

## Linguistic Society of America

---

Prolegomena to a Theory of Language by Louis Hjelmslev; Francis J. Whitfield

Review by: Paul L. Garvin

*Language*, Vol. 30, No. 1 (Jan. - Mar., 1954), pp. 69-96

Published by: [Linguistic Society of America](#)

Stable URL: <http://www.jstor.org/stable/410221>

Accessed: 22/01/2014 11:19

---

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Linguistic Society of America is collaborating with JSTOR to digitize, preserve and extend access to *Language*.

<http://www.jstor.org>

## REVIEWS

**Prolegomena to a theory of language.** By LOUIS HJELMSLEV, translated by FRANCIS J. WHITFIELD. (Indiana University publications in anthropology and linguistics, Memoir 7 of the *International journal of American linguistics*, Supplement to Vol. 19, No. 1.) Pp. [iv], 92. Baltimore: Indiana University (under the auspices of Linguistic Society of America [and] American Anthropological Association), 1953.

Reviewed by PAUL L. GARVIN, *Georgetown University*

The views of the Prague School have been known and noted among American structuralists for some time. Now, the publication of the English translation of Hjelmslev's *Omkring sprogteoriens grundlæggelse* (Copenhagen, 1943; abbreviated *OSG*) makes another important current in structural linguistics accessible to the English-speaking public. Francis Whitfield is to be congratulated on a brilliant job of translation, and the thanks of the profession are due to whoever it was that made the publication of this Memoir financially possible. Hjelmslev himself contributed to ironing out some of the difficulties of translation, especially as regards terminology, during his stay at the Linguistic Institute at Indiana University in 1952. As a result, the English version not only is a workmanlike accomplishment, but has the authenticity of the original work.

Although the group around Hjelmslev had been known since the thirties to have some new ideas about linguistics, it was not until the publication of *OSG* that their views became the subject of more detailed review and discussion in Europe. American linguists took note of Hjelmslev's 'glossematics' especially upon publication of the Hjelmslev volume of the *Travaux du Cercle linguistique de Copenhague* (Vol. 5, 1949),<sup>1</sup> but the latter was 'neither designed nor suited ... to be used as an introduction to Hjelmslev's ideas' (Wells, *Lg.* 27.544). Now that the more complete source is finally available in English, one may expect a more extensive American reaction to 'glossematics'.

The *Prolegomena* deal essentially with three major interrelated topics: the general criteria for a theory of language (sections 1-9), the specifics of linguistic theory (sections 10-20), and the relationship of language to non-language (sections 21-23). The presentation is couched in exceedingly concise and rigorous terms; beginning with a new name for the science ('glossematics' instead of linguistics), it introduces its own complex though very carefully defined terminology. The original *OSG* had a list of terms with page references to definitions in the text; the translation has been provided with a separate appended list of definitions, unfortunately not in alphabetical order (83-7), and an extensive index (89-92).

I shall try to give a running commentary on Hjelmslev's system, and then to come back to some of its salient points and discuss these in more detail, to-

<sup>1</sup> See the reviews by R. S. Wells, *Lg.* 27.554-70 (1951); P. L. Garvin, *IJAL* 17.252-5 (1951); C. F. Hockett, *IJAL* 18.86-99 (1952); and G. L. Trager, *SIL* 8.99 (1950).

gether with some of the points that have been raised in the discussion following the appearance of *OSG*.<sup>2</sup>

**1. General criteria for a theory of language** (§§1-9, pp. 1-7; *OSG* 5-26). 'Linguistics,' says Hjelmslev, 'must attempt to grasp language, not as a conglomerate of non-linguistic (*e.g.*, physical, physiological, psychological, sociological) phenomena, but as a self-sufficient totality, a structure *sui generis*' (2, *OSG* 7). That is, linguistic theory must no longer be 'transcendent' but must become 'immanent', in order to find 'a *constant* which is not anchored in some "reality" outside the language' (4, *OSG* 9): language is the self-contained subject matter of linguistics. A separation of the linguistic from the extra-linguistic is not alien to American structuralism; one need only think of Trager's recent 'microlinguistics'<sup>3</sup> as one of several attempts. Many Americans, however, including Trager, would draw the limits between the two quite differently.

