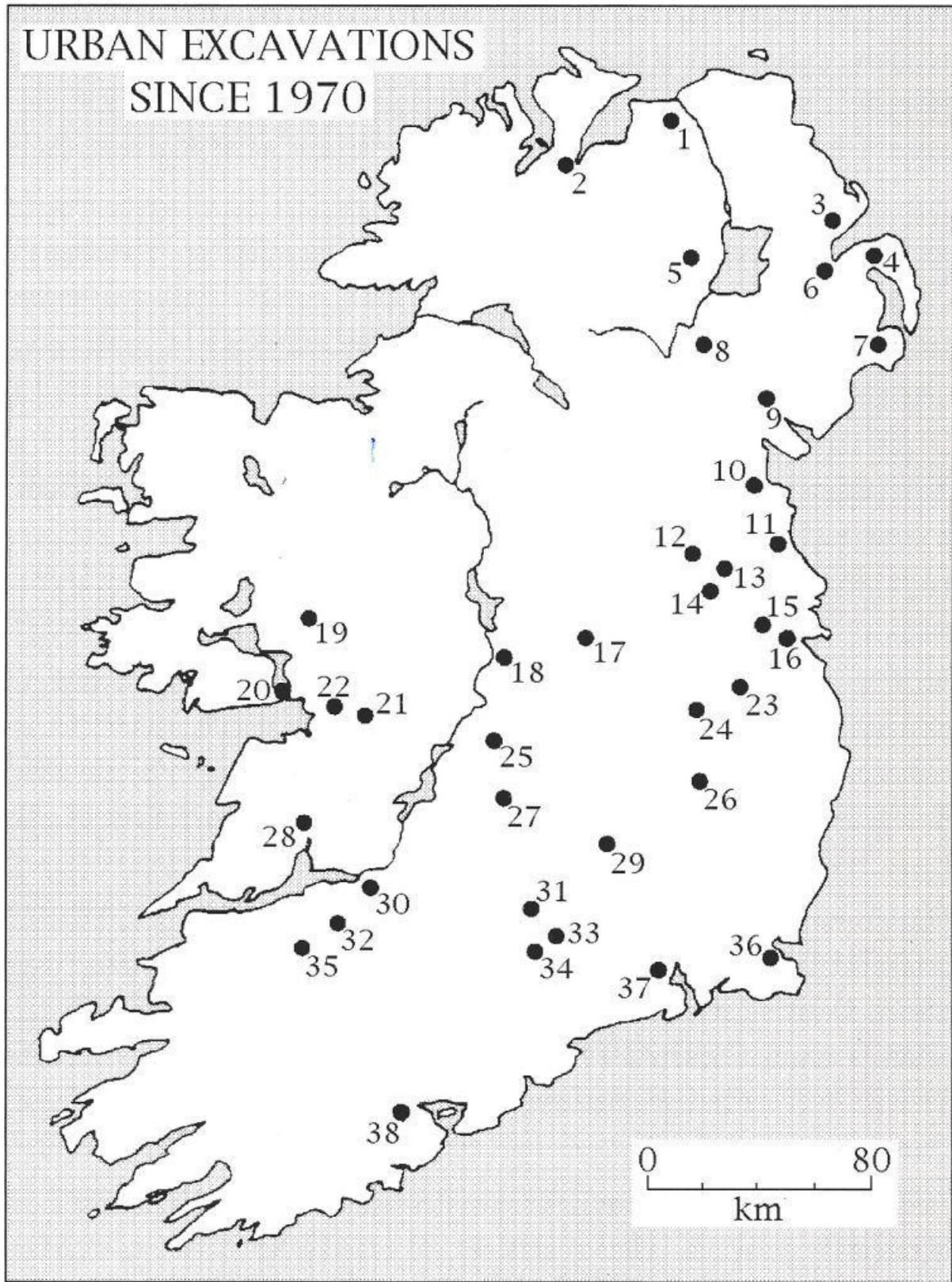
TOWN FIRST EXCAVATED POST 1973

1	Coleraine	'77

2	Deny	'76

3	Carrickfergus	'72
4	Newtownards	'81
5	Moneymore	'89
6	Belfast	'83
7	Downpatrick	'82
8	Armagh	'75
9	Newry	'90
10	Dundalk	'83
11	Drogheda	76
12	Kells	'87
13	Navan	'91
14	Trim	'87
15	Leixlip	'90
16	Dublin	'70
17	Mullingar	'91
18	Athlone	'91
19	Tuam	'86
20	Galway	'87

21	Loughrea	'87
22	Athenry	'85
23	Naas	'79
24	Kildare	'89
25	Birr	'91
26	Castledermot	'90
27	Roscrea	'89
28	Ennis	'91
29	Kilkenny	77
30	Limerick	76
31	Cashel	'88
32	Adare	'89
33	Fethard	'91
34	Clonmel	'90
35	NewcastleWest	'91
36	Wexford	74
37	Waterford	'83
38	Cork	74

Fig. 3

Post 900 AD/Rural' excavations

This category represents those excavations which have occurred at non-urban medieval sites. This category is similar in nature to the wave motion of the 'urban' excavations outlined earlier. The difference is that the rise and fall of 'post 900 AD rural' excavations is more rapid than that of the 'urban' excavations. Between 1986 and 1990 the fluctuations in the occurrences of 'post 900 AD rural' excavations coincide closely with those of the 'urban' excavations. This shows the increase in excavations relating to the medieval period in general.

The distribution of towns and cities in which urban excavations have been carried out between 1970 and 1991

During the early 1970/s urban excavations in Ireland were concentrated in the northern towns of Carrickfergus, Armagh, Derry and Louth. The southern and eastern towns of Dublin,

Wexford, Cork and Limerick were excavated but not to the same extent, Dublin being prominent. During the late 1970's, Armagh was again to the forefront, but new towns were now being recruited, Kilkenny and Kildare appearing for the first time as locations for urban excavation. During the early 1980's, Waterford was excavated for the first time. There was still a concentration of excavations in the north, with the excavations at Newtownards, Derry, Downpatrick, Coleraine and Belfast with an extension to Drogheda and Dundalk. The towns of Dublin, Cork, Limerick, Wexford, Waterford and Kilkenny did offset the geographical imbalance. The late 1980's witnessed the recruitment of 'new towns and cities' such as Galway (1985), Kells (1987) and Cashel (1988) to the list of towns where urban excavations were carried out. Towns such as Carrickfergus and Armagh had fewer excavations each year, while the number of excavations increased in southern towns. The number of small towns excavated continued to increase and has grown in the early years of the 1990's. This has extended the distribution into new areas of the midlands and the south west of Ireland, for example Leixlip, Naas, Navan, Mullingar, Birr, Fethard and Newcastle West.

Since 1988 there has been a shift from the more traditional larger urban areas to smaller urban areas in the Irish midlands and further west (fig. 1). As outlined already most of the 'urban' excavations which have taken place in the Republic of Ireland are located within designated areas of towns and cities in the Irish Republic. However, by comparing the 'Distribution of towns which have had urban excavations between 1970 and 1991' (fig. 1) with the Distribution of medieval boroughs and markets '(fig. 2), (Barry 1987, 119) one can conclude that the areas which would be earmarked for excavation in a research strategy have been investigated at least to some extent through excavation, even if it was rescue, and by the detailed work of the Urban Archaeological Survey. The medieval boroughs and markets are concentrated in two areas, around the Pale counties of Dublin, Kildare and Meath, and extend from Cork city to Ennis curving eastwards into Galway and continuing east across Roscommon, Longford, north Meath and north Louth.
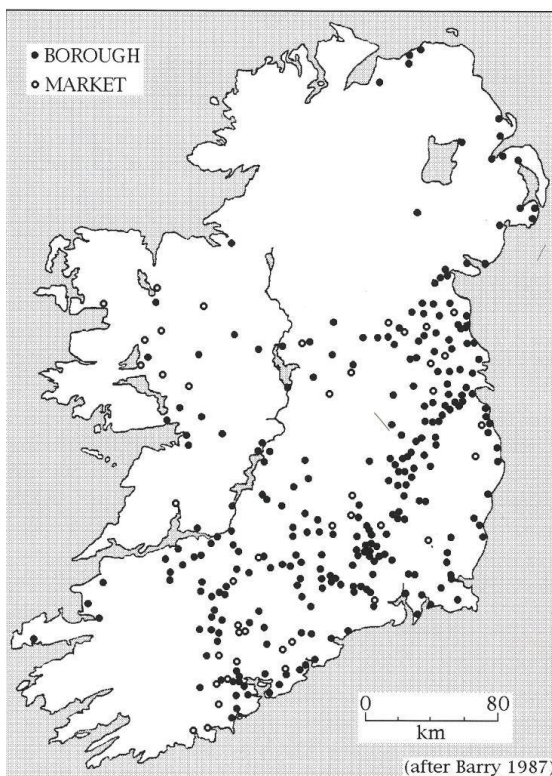
Fig. 4

Conclusion

Between 1970 and 1991 there was an increase inurban excavations most notably after 1988, which was facilitated by the tax incentive schemes for development within designated areas, under the Urban Renewal Acts. These excavations tended to be of a "rescue7 nature, and involved excavation of strategically chosen areas within sites. The increased numbers of urban excavations represent an increase in the numbers of archaeological excavations throughout smaller towns and cities of the Republic of Ireland, many of which were in medieval times important markets and boroughs. However, these increases in the numbers of 'urban7 excavations between 1970 and 1991 do not represent a shift in emphasis from the more research oriented excavations of the rural areas. Instead, based on the numbers available from the sources there has been an overall

increase in research relating to the medieval period of Irish history. Archaeological excavation must be as a last resort, in the case of Norway years of intensive urban excavation has ended in a lack of adequate publication and a loss of the archaeological record. The Norwegians are now adopting a policy of preservation, rather than expensive excavation under rescue conditions. The numbers of urban excavations are on the crest of a wave, but let us act now so that when the wave calms we have not lost the archaeological wealth in the backwash.

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SPACE, POWER AND INSECURITY

Lucy Wood[*]

This article discusses the nature of archaeological theory in terms of spatial and mental structures. Is theory a closed system, socially and environmentally determined, or can there be an original response to predetermined conditions? How far can you go before you hit a boundary?

The link between the study of settlement space and archaeological theory is a strong one. Both are structured by the human imagination and power relations. Both attempt, in turn to contain imagination, individual action and the chaotic variable within compartments of the mind and the built environment, using communication by symbols to do so. Just as buildings have entrances, rooms and floors, theory has a defined procedure for those who want to enter the discussion, a set format of symbols for communication and a series of labelled compartments in which to categorise approaches and directions. This theoretical structure could be described better as a 'plastic ball-and-stick molecular model7, with some molecules acting as a catalyst to creating new molecules, while other molecules stick out on a limb, reaching some invisible barrier to progress.

Mental boundaries

The scientific analogies can be continued into the realm of the human mincl. Some researchers, exploring the way that the human brain functions, suggest that there is a link between memory and sensory perception;

> "the various elements of a past experience - its visual record, its sound, its smell - may reside in the cortex that specialise in the relevant sense. Recall involves activating these separate sites in unison, creating an integrated memory from shards of experience."
>
> (Young & Concar 1992, 5)

This process of compartmentalising experience of the environment into separate parts of the brain could be used to normalise the equivalent structuring of the built environment into various activity areas, where boundaries of the mind are reflected in spatial boundaries. Control and structuring of space could be seen as a natural response to the inbuilt characteristics of the brain and an inevitable part of human functions.

Alternatively, it could be said that perception of the environment influences the way that the information is stored in the mind. The different senses and emotions prompted by the interaction with these environments would shape the placing of these experiences into different mental compartments.

Some writers describe the process as a dialogue between the brain and the outside world that is facilitated by the related thought structures of experience, perception and imagination (Harvey 1989 on Lefebvre1974). In this context, experience, perception and imagination shape the built environment which will then serve to order the responses to that environment into equivalent categories within the brain. Creation and experience of a built environment is

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inseparable from the social messages that infiltrate perception and imagination. In this way, messages given by those who created the building to the user of the building can result in the building becoming a symbol of certain emotions such as fear, that will influence perception and imagination in future encounters with similar forms of buildings.

The messages incorporated into the built environment by its creators are derived from the perception and past experience of the same environment as that seen by the receiver of the messages. The difference in the use of the messages is social, as it resides in who has the power, and who is placed in the position of insecurity. The latter may only respond mechanically according to past experience and perceptions, the former may be able to use their own imagination, perception and experiences of the environment to manipulate others understanding of it. One interpretation of this idea could be that power is operated to restrict individual imagination and choice, and encourage a standard set of emotions and responses.