The 'constant underlying the fluctuation', already referred to, is the 'system underlying the process' (5, *OSG* 11); although Hjelmslev, as we shall see below, makes no ontological assumptions about 'existence' or 'reality', he deals with the system as a primary (though not immediately observable) datum, and thus differs considerably from many Americans. I have discussed 'hocus-pocus' vs. 'God's truth' linguistics<sup>4</sup> elsewhere in this journal,<sup>5</sup> and have attempted to place Hjelmslev's views in that context.

In order to describe its immanent object properly, linguistic theory must observe the empirical principle; that is, the description it yields must meet the requirements of self-consistency, exhaustiveness, and simplicity, in that order of precedence (6, *OSG* 12). Well formulated though it is, the empirical principle is no linguistic novum. The requirements of self-consistency and exhaustiveness seem to flow—if I am not misinterpreting the history of linguistics—ultimately from the Neogrammarians' famous 'Ausnahmslosigkeit der Lautgesetze'. As to the criterion of simplicity, this in turn—as has repeatedly been pointed out in recent discussions—presupposes a criterion of what is simple. Hjelmslev himself attempts to remove this difficulty by stating as his simplicity principle that 'among several possible methods of procedure, that one shall be chosen that results in the simplest possible description. If several methods yield equally simple descriptions, that one is to be chosen that leads to the result through the simplest procedure' (10-1, *OSG* 18). The difficulty is not obviated, however, since a criterion still has to be given for what is the simplest description: is it the one yielding the smallest number of units, or the one yielding the simplest kind of patterning—*e.g.* the greatest symmetry—though with a larger number of units?<sup>6</sup>

<sup>2</sup> All reviewers of *OSG* comment on the difficulty of summarizing it; I agree. If I nevertheless attempt an outline of the *Prolegomena*, it is because the editorial policy of *LANGUAGE* generously allows much more space for reviews of important works than comparable journals in the field.

<sup>3</sup> *The field of linguistics* 47 (*SIL*, Occasional papers, No. 1; 1949).

<sup>4</sup> For these terms see F. W. Householder Jr., *IJAL* 18.260-1 (1952).

<sup>5</sup> See my review of Jakobson-Fant-Halle, *Preliminaries to speech analysis*, *Lg.* 29.472-81 (1953).

<sup>6</sup> If indeed simplicity is always a desideratum. See N. A. McQuown's comments on 'economy' in his review of Harris' *Methods in structural linguistics*, *Lg.* 28.497 (1952).

The object of linguistic investigation is 'the as yet unanalyzed *text* in its undivided and absolute integrity' (7, *OSG* 13). 'Text' is used by Hjelmslev in the broadest sense; it includes any corpus (or potential corpus; see below) at the disposal of the linguist, whether oral, written, or available in any other form. Since the text is the original datum, the method has to be deductive in the Hjelmslevian sense;<sup>7</sup> that is, it has to consist of a progressive breaking down of the text into smaller and smaller segments, 'until the analysis is exhausted'. Harris' discourse analysis<sup>8</sup> is probably the only concrete procedure suggested by any linguist that applies to the segmentation of an entire text. Here the similarity ends; as far as I can see, Harris intends this particular approach to be of limited applicability (*Lg.* 28.5), whereas Hjelmslev makes it central to his conception. Nonetheless, it seems to me (and I am supported by some colleagues in this view) that the concept of 'utterance' used in much linguistic discussion in places where Hjelmslev's 'text' might apply, is not clearly enough defined to be analytically useful. Specifically, the usual definition of the utterance as a single act of speech<sup>9</sup> leaves the limits of an utterance undefined. Where does one utterance (= one act of speech) end and the next one begin? Pauses, formerly thought of as the borders of utterances, have now been included in the definition of analytical units.<sup>10</sup> Perhaps one contribution of 'glossematics' will be to replace the utterance by the H text as the raw datum of analysis; unlike the utterance, the H text needs no H transcendent definition. As far as I can see, an act of speech can only be defined in psychological terms as a unit of speech behavior; and to my knowledge psychologists have not yet been able to define structurally the limits of a unit of behavior (in the sense which I have stressed above: ONE unit of behavior as opposed to two or three).