Architectural boundaries

One example of this use of power is demonstrated by the entrance earthworks to Maiden Castle, Dorset. The labyrinth-like layout of the huge banks andditches force an approaching person to change direction numerous times, creating the sensation of disorientation. Visibility is seriously restricted, to the sky, and the walls of the banks. The person has to work at moving from low to high ground. The experience of moving through this entrance could be compared to moving through limbo, as several emotions take over the mind in response to the strange environment. Normal everyday responses are temporarily left behind. This suggests the otherness and mystery of the interior of the hillfort, before it has even been reached. In other words, the architecture of the entrance earthworks has succeeded in restructuring the thoughts in the mind through its use of space (Thomas, pers. comm.).

Another example of the manipulation of space through architecture is presented in Richards (1990) reconsideration of Late Neolithic houses in Orkney. Although the social restrictions and conventions on action and movement are not accessible, Richards demonstrates that the architecture of the house itself serves to nudge the mind and the body into the appropriate responses and spaces. He draws attention to the partial view of the interior presented to a person approaching the house, the way that the entrance passage is skewed into the right hand side of the building, so bringing more light and accessibility to that area of the interior. In this way the left hand side of the interior would be darker, obscured by smoke, not visible from the entrance and harder to get to. This prompting of behaviour in Neolithic architecture is suggested to be further enhanced by extra architectural details;

> "At Skara Brae the principle use of decoration was tomark paths of movement, either to emphasise and drawattention towards different areas of the house or in conjunction with threshold slabs to delineate space withinthe long entrance passages running through the settlement."

> (ibid. 116)

In an interdisciplinary volume on domestic architectureand the use of space, Kent emphasises that most studies suggest that "the use of space influences architecture more strongly and consistently than the other wayaround."(Kent 1990, 2). This statement carries the ideathat individual humans have some control over theway that they use the built environment, and can influence the symbols and responses that are associatedwith a building. This viewpoint is backed up by theobservation that

> "Architects themselves inhabit a curiously dividedworld. They adamantly assert that buildings are majordeterminants of the flow of human culture, yet they constantly complain that the inhabitants of buildings are 'unsympathetic users'."
>
> (ibid. 2)

Although users of buildings may be 'unsympathetic' in terms of ignoring the use of space and symbolism envisaged by the architect in favour of their own terms of reference, the physical boundaries are avery real manifestation of one set of ideologies. They serve to restrict free will, and unstructured wanderings of individuals. In this way, the individual designer of the building has exerted power over the users, but the users' social power as a group has, to a certain extent, redefined their environment, according to their own ideologies.

It could be said however, that the individual architect still holds more power than one individual within the group of users, (this power being derived from the social structure). The walls and spaces of the building contain the extent of possible uses of the interior. The space within the boundaries could be used for large numbers and combinations of activities, but these combinations are a finite number of possible responses to the environment. To go beyond the scope of these responses may require a restructuring of the physical boundaries of a building, an act which requires the possession of power.

Social preconceptions may also need to be restructured for the change to take place. The conversion of a church to an indoor climbing centre requires the site to be de-sanctified, just as a ceremony may need to be performed for a settlement site to become a burial site. Both of these examples require external authority or power to sanction the change-over. The removal of a theatre for the construction of an office block may encounter resistance, as the individual's perceptions of that particular building meets the power behind the generalised workings of society. If certain individuals opposing the office block have power themselves, the situation is altered. As Harvey states;

> "The domination of space reflects how individuals or powerful groups dominate the organisation and production of space through legal or extra-legal means so as to exercise a greater degree of control either over the friction of distance or over the manner in which space is appropriated by themselves or others."
>
> (Harvey 1989, 222)

This view sees space as the passive tool and expression of power or social hierarchies and differences, a concept that is related to the understanding of the landscape held by the Australian Aboriginals who attach symbolic meaning to the landscape as it is, (rather than just to a people-made environment), where any human constructs are incorporated into the same symbolism as that used for the landscape (Chatwin 1987).

In this context, a form of locally orientated environmental determinism is created, where the natural or built environment influences perception and action. This in turn could be said to be created by a form of social determinism that centres around the requirement for power to be maintained by one social group, expressed through various means, built and social, to contain the actions, and thoughts, of a group of individuals who have latent or potential power. This social origin of the creation of boundaries in space, society and the mind is expressed by Shanks and Tilley who state that

> "The social order is identified with the sacred order. This sacred order may correspond with nature. But ritual activity, within which the social world is

reaffirmed in terms of nature, is social activity. Thus the social order is simultaneously reaffirmed in terms of itself, in terms of its own conditions of existence."

(Shanks & Tilley 1982,134)

These conditions of existence of the social order are possibly defined by a form of determinism that is on a yet larger scale again, and exist for example in the form of general laws of nature and biology.

The concept of general laws of society suggests that a boundary can be drawn between the social and the non-social. Within this basic division there appears to be a general division into good and bad social behaviour. Although individual action is usually swamped by social action, society fears the action of the individual most. Conversely, the individual may fear the action of society, so conforming to social principles. At the same time, expression of the original through art and invention can sometimes be encouraged by society as they may be useful for justifying the social system. These expressions of originality are made safe by their incorporation into the mainstream of society, in some cases being used as an instrument of power and status. On the other hand, originality may be marginalised by social labels such as 'crackpot inventor' or 'lunatic fringe' emphasising its oddness and difference from 'ordinary' society.

A similar response can be seen when dealing with sexual codes in society. For example, the Panare Indians believe that "a sexual departure from the cultural norm leads to death.77 (Dumont 1972, 110). Cultural death of incestuous individuals is seen as being the way to ensure the survival of society. When they are given a normal burial, they regain their culturality by joining the other souls in the Milky Way. If they escape into the forest, they escape culture and become part of nature, living as animals until they die and become supernatural spirits. This law of society is culturally tied in with natural events;

> "Incest and eclipses are both perceived as death threatsfor and by the group. Incest announces social death,since, without its prohibition, no society can last as such(as established at length in Levi-Strauss 1969). In provoking epidemics, eclipses announce the physical death ofthe group. In both cases therefore, the cultural order hasbeen subverted, and the group in self-defence will culturally disjunct what in the first place should never havebeen conjuncted."

(ibid. 101)

This example demonstrates that individual action outside of the cultural norm is seen as beinganti-social, in that it threatens the reproduction of society. Dumont points out that spinster hood is regarded in the same light as incest, as no children are produced^ In the same way that humans appear to respond to the biological requirements for the reproduction of socially successful genes, cultural requirements appear to protect the values that reproduce the general majority, and act against the individuals that threatens this.

Theoretical boundaries

In terms of archaeological theory, it could be said that boundaries are very clearly defined in social terms. Theories can be categorised as belonging to the core or periphery of acceptability. The methods of the amateur or enthusiast archaeologists have to conform to the conventions of mainstream archaeology in order to be accepted as a useful contribution to archaeological practice and debate. Interpretations of archaeology involving U.F.O's, ley

lines and dowsing, 'vibes' or positive/negative feelings about sites, are in a sense too subjective and individual, and therefore peripheral to mainstream scientific interpretations. They are the lone plastic molecule balls on the end of a stick connected to the whole molecular structure of normality and objectivity in society and archaeological theory.

Not only is the marginalisation of these more unorthodox perceptions of the world seen to be necessary to ensure the reproduction of mainstream archaeological theory, but mainstream theory reinforces the reproduction of power structures in society as a whole. It is commonly accepted that theory is a construct of the time, place and society that it exists in. Theory ensures its survival by working within the boundaries of society. In this context, it seems that an original response to environmental and social conditions is not possible without redefining the conditions, a process that requires power. Theories have to be offspring of their parent societies. Theories that try to expand beyond the 'normal' range of social experience and imagination would suggest that the human imagination is independent of its cultural environment, and therefore outside of social control. However, attempts, by some anarchistic artistic and literary movements such as Dadaism, to escape the influence of tradition, avoid definition and destroy the link between object and label, language and society, remain marginalised and even ineffective, possibly because its proponents did not take into account the strength of the boundaries that compel people to reproduce tradition and symbols. Sanouillet writing about Dada suggested that to define the Dada movement as an 'ism7 fails to understand its aims and serves to place a false image of the movement in the society that it was trying escape. Although Sanouillet states that "Whenever we feel we have pinned down Dada to what appears to be a specific domain, within safe and recognisable boundaries, we can bet that we are nolonger on Dada grounds" (1979; 26), the products of the movement in the form of art have become status symbols, and the movement itself is seen as having "an important position in the intellectual spectrum of our century" (Sanouillet 1979, 26).

All this leads to the idea that human imagination is only as expansive as the social, built and natural environments that it has experienced. Thought can only be expressed in terms of what is inspired by perception. For example, it is not possible to imagine an entirely new colour outside of the fixed range of colours in the light spectrum. Even if it was mentally possible, there would not be the descriptive words, symbols or comparisons available to describe it. However, there have been deliberate attempts to stretch the boundaries of the mind.

One such attempt includes 'Brainstorming' which consists of group thinking without preconceived boundaries or criticism, with "the near psychotic association of wild ideas77, where "participants are encouraged to be different, to break the mould, to be over-inclusive and allow any crazy idea or association into the solution. Self-censorship is discouraged and nothing is unacceptable.77 (Furnham 1992).

Experiments that have been carried out using the above technique have tended to conclude that the end results are only as good as the best group member, and that for the best results to emerge, that individual had to contribute the most. Furnham concludes that in other languages, brainstorming would translate into an epileptic fit or a splitting headache, suggesting that some mental boundary has been reached.

Although the above suggests that archaeological theory is probably defined by mental boundaries, as well as social boundaries, these boundaries are possibly created by larger scale, universal factors. Environmental and social determinism appear to be on a world scale, with fundamental laws, structures and boundaries defining human action and imagination. Biologically, society acts to ensure the reproduction of human genes. Individuals act for the

survival of society; even in the self-destructive act of war and power struggles can be seen as a biological instinct along the Darwinian lines of ensuring the survival of the fittest. If the human existence is as universally pre-determined as this suggests, the study of several different societies should reveal repetitive laws of organisation.

Archaeological theories naturally lean towards a common denominator, a structuring principle, or a generalisation of the aspect of humanity that they study. This is possibly due to feelings of insecurity as to how far the boundaries of the individual, chaotic andunique action extend away from a central, general order that can be understood. Comparing these general laws using a similar approach should produce a larger scale generalisation resulting in the required universal relationships. For example, Thorpe states that "there is an almost universal concern with the heavens, even among hunter-gatherers77 (1984, 284). The reasons given for this interest in the heavens are practical considerations such as the agricultural calendar, navigation, prediction of seasonal weather variations, and the timing of ritual activities (Thorpe 1984, 276), which suggest the influence of environmental and social determinism.

Structuralism also seeks out these general structuring principles where the basic male/female division is often represented by symbols of the natural world, or the supernatural world, to emphasis the normality of the division. The latter also works in reverse to emphasis and normalise the realm of the other that is outside life experience. The universal nature of these themes is discussed by Rosaldo and Atkinson;

> "Since issues of sex role definition appear to be inevitable both socially and psychologically, since man - in very dif-ferent social systems - conceives himself as opposed and generally superior to women, the symbolism of the sexes is a likely ground for discovering abstract and universal symbolic themes. Even the anthropologists myth of Man the Hunter - of males, autonomous and agentic, creating the first form of culture, co-operation and technology - is only one culture's articulation of a very general pattern."
>
> (Rosaldo & Atkinson 1975, 43)

The effect of this mental, and symbolic division of the sexes in addition to the differences of reproductive functions, has been shown to have had a substantial influence on the use of space in settlements. For example, England, in a geographical consideration of a modern American city, discusses how 'ideal7 families and married women are located in the suburbs, forming the strongest dichotomy between male/female, public/private, central/suburban, production/reproduction.

However, she also demonstrated that the more central areas of housing are occupied by people who don't necessarily conform to this social ideal, such as women who work in the city, unmarried, separated or divorced mothers, and single people in or out of work, among others. For some this location is a temporary abode, a transition phase until a place in the suburbs is secured. For others it is a choice. The latter group is shown to have a role in raising the status of an area. This social influence on a pre-existing built environment is described by England;

> "the patriarchal nature of the spatial structure of the city is permanent, at least for a while. There is a time lag between the formation of new expectations and their expression in space. The spatial structure of the city cannot be changed as quickly as can social attitudes andbeliefs. Societal expectations about gender relations

andgender roles are literally fossilized into bricks and mortar, so they will continue to partially constrain the possibilities open to people."