Linguistic theory, like any good theory, is both arbitrary and appropriate. It is arbitrary in the sense that its corollaries follow from its premises, but the theory 'is in itself independent of experience' (8, *OSG* 14): this means, to me at least, that even a theory based on premises contradicting the evidence of the senses, or totally unverifiable, may still be a 'good' theory, provided the corollaries are logically deduced from the premises; but, unless it is appropriate as well, its interest will be purely esthetic. A theory is appropriate when its premises 'satisfy the conditions for application to a large number of experimental data' (*ibid.*; here, incidentally, I would have preferred to translate the original *erfaringsdata* by something like 'empirical data', since 'experimental' all too often connotes 'verifiability by experimentation', which is of doubtful usefulness for linguistics). Linguistics therefore 'includes no existence postulate' or axiom, and its definitions must be strictly FORMAL OR OPERATIONAL, NOT REAL (12, *OSG* 20)—that is, without reference to metaphysical 'reality'. This makes it 'possible in most instances to replace pure existence postulates by theorems in the form of

<sup>7</sup> Whenever the context appears to require it, I shall use a capital H before a term to indicate that it is to be understood in the framework of Hjelmslev's terminology. Thus 'H deductive' stands for 'deductive in the Hjelmslevian sense'.

<sup>8</sup> *Lg.* 28.1-30, 474-94 (1952).

<sup>9</sup> See B. Bloch, A set of postulates for phonemic analysis, *Lg.* 24.7 (1948).

<sup>10</sup> See G. L. Trager and H. L. Smith Jr., *Outline of English structure* 41-52 (*SIL*, Occasional papers, No. 3; 1951). But see also the attempt by C. C. Fries to give an operationally valid definition of 'utterance unit', *The structure of English* 23 ff. (New York, 1952).

conditions' (13, *OSG* 21) or logical implications (11, *OSG* 14): not 'A is', but 'if A then B', or 'A implies B'.

Further on, Hjelmslev states what this implies operationally. Let me cite the crucial paragraph without paraphrase (10, *OSG* 17-8):

By virtue of its appropriateness the work of linguistic theory is empirical, and by virtue of its arbitrariness it is calculative. From certain experiences, which must necessarily be limited even though they should be as varied as possible, the linguistic theoretician sets up a calculation of all the conceivable possibilities within certain frames. These frames he constructs arbitrarily: he discovers certain properties present in all those objects that people agree to call languages, in order then to generalize those properties and establish them by definition. From that moment the linguistic theoretician has—arbitrarily, but appropriately—himself decreed to which objects his theory can and cannot be applied. He then sets up, for all objects of the nature premised in the definition, a general calculus, in which all conceivable cases are foreseen. This calculus, which is deduced from the established definition independently of all experience, provides the tools for describing or comprehending a given text and the language on which it is constructed. Linguistic theory cannot be verified (confirmed or invalidated) by reference to such existing texts and languages. It can be controlled only by tests to show whether the calculation is self-consistent and exhaustive.

This theoretical approach not only enables us to describe self-consistently and exhaustively the texts at our command (i.e. our actual corpus) but, in addition, 'we shall be able to construct any conceivable and theoretically possible texts in the same language' (10, *OSG* 17), because the knowledge obtained from our description 'concerns not merely or essentially the *processes* or *texts* from which it is abstracted, but the *system* or *language* on which all texts of the same premised nature are constructed, and with the help of which we can construct new texts' (ibid.). If we know the CODE, we can send any MESSAGE. The question which Hjelmslev leaves unanswered is: how do we know that we have the complete code, when we have derived it from a finite number of messages only? The problem arises, I believe, even if we do not worry about lexical completeness and are concerned with an exhaustive statement of grammar only.

A description meeting the requirements and yielding the results indicated above can be obtained, however, only if the analysis is 'conducted so that it conforms to the mutual dependences between [the] parts' (13, *OSG* 21-2); for 'both the object under examination and its part have existence only by virtue of these dependences' (13, *OSG* 22). This is indeed the crucial point of Hjelmslev's argument, which is developed throughout the rest of the *Prolegomena*. I shall return to this point in more detail when I discuss the Hjelmslevian conception of H form and H substance; let me here merely point out the increasing attention to relationships (which is more or less the same as H dependences) in American linguistic thinking. As early as 1948 I spoke of 'relevant relationships between the specifics',<sup>11</sup> and Pike has recently devoted a very astute paper to a relational conception of linguistics;<sup>12</sup> similar points have been made by others.