(England 1991,143-144)

This interpretation of settlement space suggests that the exercise of choice, and action that fights against the constraints of the built environment, can contribute towards change, both in social attitudes, and ultimately the built environment. However, the role of individual power in bringing about these changes is possibly minimal, as it is a collection of individuals as a group that define the new conditions. This group could be said to have been allowed to form in response to the recognition by society that it is necessary for the reproduction of the system. Although the system itself is redefined by the inclusion of the new group, power remains with the majority.

In contrast to England, who believes that change can be brought about by the individual, some writers follow the view that settlement space is used as an instrument of power over passive respondents. Kent summarises the views of Donley-Reid who applied Giddens' structuration theory to the study of space and the built environment;

"Unlike other authors, she contends that architectureplays an active role in structuring social hierarchies andcreating power strategies. Donley-Reid presents a twistin the conception of people, behaviour and material culture by maintaining that humans can become materialculture when they are passive and powerless objects.This, then becomes important in her understanding ofthe interaction between space use and architecture inwhich social, political and economic power are theimportant variables behind interactions and relationships."

(Kent 1990, 5)

If these social and spatial boundaries were to be maintained, the boundaries would have to be powerfulenough to be able to contain, or preferably restrict thepotential range of interpretations and actions availableto the individual. The Berlin Wall could be seen as onepossible illustration of this idea as it was such a strongand divisive boundary in the built environment.

While differing on the point of how passive or radical the users of space can be, the above views form just one part of a 'universal' theoretical framework that extends beyond subject boundaries. Space and power are concerns of a wide range of subjects and theoretical approaches. The universal interest of space when defining representations of material social practices is stated by Harvey, who refers to Lefebvre's tripartite representation of space consisting of experience, perception and imagination;

"Representations of space encompass all of the signs and signification's, codes and knowledge, that allow such material practices to be talked about and understood, nomatter whether in terms of everyday common-sense orthrough the sometimes arcane jargon of the academic disciplines that deal with spatial practices (engineering,architecture, geography, planning, social ecology, andthe like)."

(Harvey, 1989; 218)

However, the theories produced from subject to subject appear to progress roughly in unison in response to their social contexts and international influences. Their general trends are similar, and the sources of inspiration frequently originate from other disciplines or

mainstream society. If they are from a marginal source, they may be normalised or redefined in the language of science or general academia. The role of the media in helping to define 'normal' society must be one influence on academic perceptions, and subsequent theories. The democratic compromise also serves to marginalise minorities, and the dominance of this thinking in planning and architectural practice ensures that the present day built, environment is mostly designed for able-bodied working males (and females) with cars, rather than people with wheelchairs, pushchairs, bicycles and the young or the elderly (Rowles, 1978).

Although there appear to be so many pre-existing social, mental and environmental boundaries, there is still plenty of room for manoeuvre in the spaces between the boundaries. The definition of the 'general', 'main stream' and the 'normal' does not have to stay the same, and the boundaries do not have to be taken as being inevitable. For example, the attempts of post-processual archaeology to group as many view points and approaches into the discussion of a subject as possible ensures that the space between the social and archaeological boundaries is used to its full and diverse extent. Although this article has typically tended to deal with generalisations in trying to define the broader boundaries, the end aim is to draw attention to the spaces between, and consider the range and combination of choices available to the individual. If these choices have been artificially limited, the next issue would be the question of why are the boundaries the way they are and how were they created?

One way to return to the identification of the individual would be to break down generalisations and seek out the reasons behind universal concerns and assumptions. Without denying the basic differences between the sexes, there is the question of the nature of gender roles posed by Rosaldo and Atkinson who ask "why are men and women, who play diverse and important roles in economics, politics, and religion, regarded almost everywhere as killers and child bearers? And second, why do the experience and meanings linked to these conceptions give them an opposed and evaluative sense?"(Rosaldo & Atkinson 1975, 70). They go on to suggest that it appears that the 'killer' male has a higher status in society, a fact that is reflected in their "roles of authority, dominance and prestige"across many social systems. They also suggest that

> "the fact that the sexes have often been epitomized as life-givers and life-takers itself requires explanation - an understanding of the roots of sexual hierarchy in the human social world."
>
> (ibid. 71)

In similar ways, the power relations behind many related social functions, including the creation of popular v. marginal theories and the use of space, need to be explored to their grass roots. Being able to define the nature and extent of the influence of social hierarchies and power relationships on academic theory and theuse of space may help to draw more of the 'periphery into the general discussion. In particular the question o why Gender Archaeology continues to be marginalised and presented as 'other' in academic and professional practice and theory, when so many studies have demonstrated the integral and central role of real and symbolic gender relations in structuring thought and space, needs to be answered. The understanding of the power relations that created the various representations of gender may- (or may not) help the attempt to avoid pre-determined thoughts, roles and life-spaces.

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A PASSAGE-TOMB CEMETERY ON SEAHAN MOUNTAIN,BALLINASCORNEYUPPER, CO.DUBLIN

Marcus Redmond & Daithi Mac Aonghusa[*]

Seahan, the second highest mountain in county Dublin with a height of 651m, is situated in the town-land of Ballinascorney Upper. It is overlooked by Seefingan and Kippure to the south, but unlike these mountains, is clearly visible from many places in the lower Liffey Valley. It consists of schists and slates, of Ordovician date, forming part of the Butter Mountain Formation and is partially covered by a thin cover of blanket bog. Much of this covering is gone from the summit revealing the hard gravelly soil underneath. Occasional quartzite blocks occur on the surface. There is a wide view over the lower Liffey Valley, including Fairy Castle and the passage-tombs and cairns on Mont Pelier Hill to the east, tallaght Hill (Dix, 1925, 126-7; Redmond and McGuinness forthcoming) and Saggart Hill to the north and north-west, and Seefin, Seefingan and Kippure to the south. Howth is visible in the distance. On this mountain four structures have been built which seem to fit in with the passage-tomb tradition.

The sites under discussion here were called DU 11 by Herity (1974, 258) (NGR O 082 197). In this survey these sites have been assigned the individual annotations A-D.

DU 11a BALLINASCORNEY UPPER
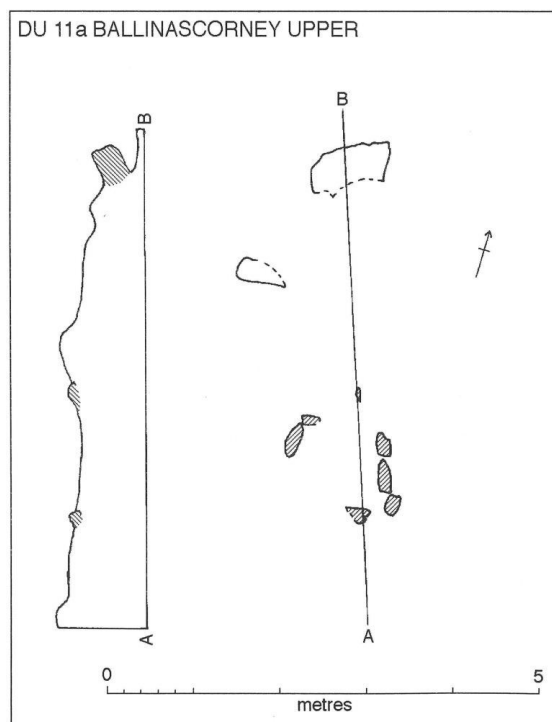
Fig. 1

Although not well known, the Seahan cairns have been described, or merely mentioned, by a number of commentators over the last 150 years. It appears that the cairns were first described in the Ordnance Survey (O.S.) Letters for Co. Dublin in the first half of the nineteenth century. The largest cairn (site C) is described as being in perfect condition and, indeed, it remains unopened to this day. Two low mounds are described as being near it, one twenty yards to the west and the other, fourteen yards to the east. The latter appears to be site B, the most impressive of the monuments on the mountain today. One stone is described as being eight or nine feet long, by four feet broad (2.40m by 1.20m) and is most probably the capstone of the chamber. The mound to the west, which seems to be our site D, had already long been opened when described (O'Flanagan 1930, 42). The cemetery is later described by Handcock (1877) who, though he probably visited the site appeared to have used the O.S. Letters as his chief source. He contradicts the Ordnance Survey Letters in one respect when he says of the stone-covering probably belonging to site D, that it "does not appear to have been removed" (Handcock 1877, 38-9). The O.S. Letters stated that this tomb had long been opened, "and the covering stone broken" (O'Flanagan1930, 42). Handcock (1877, 39) also refers to other large

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flag-stones lying around the summit of the mountain, half covered in peat, and suggests that these are also burial places.

DU 11b BALLINASCORNEY UPPER

CAPSTONE

0   10
metres

DU 11d BALLINASCORNEY UPPER

QUARTZITE

EDGE OF BOG

LIMIT OF CAIRN

QUARTZITE

0   5
metres
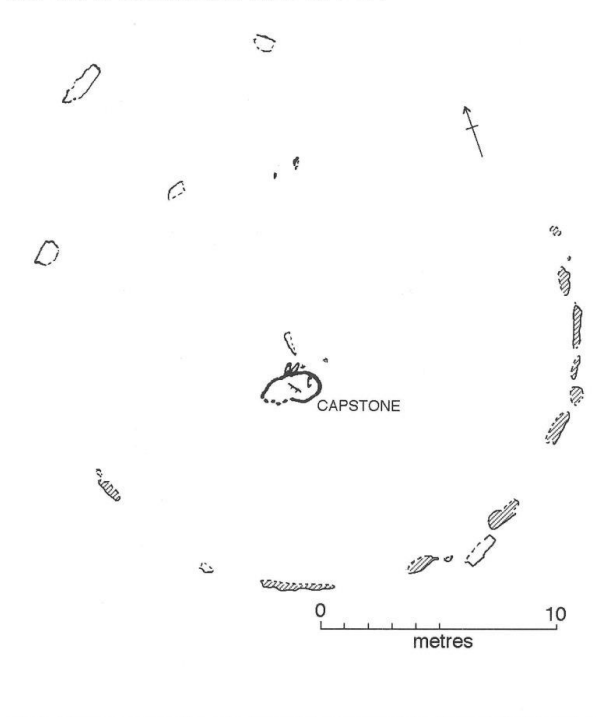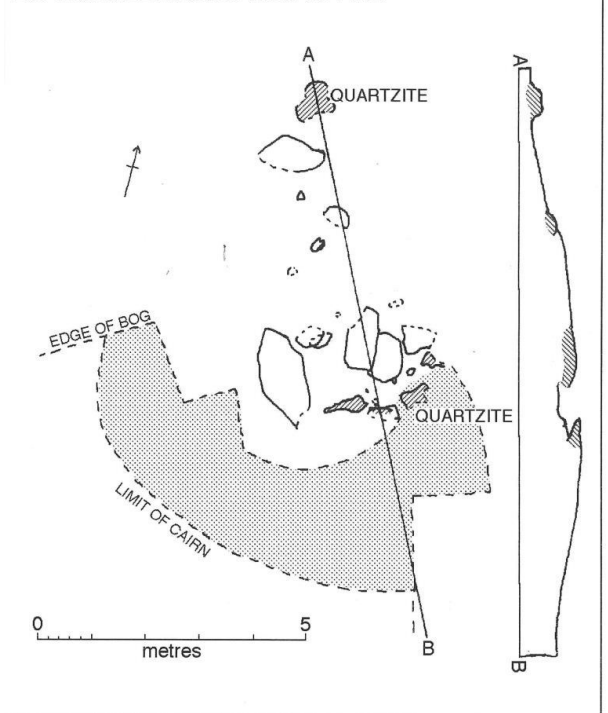
Fig 2.   Fig 3..

Ball refers to "a cairn and two cromlechs...on the hill called Seeghane or the Seat"(1905, 1). Joyce (1913) appeared not to have visited the mountain himself, and as a result his description appears somewhat confused. He mentions one tomb "on the SW side, near the summit", as "an ancient sepulchral chamber, long since rifled of its contents". Joyce (1913, 143-4) interestingly calls the mountain "Seechon or Slieyebane" probably in reference to the numerous white quartzite blocks scattered about the summit. Dix (1925) provided the most complete description of the cemetery to date. He described site B and summarised some of the earlier references to the cemetery. He noted that he was the first to describe the kerb around site B and suggested that it might have been covered previously by a concealing layer of peat or heather (Dix 1925, 127-8). Powell (1938) lists Seahan Mountain as No. 3 in his Dublin Group of passage-graves. It seems, moreover, tobe given as one cairn (Powell 1938, 247). O Nuallain (1968, 24) lists the cemetery as No. 34 and refers to two cairns. Herity (1974, 72, 256) mentions one tomb for Seahan (site B) and lists it as Du 11. Eogan (1986, 93) mentions "four cairns...on Knockanvinidee and Seehan mountains". It is probable that he is refering to two of the Seahan tombs and two tombs on Tallaght Hill (Knockanvinidee and Knockanarea). In Vol. 5 of the Survey of the Megalithic Tombs of Ireland, one of the Seahan tombs (Herity's Du 11, site B) is included in the list of passage-tombs under Co. Dublin. Finally, Stout & Stout (1992), quoting from the Sites Monument Record for Co. Dublin, refer to this site as DU 24.046 and on a more recent map of Stone Age Dublin (Stout 1993, 6) indicates only one passage-tomb directly on the summit of Seahan.

Site A (figs. 1 & 4) is a small structure, consisting of a chamber 1.20m long and wide, and segregated from the 'passage' by a low sillstone partially covered by peat. It is outlined by stones ranging from 0.08m to 0.36m in height. A stone 0.30m long and 0.15m high above the

peat indicates what may be a passage. This seems to open slightly west of north towards a relatively large stone, possibly a kerbstone 0.45m high. Another stone lies to the west of the 'passage', but its function is unclear and it may be disturbed. Most of the diagnostic features of passage-tombs are absent here, but the proximity of this monument to a definite passage-tomb, site B, with which it seems to share its northward alignment suggests that it is a passage-tomb.

Site B (figs. 2 & 5) lies about 13m west southwest of site A and is a large, somewhat denuded mound 22.50m in diameter and completely covered with peat. It is surrounded by a kerb of thin boulders, ranging from 0.08m to 0.31m in height above the present surface. This kerb is best preserved to the south and east where there is no bog surviving. Fourteen stones are still in situ, or leaning outwards due to the weight of the mound. To the north and north-west there are three other stones which appear to be displaced. Only one stone may possibly be considered in situ in this sector, and even this is doubtful on account of the lack of other known kerbstones. Two orthostats 0.32m and 0.43m high appear out of the bog indicating the presence of a passage aligned slightly east of north. Two more stones indicate the inner end of the passage. One of these orthostats is leaning over the other, which is consequently not included in the accompanying plan. The passage leads to a square chamber (.90 x.90 m) roughly in the centre of the mound, consisting of three orthostats. The two side stones of this chamber are 0.49m (left) and 0.70m (right) high, and the backstone is 0.57m high above the present chamber floor. The chamber is covered by a slightly displaced capstone, and is at a marked angle to the passage.

Fig. 4 Site A from the north looking into the chamber.

Site C (fig. 6) is the most prominent monument on the mountain and can be seen from Tallaght Hill to the north. It is situated 7m west south-west from site B and is a round cairn 28m in diameter and 4m high. There are no kerbstones or other diagnostic features visible, but a slight ledge around its base may indicate the presence of kerbstones beneath the surface. Several features which resemble pits within the cairn and filled with loose cairn stones around this ledge may be related to modern disturbance on the site. This site is relatively well preserved in comparison to the other three sites and it is possible that the other cairns were plundered to facilitate its construction. This suggests a later date for site C which, therefore, may not even contain a passage-tomb. There is no plan for site C due to its lack of diagnostic features; a plan of the cairn itself would just outline the extent of its collapse.

Fig. 5 Site B from the north looking into the chamber.

Site D (figs. 3 & 7) is found to the south-west of site C. A circular mound of gravel and stones 8 metres in diameter encloses a much disturbed structure which may be a cruciform chamber with

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exceptionally large lateral recesses and a smaller end recess consisting now of a sill over which leans a stone, possibly a back stone. One of the stones to the left of this feature is a rudely shaped quartzite boulder. The scatter of stones to the north might indicate the former presence of a passage leading from a solitary recumbent stone, possibly a kerbstone, outside of which is a large block of quartzite. A chambered round mound with what appears to be a passage on the same summit as site B, suggests that this site may also be considered as a similar monument type. The northward alignment of the proposed passage strengthens its classification in view of the similar alignment of site B.

Discussion

The four cairns appear to be grouped together to form a cemetery, thus exemplifying one of the characteristic features of passage-tomb construction. Also characteristic is their hilltop siting, an arrangement preferred by the Irish builders. A feature common in Irish passage-tomb cemeteries is the presence of a large focal tomb or tombs surrounded by a number of smaller satellites. Such may be the case at Seahan. The two largest tombs, sites B and C, are found in the central part of the cemetery, with the two smaller tombs placed on either side of them, the whole forming a roughly linear arrangement. It is interesting to note that the latter two sites, A and D, by far the smallest ones, are at a similar distance from the large cairn, site C. It is perhaps more interesting to note that the symmetry of this arrangement is broken by the eccentrically placed site B. It is possible that site B might be a later addition to the cemetery. It is curious that this cairn should be the only one in the cemetery to be definitely kerbed, a feature apparently quite common among the other south Dublin tombs. Though sites A-D form a small cemetery, it might also be considered that they, along with the other tombs in South Dublin and some of the North Wicklow examples, such as Seefin, make up a larger extended cemetery, using many of the high hilltops in the area. Sites like Carrowkeel/Keshcorran and Loughcrew exemplify this type of arrangement, with closely knit groups of tombs on each of several hilltops in specific areas.

Little can be said concerning the orientation of the Seahan tombs. Only one of them, site B, has any good indication of a passage. The two probable orthostats in the northern half of the cairn would indicate a passage facing north-northeast, an orientation which incidentally is similar to that of the Seefin tomb. From what remains of sites A and D, it can be surmised that the passages also faced in a northerly direction.

Fig. 6 Site C from the east.

We believe that site B is similar to the *Allée Coudée* type tombs of north-west France. The chamber appears to be set at an angle to the passage, though, rather than the passage itself being bent, as in the case of an *Allée Coudée* type passage. The chamber kinks to the right as one looks towards it from the passage and it is perhaps worth noting that in two definite Irish examples of *Allée Coudée* tombs, Knowth West Co. Meath and Carrowkeel Cam H Co. Sligo, the passage also kinks to the right (Eogan 1986, 43; Macalister et at 1912). It should be noted, though, that the passages in many of the Breton *Allée Coudée*s kink to the left and not to the right, for example, Le Luffang and Mane-Bihan (Herity 1974). It has previously been pointed out that the right hand recess may have been of special importance to the passage-tomb builders (Herity 1974, 123). The right hand recess in the chamber of Newgrange Co. Meath and Knowth East are rather larger than those

on the left, and the highly decorated stone basin of Knowth East was found in the right recess. Other sites show a gravitation towards the right hand side, as opposed to the left, such as Dowth South, Co. Meath, Barclodiad y Gawres and Bryn Celli Ddu in Anglesey. Indeed, it is possible that the right hand chamber of site D was disproportionately large.

Fig. 7 Site D from the north looking over the quartzite block, with the chamber stones rising behind.

The absence of a kerb at sites A and D can be compared with a small number of Irish passage-tombs, notably Tara and Four knocks Co. Meath, and suggests another link with the Breton tombs. However, a possible kerbstone exists to the north of sites A and D, outside what appears to be a passage in each case. There is also a quartzite boulder outside this stone at site D. This feature is paralleled at site V Loughcrew, Co. Meath where a standing stone is present just outside the entrance outside the kerb (Coffey 1912). Associated with several semi-circular and circular stone settings of exotic stones like quartz, granite and ironstone outside the two passages at Knowth, are two standing stones found lying prostrate under a spread of quartz (Eogan 1986, 46-48, 65). Vallancey in 1776 (Stout 1993a) described and drew a pyramidal standing stone outside the passage at Newgrange; the socket for such a standing stone has recently been recognised amongst similar settings outside the large tumulus at Newgrange (Stout 1993, 8-9). Possibly the outstanding examples of megalithic art highlighting kerbstones outside the entrances to the passages at this site and at Knowth are also significant. The fact that two of the stones at site D are of quartzite is worthy of comment as quartzite appears to have held some significance to Passage-tomb builders, for example at the three major Boyne Valley sites, Seefin Co. Wicklow, Knockroe Co. Kilkenny and possibly even the cairn on Knockbane on Lambay Island, Co. Dublin. The older name of the mountain 'Sliabh Ban' comes to mind when the profusion of quartzite on the summit is considered.

None of these remarkable structures are National Monuments. Indeed the only passage-grave in the entire Dublin /Wicklow group which is so considered, is that on Seefin; it seems suitable that here, where a cemetery survives, a similar status be conferred.

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IRISH COINAGE: 1302 -1461

Alan Merry[*]

The purpose of this note is to examine why there was virtually no coinage minted in this country for a period of more than 150 years between 1302 and 1461. Before examining this bleak period of Irish numismatic history, it is necessary to first take a brief look at the 13th century.

At the beginning of the 13th century the penny was the standard coinage of Western Europe. The Anglo-Irish Lords were looking for the introduction of an Irish penny, hoping that this would lead to an expansion of Ireland's international trade. They got their pennies, over 22 million of them in fact. However, the vast majority of these were used to finance the English kings wars in France and Scotland, not to improve the Irish economy. This can be deduced primarily from two sources.

Dolley (1972) cites documentary evidence that the moneyers were 'English by birth' rather than 'English by blood'. The moneyers were the individuals responsible for striking the coins and for ensuring that they were of the required quality. The 'English by Birth' were in effect high-ranking English civil servants sent over to make sure that the King's wishes were carried out. The 'English by blood', on the other hand, were the descendants of the original Anglo-Norman settlers. The second source is the archaeological record. More than 80% of the surviving pennies of Henry Ill's Irish issue have come from a hoard found in Brussels (Dowle & Finn 1969). This was the largest of three big 13th century Irish issues, the others being issued during the reign of Edward I. Most of the surviving coins from these later issues also appear to have been found outside of Ireland (Dolley 1972). Thus, by 1302 the English kings had effectively milked Ireland dry of almost all its silver, mainly to pay for their wars on the continent.

There is neither documentary nor numismatic evidence of an Irish coinage of Edward II. Despite promising the Anglo-Irish that Irish revenues would in future be spent within Ireland Edward later placed embargoes on the export of Irish goods in 1326, only allowing them to be exported from certain ports and only to people from countries "not at war with, or in enmity of, the English King" (Gilbert 1861). The Anglo-Irish lords wished to export their goods in order to bring gold and silver into Ireland, but they were thwarted in this aim by the embargo which restricted their trade to only those whom the king's representative wished them to trade with. In effect, this meant that the English kings were using the Irish as cheap suppliers to their armies and their allies when it suitedthem to do so. Edward III in 1338 ordered that dies be made and sent to Ireland to mint pence, half-pence & farthings. A small number of these were actually minted in 1339, of which two half-pennies survive. This was the only official mintage of coin between 1302 and 1425, despite the complete? revision of the English coinage in the 1340's which saw the introduction of England's first gold coinage, the Noble, its half and quarter, and the introduction of the Groat and the half-Groat.