<sup>11</sup> Structure and variation in language and culture, *Indian tribes of aboriginal America* 216 (ed. Sol Tax; Chicago, 1952).

<sup>12</sup> Operational phonemics in reference to linguistic relativity, *JASA* 24.618-25 (1952).

The basic H dependences can be of three sorts: INTERDEPENDENCES, in which the two terms mutually presuppose each other; DETERMINATIONS, in which 'one term presupposes the other but not vice versa'; and CONSTELLATIONS, in which 'two terms are compatible but neither presupposes the other' (15, *OSG* 23). Of these, both interdependences and determinations have been commonly listed in American structural statements, but have not always been kept clearly separate.<sup>13</sup> On the other hand, the equally significant relationship of mutual exclusion (for my own use of it, see fn. 13) is not noted in the Hjelmselfian listing at this point; closest to it comes H correlation (23-4, *OSG* 35-67), which fits into another glossematic context. Other important relationships, such as fixed relative order,<sup>14</sup> are not treated at all.

At this point (15, *OSG* 23-4) Hjelmself first introduces his general technique of using three parallel sets of terms for each type of relationship: one term for the relationship as such, to be applied indiscriminately to the given relationship in either the H text or the H system; one term for that relationship as occurrent in the H text; and a third term for it as occurrent in the system. This triadic system of definitions runs throughout the *Prolegomena*; it is designed to add precision to the discussion, but it also makes for great terminological complexity.

**2. Specifics of linguistic theory** (§§10-20, pp. 17-65; *OSG* 26-90). The details of 'glossematics' consist in a description of the H dependences occurrent in H text and H system, of the entities defined in terms of these H dependences, and of the procedures used in arriving at such a description. The order of presentation is: descriptive procedures in general, types of dependences, morphemes and phonemes, levels of language, linguistic units and procedures for isolating them, langue and parole, neutralization, interpolation of 'missing links' of the structure, extreme units of the analysis. I have used non-Hjelmselfian headings for these topics; in the following summary of this part of the *Prolegomena*, I shall attempt to confine myself, at the risk of some inaccuracies, to the most crucial of Hjelmself's terms. Since the *Prolegomena* themselves are a summary presentation of an extensive body of conceptualization, any secondary condensation will at times assume the shape of an abbreviated abbreviation.

**2.1. Descriptive procedures in general.** (§10, pp. 17-20; *OSG* 21-31). The initial linguistic datum is the virgin H text; therefore the 'glossematic' procedure is H analysis: segmentation of the H text in terms of 'the uniform dependences of other objects on it and on each other' (18, *OSG* 27). 'The text is a chain [here I would have preferred the common term 'sequence' as a translation of *kæde*], and all the parts (*e.g.*, clauses, words, syllables, and so on) are likewise chains, except such eventual ultimate parts as cannot be subjected to analysis' (18, *OSG* 28). The analysis must be carried forward 'through a constantly continued partition until it is exhausted' (*ibid.*), in order to meet the requirement of an exhaustive description contained in the empirical principle. Such a set of procedures going from the whole to its parts is an H deduction; upon completing it, the reverse procedure, H induction, may be employed, leading from the parts to the whole and consisting of a series of H syntheses. 'No new results will be

<sup>13</sup> Cf. my 'obligatory pairing', Kutenai III: Morpheme distributions, *IJAL* 14.171-87 (1948). I use this term for either kind of H dependence.

<sup>14</sup> Used, for instance, to define the word in Kutenai, *IJAL* 14.171 (1948) and 17.84 (1951).

gained, but only a new point of view which it may sometimes be appropriate to adopt for the same resultants' (19, *OSG* 29).

The above reflects only partially what seems to me common linguistic practice, particularly in dealing with languages of which the linguist has no command: a corpus is obtained, which is segmented by a variety of field procedures (H deduction); the segments so obtained are in turn recombined in tentative classes (H induction). These procedures are in the nature of working hypotheses; they are tested by further segmentation of the same or an expanded corpus. Then the original classification of the segments (obtained by H induction) is revised wherever necessary, and the classes are retested by deduction, and these operations are repeated until further revisions and retesting yield no significant results. In strictly Hjelmslevian terms, field work should be all H deduction and writing a grammar all H induction: although I could nowhere find a direct statement by Hjelmslev to this effect, it seems to me to follow logically from this part of the *Prolegomena*. In practice, field work involves a continuous shifting back and forth from H deduction to H induction, with much of the preliminary H analysis accomplished by eliciting short stretches of speech from the informant.