From the middle of the 14th century onwards inferior Scottish coinage began to circulate in Ulster and Connacht. The Archbishop of Armagh and other bishops attempted to prevent its

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use in Ulster in 1379 by decreeing the Scottish Groat to be worth only three pence. They were unsuccessful primarily because the Scottish coin had no competition in Ulster. There were also silver plated forgeries of David II's and Robert II's Scottish issue beginning to circulate at this time, driving even the inferior Scottish coinage out of circulation. In 1852 a complete forger's kit from this period was found in Pettigo in Donegal (Dolley 1972).
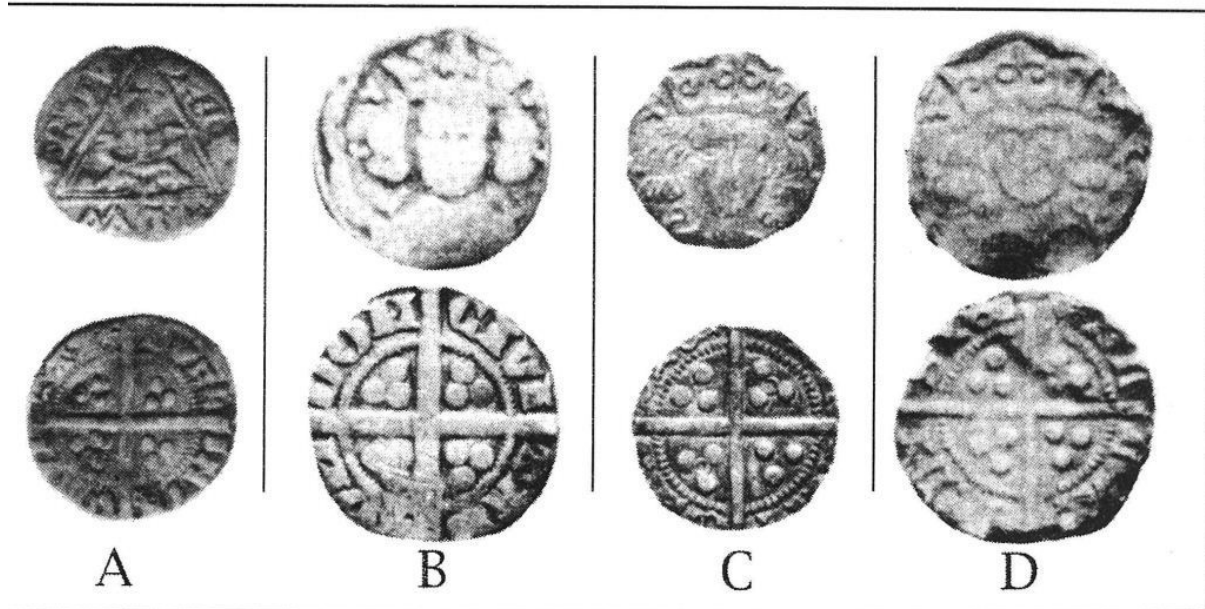
Fig. 1   A. 1339 Edward III halfpenny;
          B. Edward III sheared English groat;
          C. Henry VI double sheared English groat;
          D. 'O'Reilly's Money'.

By Richard II's reign at the end of the 14th century the Irish economy was so depressed that no coin at all was issued, despite the fact that Richard visited the country in 1394 and 1399, the first English king to do so in almost two hundred years. There was little or no improvement during the reigns of Henry IV and Henry V, and there is neither documentary nor numismatic evidence for coins during the early 15th century. The coinage in use throughout this time appears to have been very worn English coinage of Edward I and II with smaller amounts of the old Irish and the poor Scottish coins.

The situation deteriorated in the reign of Henry VI. There was a small issue of coins in 1425, of which two pennies survive. It is assumed that these pennies belong to this period because of the annulets tying them into the contemporary English annulet coinage (Smith 1841). This issue was small and by no means enough to satisfy the demand for coinage. Towards the middle of the 15th century sheared English coinage began to circulate as a result of this demand. It could be said that there were two denominations: the sheared Groat and the double-sheared Groat along with the sheared half-Groat. The English coinage of Henry VI had two rings of writing around the edge. The sheared coins had the outer ring of writing quite literally sheared off, while the double-sheared coins had both rings removed. The fact that such coinage was acceptable at all says much about the state of the Irish coinage. Although, Dolley (1972) argues that these coins were used by the Anglo-Irish Lords to pay the so-called 'black rent' to the Irish chieftains. This was, in effect, protection money, paid so that the native Irish would not ravage their lands.

The final complication regarding coinage for the Anglo-Irish was the emergence of 'O'Reilly's money' in the 1440's. These coins were forgeries of the sheared English Groats and half-Groats, made in the same way as the earlier forgeries of the Scottish coins. Two thin pieces of silver were pressed onto the original model until an image was formed, and the gap between them filled with lead to make up the weight. The nature of the models (sheared coinage) used meant that the forgeries were virtually indistinguishable from the originals. The Anglo-Irish were anxious for an opportunity to solve the problem, as evidenced by their vehement denunciation of 'O'Reilly's Money' in Meath in 1446 and 1447 (Dolley 1972).

An opportunity arose in 1460 when Richard of York, a declared pretender for the throne, came to Ireland. Richard's affairs in England were such that the whole future of the Yorkist cause lay with the Anglo-Irish nobility (Dolley 1972). Knowing this, the Anglo-Irish lords took advantage of Richard's weak political position at the time and decreed a radical new Irishcoinage. The coins were to be three-quarters the weight of their English counterparts and completely different in design. The low weight would ensure that these would not be exported to England while the distinctive new design would make them much more recognisable. In effect they devalued Irish currency in order to increase their own bullion reserves and the amount of coinage held on home soil.

The entire period is marked by England's neglect of the Irish economy. The English kings were almost constantly at war with France, from John's ascension to the throne in 1199 until Henry VI's loss of Aquitaine in 1453. Further instability resulted from the Bruce invasion of Ireland (1315-1318) and the plague years of the 1340's. During the 13th century the English kings exported as much silver as they could from the country to pay for their mercenaries on the continent. Thus, by the start of the 14th century they had exhausted the supply of silver in Ireland.

To put this in a modern perspective, since the Irish government first began minting coins in 1928, coins have been minted for 58 of the following 66 years, with a continual issue of bank notes for the same period. Without these issues there would be no standard, widely acceptable form of currency, resulting in reliance on imported currency and barter. This was precisely the situation in Ireland in the early 14th century. Trade embargoes then enforced by the English kings kept the level of imported coin in Ireland to a minimum, leaving barter as virtually the only commercial option. With barter, anything other than low level trade would have been difficult. The Anglo-Irish were in a difficult situation because to improve the level of their domestic trade they needed more currency, and to obtain more currency they had to increase their silver reserves by overseas trade. However, this option was severely limited by the trade embargoes and the Irish had to wait over 150 years for their economic position to improve. Only then was there an English monarch who would allow them to mint their own coinage without appropriating the majority for himself.

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PICTISH OGHAM-CONFLICTING THEORIES

Melanie McQuade[*]

Ogham is a series of incised horizontal and diagonal lines along a central spine and is commonly known in Ireland and areas of Irish influence in Wales. When transliterated into the Roman alphabet it produces legible inscriptions. It also occurs in Scotland, mainly in the area of northern Pictland where it is believed to have been introduced by the Irish Dal Riada settlers into Argyll in the fifth century. The thirty identified Pictish oghams, dating from the eighth to the tenth centuries, cannot be as readily understood as inscriptions of Ireland and Wales and as a result have become the subject of an ongoing debate. I propose to consider two very different theories relating to Pictish ogham, in the hope of reaching some conclusion as regards its function.

Fig. 1An example of Pictish ogham.

Traditionally the Pictish oghams were viewed, like the Irish inscriptions, as a form of writing. They have been transliterated into the Roman alphabet, but the results have been somewhat unclear and largely unintelligible. However, a number of words have been identified and perhaps the most significant of these is 'MAQQ / MEQQ', the Old Irish for 'son'/'son of. This shows Irish influence in terms of language and in the use of 'x son of y' which is an integral part of the Irish Ogham formula. It is only on the Pictish stones of Aboyne, Altyre, Golspie, Bressay, and Latheran thatthis word appears. These represent only one sixth of the known examples and thus indicate a general formulaic difference from the Irish inscriptions. Many of the other words identified are taken to be personal names. K. H. Jackson (1955, 140) refers to 'NEHHTON' on the Lunnasting stone as being Nechton, the Celtic name of several Pictish kings. Furthermore, A. Jackson (1984) also noted this representation on the Aboyne, Bressay and Latheran stones. Rhys (1891, 293) notes that 'TALLUORRN' found on the Aboyne stone is very similar to the Pictish name Talorgan and he considers 'CRROSCC on the Bressay stone to be an early form of the name Crus. K. H. Jackson (1955, 139) believes 'EDDARRNONN' on the Scoonie and Brodie stones to be Ethernan, the founder and bishop of Rathin in Buchan. Rhys regards this and TDDARHCNN' on the Newton stone not as personal names but as part of the formula of Pictish ogham. I find this unlikely, however, since its appearance on three stones represents only one tenth of identified inscriptions. Another example worthy of note is 'DATTR' on the Bressay stone, this is a Norse word meaning daughter. These words, generally identified as names or familial references, may indicate that the stones had a dedicatory function. However, identifiable words are few and far between and K. H. Jackson (1955, 151) remarks that the inscriptions "are written in an unknown language - not Celtic, not Indo-European".

Dissatisfiedwiththislinguistictheory, Anthony Jackson argues that other sequences such as 'ANN', 'ETT', and 'ALL' occur, which could equally have been chosen as 'words'. "The

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curious fact that the only 'words' elicited by the linguists should always be embedded in sequences of either 14 or 28 strokes suggests that the numbers are more important than the letters" (1984, 186). On this basis he proposes that the oghams served some sort of calendrical purpose by calculating the dates of festivals and predicting the outcome of events on the days marked. He notes that there are eighteen damaged inscriptions which may have characters missing and that by adding a single stroke to any of these sequences a pattern of sevens can be created. However, since the number of strokes in ogham varies from one to five, there are very few sequences that would not give seven or a multiple of it, with the addition of another character. A. Jackson claims that the reason these inscriptions differ is that there were local variations in important events and thus different patterns would be formed. He further believes that ogham stones were standards of calculation which could be copied onto more portable items. Using this theory he explains the occurrence of ogham on five artefacts, including knife handles and a spindle whorl. However, these seem strange choices for calendrical markers and I think it more likely that they were inscribed with the name of their maker or owner.

The examples from Scoonie, Logie Elphinstone, Latheron, Golspie and Buckquoy (spindle whorl) are complete oghams. The total number of strokes on these is divisible by seven or multiples of it and thus support Jackson's theory. There are two other complete examples and these have breaks in their inscriptions. One of these from Bressay fits this theory and counts '14 14 : 14 7 14 14 : 42 42'. However, Lunnasting, the only other divided inscription, does not match his theory but reads '28 : 28 : 25 : 25'. Therefore, there are only six examples which appear to match his theory. This can be compared to Rhys' (1891) claim that eleven inscriptions "appear to be for certain more or less Pictish in point of language". The scrupulous undertone of this comment is probably due to the fact that little is known about the Pictish language of the time. MacNeill (1939, 45), having studied not only ogham but also other Pictish inscriptions, has concluded that the language was "neither Gaelic, nor Cymric, nor Celtic of any variety".

Anthony Jackson stresses that ogham occurs in the area of weakest christian influence and explains that Christians would have had their own calendar. He has, however, noted three examples from the Christian area: Scoonie, Abernathy and Inchyra. Lingering paganinfluences in a Christian area are not uncommon, however, there are a number of ogham stones in the pagan area which are cross-inscribed. There is the possibility that these were later additions, however, the word 'CRROSSC, which K. H. Jackson (1955,142) believes to be a Gaelic form word cross, occurs on the Bressay stone which also has an engraved cross. Therefore, a purely pagan distribution and function cannot be assumed.

Anthony Jackson's theory fails to account for the presence of certain *forfeda* on the stones. These were ogamic symbols, such as '*', which are also found on later ogham inscriptions in Ireland. I do not wish to suggest that these symbols indicate that Pictish oghams were cut by people of Irish origin. If they had been, they would probably be easier to understand and there would not be what Rhys (1891, 263) refers to as "a comparative absence" in areas of Irish influence. These, coupled with 'MAQQ', indicate the adoption of the medium of ogham from Ireland and, I believe, its linguistic purpose. Having adopted ogham from the Irish, the Picts probably used it in much the same way: to express ownership or as memorial to the dead.

Although largely unintelligible to us, the Pictish oghams were language inscriptions and the words identified as Irish or Norse reflect the influences of these people on the Picts. The problem for us is not so much one of transliterating the inscriptions but of understanding the language they represent.

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A PREVIOUSLY UNRECORDED BEEHIVE QUERNSTONE FROM TERENURE,Co. DUBLIN

Edmond O'Donovan[*]

This stone was noticed by the writer in a suburban back garden in Terenure, Co. Dublin. It is the upper stone of a Beehive Quern and can be classed as a B3 Quern according to Caulfield's classification (Caulfield 1977). It is 32cm in width and is 13cm high. It has a 4cm projection in which the handle hole is located (fig. 1). The handle hole is almost perpendicular to the grinding surface, and has a sub-rectangular shape. Thegrinding surface is flat and shows little sign of wear. The flat bottom of the quern may be natural having split along flat planes which is natural in granite. The central perforation consists of a funnel slopping into a pipe. The funnel has a maximum diameter of 9cm and the pipe has a minimum diameter of 1.5cm. The quern is undecorated.
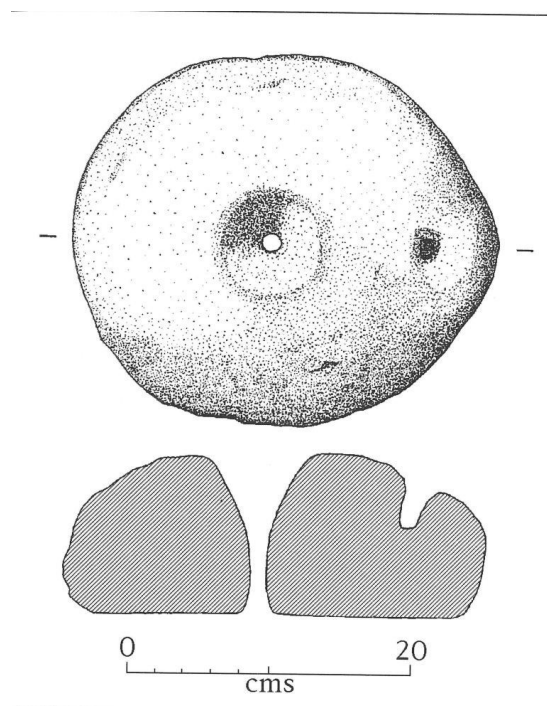
The rock from which the quern was fashioned is a type of Leinster Granite. It is 'Equigranular Type II', a fairly course grained Adamellite made up of quartz, oligoclase, microline, muscovite and biotite (Briick 1974). This unit of the Leinster Batholith outcrops at various locations within the Dublin/Wicklow Mountains. The stone could have been obtained as close as Dundrum Co. Dublin, only a few kilometres south of Terenure, or as far south as Vallymount Co. Wicklow, twenty five kilometres away. The geological identification would provenance the origin of this stone to this area of the Dublin/Wicklow Mountains.

Querns have often been collected as curios by people. It is this interest in unusually shaped stones that may have led to an individual to bring the quern to its present location. Therefore, the strict archaeological provenance of the quern is uncertain.

The occurrence of the quern slightly alters the Beehive Quern distribution map. It extends the southern limit of this distribution in Eastern coastal Ireland, as it is the only such quern provenanced on rock type in Dublin or Wicklow. This further reconciles the La Tene artefact distribution (Raftery 1984) with that of Beehive Querns which is one of a number of factors indicating a cultural association.

Acknowledgements

Thanks are due to Alan Dempster for the geological identification, Séamas Caulfield for his helpful discussion and to the Webb family in whose secure hands the quern presently lies.

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A Collection of Lithic Material from Dalkey Island

Bernard Guinan, Conor McDermott and Lucy Wood[*]

Introduction

Separated from the mainland by Dalkey Sound this small island, which lies 300m off the south eastern extremity of Dublin bay, forms part of the north eastern most limit of the Leinster Batholith granites. The island has a maximum area of 6.9 hectares (23 acres), 2.4 hectares of which is tidally submerged bedrock connecting Dalkey Island with Lamb Island and leading on to Maiden Rock in the north west. The outer extremity of this complex is the small area of exposed rock known as Muglins, 500 metres to the north east of Dalkey (fig. 1). Dalkey Island itself is made habitable by the existence of a natural landing place and fresh water springs.
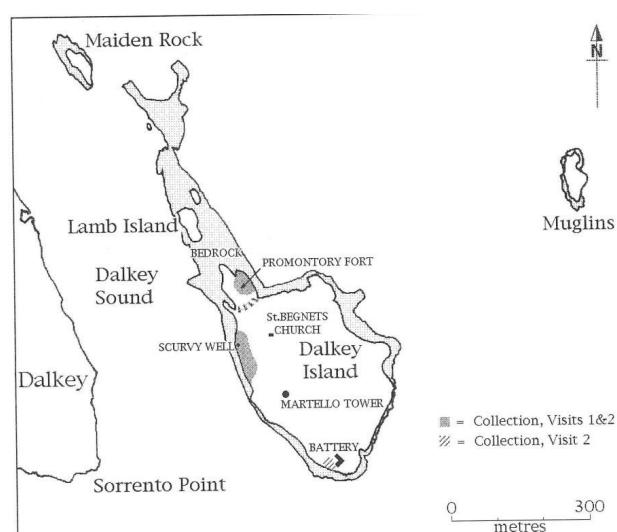
Fig. 1

Although geographically small, Dalkey Island has a long tradition of human activity which is reflected in the diversity of its archaeological and historical remains. The excavations within the Promontory Fort undertaken by David Liversage from 1956 to 1959 showed that human activity on the Island, which could be traced back to the Late Mesolithic, continued during the Neolithic and Bronze Age and into the Early Medieval period (Liversage 1968). Monumental evidence of the island's Early Medieval past is preserved in the form of St. Begnets church located at the north west of the Island. At the upper end of the chronological scale, evidence for activity during Napoleonic times is preserved in the form of the early 19th centuryMartello Tower and Gun Battery (fig. 1), (Cooney 1990,9)

The purpose of this paper is to present some basic analytical data from a small collection of mainly lithic material from Dalkey Island. The material was collected during two short visits to the island in May and June 1993. The archaeological material presented here was scattered on the immediate ground surface adjacent to a number of natural sections which occur at varying intervals along the western edge of the Island. The material had been dislodged from its soil matrix by a range of post-depositional processes such as coastal erosion, animal activity (particularly rabbits) and the severe erosional effects of the large number of people who visit and traverse the island during the summer months. In order to rescue the material from further disturbance a decision was made to collect all the archaeological material which was visible under foot on the immediate ground surface. While there was no systematic

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strategy involved, care was taken to ensure that all visible material was collected. The material collected in this manner was catalogued and subjected to a low level metrical and attribute analysis. What follows is a brief description of the methodology and the results of that assessment.

The Data Bases

The descriptive and analytical variables used in this analysis were organised and arranged on a Microsoft Works data base. This data base has been retained on computer disk and submitted with the archaeological material itself to the National Museum of Ireland. The choice of variables and the level of descriptive detail that the material was subjected to was governed by the need for flexibility and simplicity. The small size of the collection together with its lack of context were obvious limiting factors which influenced the formulation of the recording system. The basic definition and description of the variables used in the processing and assessment of the lithic material area are summarised at the end of this article.

Assessment of the Material
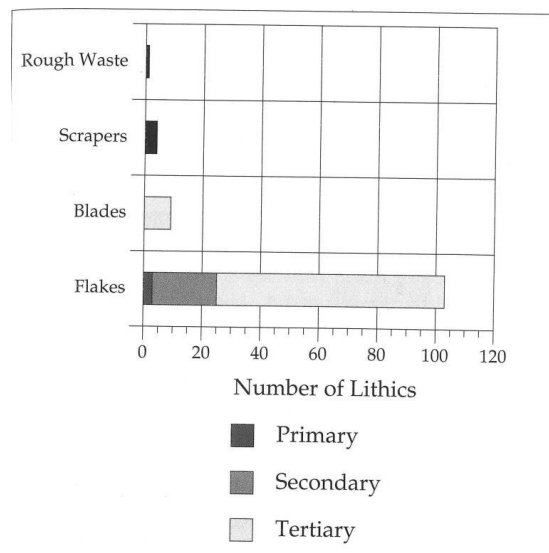
Fig. 2 Classification of the lithic material

The post Medieval artefacts represented in the collection consists of a clay pipe fragment, the base sherd of a 17th-18th century slipware dish, and a piece of modernceramic. The rest of the collection consists solely of lithic material totalling 117 pieces. Flint is the dominant raw material, with the addition of one piece of quartz. The collection is dominated by flakes (103) the majority of which fall within the later stages of the lithic reduction sequence. Taken together, tertiary and secondary flakes account for 97% of all flakes in the collection. Only 3 primary flakes were recorded (fig. 2). A total of 9 blades were identified, all are tertiary which confirms the dominance of this stage of reduction within the material as a whole. There are no cores among the material. Formal artefacts consist of 4 scrapers which include one concave form.

Technologically both platformed and bipolar reduction is visible within the debitage. Bipolarism dominates with 88% of the debitage resulting from this production technique. An interesting aspect of the collected material was the large amount of breakage presented among the debitage, 55% of which displayed some form of damage. A brief analysis of this variable was undertaken, the results of which is presented in figure 3. The absence of either proximal or distal ends dominated the breakage pattern of the collection. Debitage is consistently small with the length of complete flakes averaging only 20.3mm. A breadth/length scatter of all complete flakes and blades is shown in figure 4. This type of analysis has produced interesting chronological information on lithic debitage in Britain (Pitts 1978). While its usefulness has yet to be demonstrated in an Irish context, valuable results will only be achieved if larger, contexted, assemblage are assessed in this manner.

As the collection presented here is very small and does not represent a contexted assemblage it is not proposed to make behavioural inference, beyond some general statements concerning

the patterning of the material. The raw material used in the production of the lithic material in the collection is erratic glacial flint derived from the Irish Sea ice, which transported flint down the Irish Sea basin depositing it in considerable quantities along the coasts of south-eastern Ulster and eastern Leinster, from counties Down to Wexford. This exploitation of locally available glacial flint offers an explanation for the extensive use of bipolar reduction techniques which can be seen as representing a technological expedient to overcome the constraints imposed by this type of raw material. The most striking pattern within the collection is the dominance of tertiary flakes. This, together with the absence of cores and the paucityof primary flakes indicates that primary reduction was not taking place, however, owing to the numerous potential biases inherent in the collection this cannot be overstated. In terms of chronology, although, the concave scraper fits into a general Neolithic horizon it cannot be used to date the rest of the material in the collection. Though the material collected and presented here is heavily biased it has a value as a fully recorded body of material available for comparative analysis with better contexted assemblages.
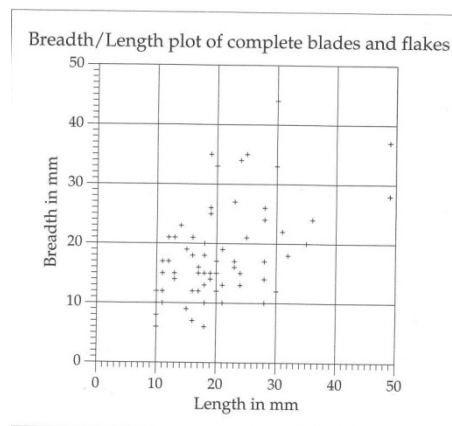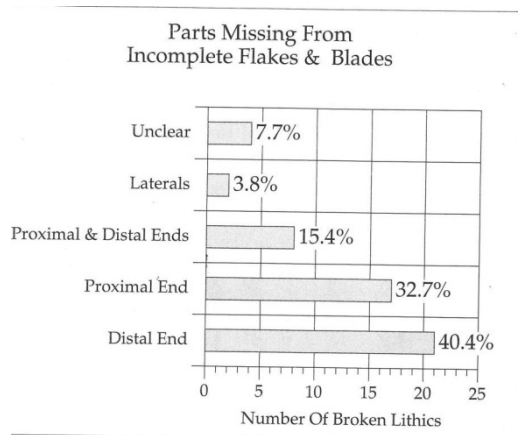

Fig. 3

Fig. 4
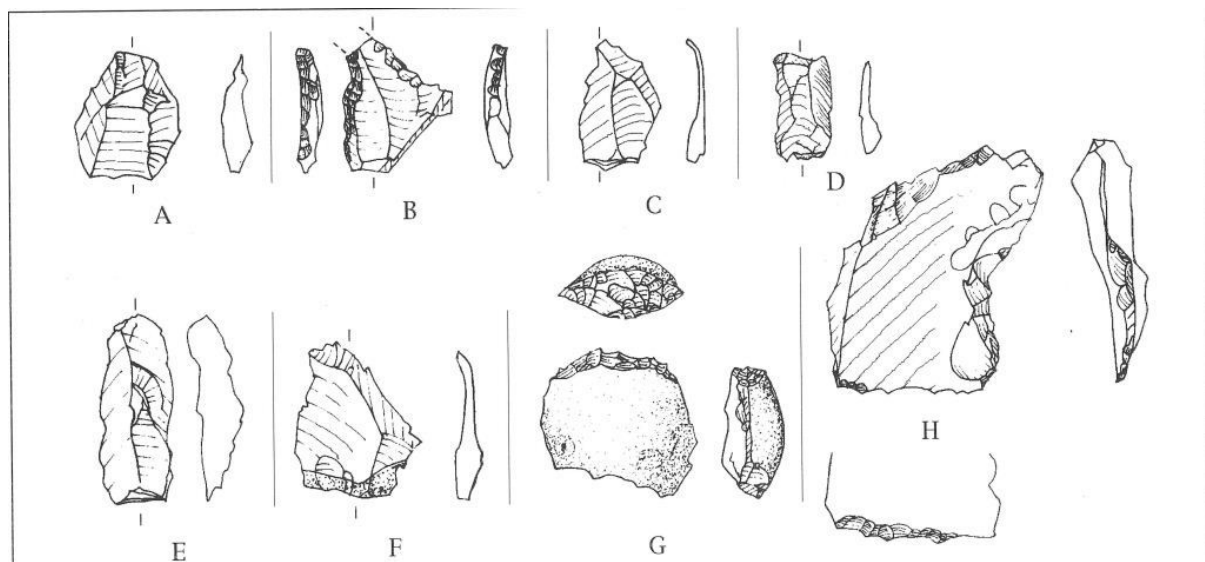
Fig. 5   Examples of lithics from the collection.
A, C & F   Tertiary flakes
B & G   Scrapers
D & E   Blades
H   Concave scraper

DEFINITION OF DATA BASE VARIABLES.