**2.2. Types of H dependences** (§11, pp. 20–5; *OSG* 31–7). 'A dependence that fulfils the conditions for an analysis we shall call a *function* ... The terminals of a function we shall call a *functive*' (20, *OSG* 31). 'By a *constant* we shall understand a functive whose presence is a necessary condition for the presence of the functive to which it has function; by a *variable* we shall understand a functive whose presence is not a necessary condition for the presence of the functive to which it has function' (21, *OSG* 32). The previously stated H dependences, reinterpreted as H functions, are now redefined in terms of constants and variables; the functives of these functions are then named in terms of their particular role in the kinds of H functions which they contract.

In addition, another set of H functions is defined: H correlation is the 'either-or function ... between the members of a paradigm' (23, *OSG* 35), and H relation is the 'both-and function' (*ibid.*) between the parts of a sequence. 'And on this basis we can define a *system* as a correlational hierarchy [i.e. class of classes], and a *process* [= H text] as a relational hierarchy' (24, *OSG* 36).

There is also a function between process and system: 'The process determines [i.e. presupposes] the system' (*ibid.*). This statement strikes me as one of the cornerstones of Hjelmslev's theoretical approach; most of this section leads up to it. Let me quote his argument (*ibid.*) in full:

The decisive point is not the superficial relationship consisting in the fact that the process is the more immediately accessible for observation, while the system must be ordered to the process—discovered behind it by means of a procedure—and so is only mediately knowable insofar as it is not presented to us on the basis of a previously performed procedure. This superficial relationship might make it seem that the process can exist without a system, but not vice versa. But the decisive point is that the existence of a system is a necessary premise for the existence of a process: the process comes into existence by virtue of a system's being present behind it, a system which governs and determines it in its possible development. A process is unimaginable—because it would be in an absolute and irrevocable sense inexplicable—

without a system lying behind it. On the other hand, a system is not unimaginable without a process; the existence of a system does not presuppose the existence of a process.

This particular passage is the most lucid I have seen in the recent literature in reference to the 'hocus-pocus' vs. 'God's truth' discussion (cf. fn. 4); I shall let it stand without comment as a sign of my complete agreement.

**2.3. Morphemes and phonemes** (§12, pp. 25–9; *OSG* 37–44). The analyses that enter into the procedure of deduction yield inventories at each stage 'of the entities that have the same relations, *i.e.*, that can take the same "place" in the chain' (26, *OSG* 38). 'When we compare the inventories yielded at the various stages of the deduction, their size will usually turn out to decrease as the procedure goes on. If the text is unrestricted, *i.e.*, capable of being prolonged through constant addition of further parts, as will be the case for a living language taken as a text, it will be possible to register an unrestricted number of sentences, an unrestricted number of clauses, an unrestricted number of words [since the vocabulary is capable of expansion, presumably]. Sooner or later in the course of the deduction, however, there comes a point at which the number of inventoried entities becomes restricted, and after which it usually falls steadily' (26, *OSG* 38–9). That is, the number of syllable types, of types of syllable nuclei and margins, and of phonemes is restricted. This is a fundamental fact, for 'if there were no restricted inventories, linguistic theory could not hope to reach its goal, which is to make possible a simple and exhaustive description of the system behind the text. If no restricted inventory appeared however long the analysis were continued, an exhaustive description would be impossible' (26, *OSG* 39). The purpose of linguistic analysis thus is to reduce the infinity of the observable speech events to a finite inventory of structural units. The final units themselves at which Hjelmslev arrives at this stage of the presentation are sign-expressions (28, *OSG* 41–2) and *figurae* (29, *OSG* 43), which are very roughly the equivalents of morphemes and phonemes.

One-word sentences, single-phoneme morphemes, and the like are treated by Hjelmslev by introducing a 'special "rule of transference", which serves to prevent a given entity from being further divided at a too early stage of the procedure and which ensures that certain entities under given conditions are transferred undivided from stage to stage, while entities of the same degree are subjected to division' (25, *OSG* 38).