1. **Artefact Number**: Each specimen was given an individual artefact number ranging from 1 to 117. The National Museum collection number is C93.1

2. **Material**: For the lithic artefacts the category material refers to the lithology of the stone e.g. flint, quartz, etc.

3. **Classification**: Like the data base itself, the classification scheme was devised to satisfy the general criterion of flexibility and simplicity. The final format emerged only as the general character of the assemblage became apparent. The small sample and the general uniformity of the material did not demand an elaborate classification system.

    (a) **Flakes**: Lithics which have been deliberately detached from a core, and which exhibit a clear bulbar/ventral surface. Flakes are divided into primary, secondary and tertiary groups on the basis of the amount of cortex visible on the dorsal surface.

    (b) **Blades**: The term blade was used in a very specific sense, (based on Bordes & Crabtree 1969, 1) to describe an elongated flake with a length/breath ratio of at least 2:1, parallel or sub-parallel lateral sides, and longitudinal ridges on the dorsal surface resulting from previous removals.

    (c) **Scrapers**: Retouched lithics which had a concave or convex working edge were classified as scrapers.

    (d) **Rough Waste**: Irregularly worked material, which did not display the distinctive features of a systematic reduction strategy, was termed rough waste.

4. **Length**All measurements were taken to the nearest millimetre. Length was taken as the maximum dimension from the proximal to the distal end of flakes and blades. For artefacts where neither a distinct proximal or distal end could be recognised, length was taken as the maximum measurement possible on the piece.

5. **Breadth**: This variable was taken as the maximum distance between any two points taken at right angles to the length.

6. **Thickness**: This measurement was taken as the maximum dimension between the dorsal and ventral surface, per-pendicular to the length axis.

7. **Cortex**: The cortex is the outer skin or surface of flint nodules. The amount of cortex present was recorded for all lithic material examined. A pre-determined percentage category system was employed, which estimated the amount of cortex present within units of 10 per cent.

8. **Patination**: Patination is a visible change in the colour, lustre, and texture of flint which results from exposure to the environment over time (Schmaltz 1960; Curwen 1940; Shepherd 1972). Here the degree of patination, which refers to the intensity of patination on an artefacts surface, was described as being light, moderate or heavy.

9. **Condition**: Condition is used only in relation to flakes and blades and simply records whether they are complete or incomplete. Where an artefact was recorded as incomplete, the actual area of the flake/blade which was present (ie proximal, distal end etc) was noted within the comment field.

10. **Platform**: A striking platform was recorded as being present or absent on flakes and blades

11. **Bulb of percussion**: Bulb of percussion was recorded as being present or absent.

12. **Burning**: This category records the presence or absence of burning.

13. **Retouch**: Retouch records the presence or absence of visible secondary work on a piece. The small size of the col-lection precluded a more detailed assessment of artefact retouch.

14. **Comment**: This category was included to record information not noted under any of the other field names. It allowed for descriptive notes to be taken on points of detail which otherwise would have gone unrecorded.

Acknowledgements

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Liversage, G D, 1968	Excavations at Dalkey Island, Co. Dublin, 1956-59, *Proc Roy Ir Acad* 66C, 53-233
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ARCHAEOLOGY HIGHER DEGREE THESES HELD IN THE SCIENCE LIBRARY, THE QUEEN'S UNIVERSITY OF BELFAST.[*]

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1983

NEILL, K A,   The Manor of Knockgraffon, County Tipperary: A study of its archaeology andhistory throughout the medieval period.

1984

HODKINSON, B J,   Combmaking in High Street, Dublin.

1986

FORREST, Sinclair,   A re-examination of the architectural similarities of the Dolmens -a- coulour('Passage Graves') of NW Europe.

1988

NUTTALL, R,   The history and archaeology of Askeaton Castle, in the County of Limerick.

1990

MCLEES, C.   A typological and contextual analysis of late Viking and Medieval gaming pieces,gaming boards and dice from the archaeological excavations on the Library Site, Trondheim, Norway.

1992

FRANCIS, P J,   Early fine-ceramic potteries of Belfast and the Carrickfergus clay track.

M.Sc. Theses

1991

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BUCKLEY, L,	Study of the human skeletal remains from a cemetery at Kilshane, Co. Dublin.

Doctoral Theses

1976

HAMLIN, A E,	Archaeology of early Christianity in the North of Ireland. (3 vols)

1977

WOODMAN, P C,	The Irish Stone Age': A reconsideration. (A survey of the Irish Mesolithic).(2 vols - vol 2 missing) .

1980

IVENS, R J,	Patterns of medieval activity in the southern midlands of England:Archaeological and historical evidence. 1985
SHERIDAN, J A,New Hall, Cambridge	Role of exchange studies in 'Social Archaeology', with special reference to the prehistory of Ireland from the 4th- early 2^{nd}millennium B C. (2 vols)

1989

RAMSEY, G,	Middle Bronze Age weapons in Ireland. (4 vols)

1991

ABRAHAM, ASK,	Patterns of land holding and architectural patronage in late medieval Meath. (4 vols)

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M. Litt. Theses

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1985

CUNNINGHAM, George,   The Anglo-Norman advance into Ely O'Carroll. 1185-1221. Ref. No. 1005

MEENAN, Rosanne,   Deserted Medieval villages of County Westmeath. Ref. No. 880

1986

COLFER, William,   Anglo-Norman settlement in Medieval Shelburne, County Wexford, 1169-1307.Ref. No. 1096

1992

MULVIN, Valarie,   The morphology of Irish towns: an architect's overview of the planning of towns fromthe tenth century to the Famine. Ref. No. 2410

M.Sc. Thesis

1990

PRENDERGAST, Frank,   An investigation of the Great Circle standing stones at Newgrange for solar calendar.Ref. No. 1908

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1935

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1960

MCAULAY, Ian Ross,   Radiocarbon dating by use of scintillation
                                       techniques. Ref. No. 22.ff.77

1961

EOGAN, George Francis,   The bronze sword in Ireland. (2 vols) Ref. No.
                                       22.ff.2, 3

1970

EMPY, C A,   The Butler lordship in Ireland. (2 vols) Ref. No. 369

1984

CAIRNS, Conrad,   The tower houses of County Tipperary. Ref. No.
                                       829

1985

PLUNKETT DILLON,Emma Catherine   The field boundaries of the Burren, Co. Clare. (2
                                       vols) Ref. No. 1049

FITZGERALD RYAN,Michael Edward,
                                       The Derrynaflan chalice: it's archaeological and art
                                       historical significance.(2 vols) Ref. No. 1105

1987

MCNAB, Susanne Lesley,   Irish figure sculpture of the twelfth century. Ref. No.
                                       1224

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ROTHERY, Sean,   The influence of international design on Irish
                                       architecture in the early twelfth century.Ref. No.
                                       2081

1991

JORDAN, Albert J,   The tower houses of County Wexford. (2 vols) Ref.
                                       No. 2184

DUFFY, Christopher T,   The public funding of museums: a case study of the
                                       National Museum of Ireland.Ref. No. 2219

1992

MCAULIFFE, Mary,	The tower houses of County Kerry. (2 vols) Ref. No. 2400

1993

MURTAGH, Declan, .	Anglo-Norman earthworks in Co. Kildare, 1169-1360. Ref. No. not available

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M.A. Theses

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SHEE, Elizabeth A,	Passage grave art outside the Boyne Valley.

1972

1BARBER/ John W,	The stone circles of Cork and Kerry: a study.

1973

FINLAY, F,	The rock art of Cork and Kerry.

1975

1TWOHIG, Dermot C,	An assessment of archaeological cave research in Ireland.

1976

[1]Ní LOINGSIGH, Áine,	The stone alignments of Counties Cork and Kerry.

1977

MCCARTHY, J P,	The souterrains of County Cork.

1979

GOWEN, M,	Irish artillery fortifications 1550-1700.

1980

[1]CLEARY, Rose M,	The Late Neolithic/Beaker period ceramic assemblage from Newgrange,Co. Meath, Ireland- a study.
HUGHES, Monica,	The earliest glass in Ireland.
LANE, Sheila,	Clay tobacco pipes from the Cork City excavations - a study.
LEHANE, Daragh,	An analysis of the flint-work from the Late Neolithic/Beaker period at New grange,Co. Meath.

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Ó DRISCEOIL, Diarmuid,	Fulachta fiadh: a study.
RYAN, William,	A survey of monuments of archaeological and historical interest in the barony of BunrattyLower, Co. Clare.

1982

CAHILL, Mary Elizabeth,	The teaching of archaeology in schools.
CAHILL, Mary,	The archaeology of the barony of Middle Third, Co. Tipperary.
DUGGAN, John,	Structural woodwork in 15th and 16th century Irish tower houses.
McCORMICK, Finbar,	Man and domesticated mammals in Early Christian Ireland.
O'FLAHERTY, Brendan,	A locational analysis of the ring-fort settlement of north Co. Kerry.

1983

CASEY, James,	The barony of Kerrycirrihy, Co. Cork. An archaeological and historical study.

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O'DONNELL, Mary,	An analysis of E ware in Ireland.
POWER, Catryn,	Anthropological studies on the dental remains from some Irish archaeological sites.

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FEIGHAN, Helena,	Man's impact on the vegetational history of The Burren, Co. Clare.
O'DONOVAN, John,	A study of the human remains from Tintern Abbey, Co. Wexford.
WALSH, Gerard P,	An archaeological survey of monuments in the Cork barony. A study of the attitudes andopinions of the landowners of these sites.

1986

CHERRY, Stella,	A locational analysis of the megalithic monuments of W. Cork in relation to soil type andother environmental variables.
DOODY, Martin,	Bronze Age burial in Munster.

HECKETT, Elizabeth W,   A group of Hiberno-Norse silk and wool headcoverings from Fishamble St./St. John'sLane, Dublin.

HURLEY, Maurice,   A study of skeletal and wooden artifacts from Medieval Cork.

1987

MULLINS, Clare,   A morphological and dimensional analysis of the bone points from a number of historicand prehistoric sites in Ireland.

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JOHNSON, Gina,   A later Mesolithic flint assemblage from Bay Farm, Co. Antrim.

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MCCARTHY, Margaret,   Animals in the economy of Medieval and post-Medieval Cork.

MOLONEY DAVIS, Helen,   An Egyptian mummy and coffin at University College Cork.

O'SHEA, Patrick,   A study of the churchyards in the barony of Imokilly, Co. Cork, with special reference tothe range of imagery and symbolism on 18th century headstones.

O'SULLIVAN, Mary AC,   A survey of the cathedral of St. Brendan, Teampull-na-hOige and Griffin at Ardfert,Co. Kerry.

SCULLY, Orla,   A study of the metal artefacts from Medieval Cork.

VERLING, Eithne,   The Claidh Dubh, a linear earthwork in Co. Cork.

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DOWLING, Noelle,   The holy wells and religious cults of Co. Cork.

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BRESLIN, Anthony,	The Youghal Brick Co. Ltd. in the context of brickmaking in Ireland.
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JOHNSON, Brian,	Irish Romanesque architecture. A review based on Munster examples.

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| MAHER, Denise, | The Medieval grave slabs of Co. Tipperary, 1200-1600 A.D. |
| SCANNELL, Mairéad, | The effect of resource availability on the Neolithic/Bronze Age lithic traditions in Cork,Kerry and Limerick. |

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WALSH, Paul,	Fortifications at Galway: 12th-19th centuries (an archaeological and historical study).

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CLYNE, Miriam,	The Romanesque chancel in St Mary's Cathedral, Tuam.
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HOLLAND, Patrick,	The Anglo-Normans in County Galway: an archaeological and historical study. (2 vols)

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McDONALD, Theresa,	The archaeology of Achill Island. (2 vols)

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WADDELL, John,	Aspects of funerary practice in the insular Bronze Age.

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1956

[1]De PAOR, Liam,   Chronological problems of Irish Romanesque.

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SWORDS, P J,   Irish stone battleaxes.

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BURKE, John,   Irish flat axes.

1960

HERITY, Michael,   Problems of finds from the Irish passage-graves.

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KAVANAGH, Rhoda,   Pottery from the non-communal burials at Tara.

1964

[1]CREMIN, Aedeen,   Beaker pottery in Ireland.

[1]HARBISON, Peter,   The copper and bronze finds of the Chalcolithic and Early Bronze Age in Ireland.

[1]LANIGAN, Helen M,   Jet bracelets in Ireland.

[1]Ní CEALLAIGH, Niamh,   Filigree: a study of finds from Ireland dated to the Early Christian period, up to thecoming of the Vikings, including some related material from Scotland.

1965

BINCHY, Eileen I,   Irish metal daggers of the Early and Middle Bronze Age.

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1967

6 LIONAIN, Fiachra,   The decorated palstaves in the National Museum of Ireland.

1968

DUNLEAVY, Margaret M,   Aspects of toilet combs found in Ireland (prehistoric to the 17th century).

[1]RAFTERY, Barry J,   Freestone Hill and the hillforts of Ireland.

SPROULE, Ailish M N,   Flint artifacts from Bronze Age contexts in Ireland.

1969

FANNING, Thomas,   Aspects of the bronze ringed pin in Early Christian and Early Medieval Ireland.

FITZGERALD-RYAN, Michael,   Irish Iron Age & Early Christian pottery.

SWEETMAN, P David,   Aspects of stave-built wooden vessels in Ireland from the Late Bronze Age toc. 1000 A.D.

1971

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1974

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GRISEWOOD, James,	Shears from archaeological sites in Ireland.
MCNAMARA, M B,	Surgical and toilet implements in late prehistoric and early historic Ireland.
RALEIGH, Richard A,	The late high crosses of Ireland.
SHIELS, Noel F,	Melon beads in Ireland.
WALSH, Laurence,	Factors in siting and distribution of megalithic tombs and Neolithic 'single' burials inSouth Leinster and Water ford.

1976

BRADLEY, John,	Archaeological aspects of towns and newtowns in Medieval Ireland.

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Ó FLOINN, Raghnall,	Medieval cooking pottery in Leinster, 13th to 14th centuries.

1977

BRINDLEY, Anna L,	A comparison of the finds from the Beaker levels at Knowth and Monknewtown.
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MOORE, Michael J,	Stone lamps and cressets in Ireland.
Ní MHÓRÁIN, Iseult,	An examination of bronze crucifixion plaques with a view to their dating.

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IRELAND, Aideen,	Preserve, examine and illustrate: the Royal Society of Antiquaries of Ireland 1849-1990.

1980

[1]BOURKE, Cormac J,	Early Irish bells and bell-shrines.
BREEN, Thaddeus C,	Stray finds of Early Christian and Medieval date from the Greater Dublin area inthe National Museum of Ireland.
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GROGAN, Eoin,	Houses of the Neolithic period in Ireland and comparative sites in Britain andon the Continent.
KING, Heather A,	Medieval crosses in County Meath.
O'BRIEN, Elizabeth,	Pre-Norman ecclesiastical sites of the half barony of Rathdown (south Co. Dublin).
THORNTON, Geraldine M,	A survey of the earthen enclosures of the Boyne Valley and related sites.

1981

BENNETT, Mary E,	The Early Christian settlement of County Wexford.
MOORE, Fionnbarr,	The distribution and siting of ogham inscribed stones in selected areas.
O'SULLIVAN, Muiris,	The megalithic art of Site 1 at Knowth and its context in Ireland.

1982

GIBSON, David B,	Craft production and consumption in Ireland, 200-1200 A.D.
KEELEY, Valerie J,	Rounded scrapers of the Neolithic and Earlier Bronze Age in Ireland.
LYNN, Christopher J,	The construction, context and use of round houses in Early Christian Ireland.
MURTAGH, Bernard,	The fortified town houses of the English Pale in the Later Middle Ages.
NEWMAN-JOHNSON, David,	The Medieval fortifications of County Wicklow.
O'CONNOR, Nessa,	Clay casting moulds of the Early Historic period in Ireland.
O'HARE, Patricia,	Raths as a component of settlement in the Dublin region.
[2]RYAN, Patricia Katherine,	Irish sundials of the Early Christian Period.

1983

CARROLL, Judith,	Irish Early Christian glass bracelets.
HALPIN, Andrew,	Irish Medieval weapons, 1170-1600.
Mac DOWELL, Úna,	Irish logboats.
Ní GHABHLÁIN, Sinéad,	Medieval fonts in Counties Dublin, Kildare and Wicklow.

1984

| BUTLER, Vincent G, | Cattle in thirteenth century Dublin, an osteological examination of its remains. |
| [1]O'KEEFFE, Tadhg, | Medieval settlement in County Carlow, c.1170 - c.1550. |

1985

DUNNE, Noel,	Pre-bog archaeology: the Glenamoy - Barnatra Peninsula, Co. Mayo.
HARVEY, Paula M,	Amber from the Wood Quay / Fishamble Street excavations 1973 to 1981.
KELLY, Dorothy,	Undecorated freestanding crosses of the Early Christian Period in Ireland.

1986

BRADY, Niall D K,	The plough in Early Historic and Medieval Ireland.
BYRNE, Margaret J B,	The pre-bog archaeology of the Ballycastle - Palmerstown area of north Mayo.
KEELING, David,	The megalithic tombs of south west Co. Donegal: an environmental perspective.
NEWMAN, Conor J,	The archaeology of Ballinderry Lough, Co. Westmeath.
O'CARROLL, Finola,	Irish basal-looped spearheads.
O'CONOR, Kieran,	The Anglo-Norman period in County Laois.

1987

BOURKE, Edward C,	Glass vessels in Ireland c. 100-1400 A.D.
[1]NEWMAN, Conor J,	Decorative bronzework of the late 6th century from Ballinderry II
WREN, Joanna M,	Crested ridge-tiles from Medieval towns in Leinster 1200-1500 A.D.

1988

O'ROURKE, Daire,	Leather footware from Viking Dublin.
STIERLE, Karine,	The leaf-shaped projectile heads of the Irish Neolithic.

1989

FARRELLY, Jean,	A sample study of ringforts in Co. Leitrim.
KEANE, Margaret,	An archaeological survey of the basin of the River Deel, Co. Mayo.
LOUGHRAN, Amanda,	Iron Age cauldrons in north-west Europe.
MEDLYCOTT, Maria,	Standing-stones in central Leinster.

MOLONEY, Aonghus,	The archaeology of wooden trackways in Lullymore Bog, County Kildare.
MOUNT, Charles,	Early Bronze Age burials in Southern Leinster.
MOYNIHAN, Roderick,	The horse motif on Irish high crosses of the Early Christian period.
Ó CIARDHUÁIN, Seán,	An archaeological survey of the Medieval parish churches of County Wexford.
OPIE, Hilary F,	The Early Christian church sites of north County Wicklow.

1990

DILLON, Fiona F D,	An analysis of two lithic collections.
GRANT, Christine,	A locational analysis of the megalithic tombs of the Burren, Co. Clare.
O'SULLIVAN, Tanya M,	The exploitation of birds in Viking Dublin (An avi-faunal analysis of a bone sample fromFishamble Street 2).
RYAN, M Frank,	The craft of the cooper in tenth and eleventh century Dublin an examination ofthe domestic evidence.

1991

CROSS, Sarah,	An intensive survey of the early prehistoric archaeology in the environs ofFour knocks Co. Meath.
DALY, Aoife M,	A tree-ring study for Viking Dublin: a new chronology from Ash (*fraxinus excelsior* L.).
DONAGHY, Caroline,	Barrel padlocks and their keys in Ireland.
FITZGERALD, Maria,	Dress styles in early Ireland (c. 5th - c. 12th A.D.).
KILFEATHER, Annaba,	Patterns in Early Bronze Age society a study of aceramic grave goods in Ireland.
MURPHY, Donald,	The Early Christian monasteries of Co. Louth.
O'SULLIVAN, Aidan,	Prehistoric woodworking techniques: the evidence from excavated trackways inthe raised bogs in Co. Longford.

1992

GUINAN, Bernard P,	Ploughzone archaeology in north Dublin the evidence from a lithic collection andfieldwalking survey.
HEALY, Antonine,	Evidence of the terminal decline of Pine forest in north Mayo: it's relevance to theenvironment and chronology of Neolithic settlement at Céide Fields.
Mac DONAGH, Michael,	Stone arrangement and stone use in the megalithic tombs of N.-E. Co. Mayo.
MURRAY, Cara,	The promontory forts of Leinster: and an assessment of their function.

1993

[2]O'FLAHERTY, Ronan,	An analysis of Irish Early Bronze Age hoards.
[2]SANDES, Caroline A,	Rathgall, Co. Wicklow: the medieval pottery, and its wider context.
[2]SOMERVILLE, Orna L,	Kite-shaped brooches.
[2]WALSH, Nessa,	The pre-Romanesque mortared stone churches of Leinster.

Theses Submitted for N.U.I. Travelling Studentships in Archaeology

(non-U.C.D. Students)

1972

BARBER, John W, (UCC)	The stone circles of Cork and Kerry: a study.

1975

TWOHIG, Dermot C, (UCC)	An assessment of archaeological cave research in Ireland.

1976

Ní LOINGSIGH, Áine, (UCC)	The stone alignments of Counties Cork and Kerry.

1980

CLEARY, Rose M, (UCC)	The Late Neolithic/Beaker period ceramic assemblage from Newgrange, Co. Meath,Ireland- a study.

1984

POWER, Catryn, (UCC)	Antropological studies on the dental remains from some Irish archaeological sites.

SHEEHAN, John G, (UCG)	Viking Age silver arm-rings from Ireland.

M.Phil and other Theses Held in the Department

1975

HICKS, Ronald E,	Some henges and hengiform earthworks in Ireland: form, distribution, astronomical,correlations and associated mythology. (Ph.D., Un. of Pennsylvania)

1981

BURNS, Agnes J,	Scholastic oghams.(M.Phil)

1984

O'SULLIVAN, Orla V,	Buckles of the First Millennium A.D. from native Irish sites. (M.Phil)
CASEY, Stephen,	Early Medieval representations of books from Ireland and the Irish milieu. (M.Phil)
O'BRIEN, Elizabeth,	Late Prehistoric - Early Historic Ireland the burial evidence reviewed. (M.Phil)

1991

FINGERHUT, Terry A,	Honestones from Fishamble Street, Dublin. (M.Phil)

Doctoral Theses Held in the Department

1953

De VALERA, Ruaidhrí,	The court cairns of Ireland.

1954

Mac DERMOTT, Máire,	The Kells crozier and the "hiatus" in 9th - 10th century Irish metalwork.

1965

HERITY, Michael,	Irish megalithic grave goods: problems of context, interrelationships and origins.

1975

KAVANAGH, Rhoda,	Irish cinerary urns and Early Bronze Age burial rites.

1976

CAULFIELD, John James,	The cultures and economy of the Irish Iron Age.
1977	
RAFTERY, Barry J,	The Irish Iron Age: problems of origin, development and chronology.
1986	
LYNN, Christopher J,	Houses and related outbuildings in Early Christian Ireland.
1987	
COONEY, Gabriel,	North Leinster in the earlier prehistoric period (7,000-l,400bc), a settlement perspectiveon foragers, farmers and early metallurgists.
1988	
O'SULLIVAN, Muiris,	lrish passage tomb art in context.
1989	
GROGAN, Eoin,	The early prehistory of the Lough Gur region, Neolithic and Early Bronze Agesettlement patterns in north Munster south of the River Shannon. 1990
KELLY, Dorothy,	Aspects of Irish high crosses.
1991	
O'KEEFFE, Tadhg,	The Irish Romanesque style in architecture and architectural sculpture.

NOTES:1These theses were also submitted for the N.U.L Travelling Studentship in Archaeology.

2 Additions to the list of theses published in Trowel Vol. IV, 1993. To consult theses held in the Department of Archaeology, U.C.D. permission must be sought from the author and the Head of the Department.