The entities resulting from the division, and if necessary 'transferred undivided from stage to stage', are quite analogous to the well-known immediate constituents as lately treated by Fries (*Structure* 256–73); the 'transferred' entities remind one most closely of Harris' groups of morphemes substitutable for single morphemes.<sup>15</sup>

All along the line, we thus deal with a single H deduction which first yields a breakdown into complex morphemic units, then H sign-expressions (roughly morphemes) and finally *figurae* (roughly phonemes). All of this is to be carried out, as American linguists would say, on a single level of analysis. American linguistic practice of the last few years, on the other hand, has placed increasing

<sup>15</sup> From morpheme to utterance, *Lg.* 22.161–83 (1946), esp. 165.



emphasis on the clear-cut separation of phonological and morphological levels. Even if one admits, with Pike,<sup>16</sup> a degree of relatedness of the two, this does not deny the fact that morphological and phonological segmentations need not, and often do not, coincide: syllables are not coextensive with morphemes, contours with words, phonemic phrases with grammatical phrases, and so on.<sup>17</sup> It is for this reason that I cannot agree with Hjelmslev's assertion that the ultimate units of an essentially morphological procedure of analysis will be phonemes.

There is no disagreement, of course, with the statement that H sign-expressions are composed of H figurae—that is, if I may equate, morphemes of phonemes—provided one keeps in mind that this is another manner of 'being composed' than that, for instance, in which a word is composed of morphemes. With this and one other reservation, one may accept Hjelmslev's final statement in this context: 'Languages, then, cannot be described as pure sign systems. By the aim usually attributed to them, they are first and foremost sign systems; but by their internal structure they are first and foremost something different, namely systems of figurae that can be used to construct signs' (ibid.). The other reservation relates to the extent to which H figurae can be used to 'construct signs': granted that the morpheme inventory (primarily rather the inventory of lexical morphemes) of a language is susceptible of continuous expansion (which I suppose is implied by the statement about 'constructing signs'), still (a) this expansion is quite limited (barring nonce words and borrowings), and (b) the phonemic inventory is also capable of expansion, though on a much smaller scale.

**2.4. Levels of language** (§13, pp. 29–38; *OSG* 44–55). This is probably the best-known section of Hjelmslev's argument; it has been dealt with extensively by Wells in *Lg.* 27.558–61, and has been commented on by most reviewers of *OSG*. Here we find the important Hjelmslevian dichotomies of expression versus content, form versus substance.

Hjelmslev's expression and content are roughly analogous to what linguists usually call form (not, of course, H form) and meaning. Expression and content are used by Hjelmslev 'as designations of functives that contract ... the sign function' (30, *OSG* 44). 'Expression and content ... necessarily presuppose each other. An expression is expression only by virtue of being an expression of a content, and a content is content only by virtue of being a content of an expression' (30, *OSG* 45). This is essentially and admittedly (29, *OSG* 44), an elaboration of the Saussurian conception of the sign as an 'entité ... à deux faces',<sup>18</sup> the two aspects of which exist only by virtue of each other. It is thus a fundamentally different conception from that of a number of American linguists, who would consider only form properly linguistic, and meaning extra-linguistic or, as Trager puts it, 'metalinguistic'.

Expression and content are, however, by no means to be equated with speech

<sup>16</sup> Grammatical prerequisites to phonemic analysis, *Word* 3.155–72 (1947); More about grammatical prerequisites, *Word* 8.106–21 (1952).

<sup>17</sup> Cf. also K. L. Pike, A problem in morphology-syntax division, *Acta linguistica (AL)* 5.125–38 (1945/49).

<sup>18</sup> *Cours de linguistique générale* 99 (Paris, 1949).

sounds and extralinguistic reality. There exists, to be sure, an ‘amorphous “thought-mass”’ (32, *OSG* 48)—which the anti-mentalists among us are free to equate with extralinguistic reality as perceived by the speaker. This ‘thought-mass’ is the ‘unformed purport ... formed differently in each language’ (*ibid.*); it is content-purport which is formed by the content-form into content-substance. Likewise, we may speak of an expression-purport, which may, for instance, consist of ‘the vocalic continuum and the median profile of the roof of the mouth’ and be ‘formed differently in different languages, depending on the specific functions of each language and ... thereby ordered to [the] expression form as expression-substance’ (35, *OSG* 51).

Purport thus is the amorphous physical and psychological continuum (Trager’s ‘prelinguistic’ for expression-purport, ‘metalinguistic’ for content-purport), upon which the H form is projected as an organizing principle—‘the sign function and the functions deducible therefrom’ (32, *OSG* 48). This segments the purport into pieces underlying each H formal entity. The purport so organized is the H substance.

Hjelmslev’s example for the different H forming of content-purport in different language systems is the varying segmentation of the visible spectrum by color terminologies (33, *OSG* 48–9); his example for the different H forming of expression-purport in different language sequences is the English, German, Danish, and Japanese name of the city of Berlin (35, *OSG* 52). ‘When a person familiar with the functional system of a given language (*e.g.*, his mother tongue) has perceived a content-purport or an expression-purport, he will form it in that language. An essential part of what is popularly called “speaking with an accent” consists in forming a perceived expression-purport according to predispositions suggested by functional facts in the speaker’s mother tongue’ (*ibid.*). Hjelmslev could have added here that misused ranges of meaning of foreign vocabulary are often due to forming a content-purport according to similar predispositions. It might also be suggested here that Whorf’s famed observations on language and culture<sup>19</sup> in Hjelmslevian terms deal with different manners in which content-purport can be formed in different languages.

**2.5. Linguistic units and procedures for isolating them** (§14, pp. 38–48; *OSG* 55–68). Hjelmslev formulates in two ‘principles’, the ‘principle of economy’ and the ‘principle of reduction’ (38, *OSG* 55–6), the requirement that each step of the analysis should lead to the registration of all the elements encountered at that particular step, and that the number of these elements should be the lowest possible. ‘In order to satisfy this requirement we must have at our disposal a method that allows us under precisely fixed conditions to *reduce* two entities to one, or, as it is often put, to *identify* two entities with each other’ (38, *OSG* 56). This is Hjelmslev’s phrasing of the question of likeness<sup>20</sup> or sameness (*cf.* Bloch, *Lg.* 24.7–8) of two partials at any level of the analysis: what is meant by saying that we ‘have “one and the same” sentence, “one and the

<sup>19</sup> Reprinted as *Collected papers on metalinguistics* by the Foreign Service Institute, Department of State (Washington, 1951).

<sup>20</sup> *Cf.* Leonard Bloomfield, *A set of postulates for the science of language* (1926), reprinted *IJAL* 15.196 (1949).

same" clause, "one and the same" word, etc.' (39, *OSG* 56). Many specimens of each occur, 'these specimens we shall call *variants*, and the entities of which they are specimens, *invariants* ... Whereas the variants are registered mechanically by a mechanical division of the chain, at each stage of the analysis we must be able to infer from variants to invariants with the help of a specially prepared method that establishes the necessary criteria for such a reduction' (*ibid.*). We are here confronted with the familiar problem of the assignment of allophones to phonemes and of allomorphs to morphemes. The only attempt of an analogous assignment of variants to units of a higher order is Trager and Smith's of allologs to words (*Outline* 59); a generalized statement comparable to Hjelmslev's on variants and invariants is my own on items and units (*cf. fn.* 11).

As an example of reduction of variants to invariants, Hjelmslev considers the phoneme as discussed by Daniel Jones and the Prague School. He favors the Prague School criterion of distinctive opposition (41, *OSG* 59) over Daniel Jones' criterion of 'the same "place" in the chain' (40, *OSG* 58), but reproaches all of 'conventional linguistics' that H reduction 'has been worked out seriously, however, only for the *figurae* of the expression plane. But to understand the structure of a language and to prepare the analysis, it is of the greatest importance to realize that this principle be extended so as to be valid for all other invariants of the language as well, irrespective of their degree or, in general, of their place in the system' (41, *OSG* 59). The 'principle' involved in the above is what Hjelmslev has since 1938 been calling the 'commutation test': 'There is a difference between invariants in the expression plane when there is a correlation (*e.g.*, the correlation between *e* and *a* in *pet—pat*) to which there is a corresponding correlation in the content plane' (*ibid.*), and vice versa for content invariants (42, *OSG* 60); 'if such a relation is not present, that is precisely the criterion for deciding that there are not two different signs, but only two different variants of the same sign' (41, *OSG* 60). 'The difference between signs and *figurae* in this respect is only that, in the case of signs, it will always be the same difference of content that is entailed by one and the same difference of expression, but in the case of *figurae* one and the same difference of expression may, in each instance, entail different changes between entities of content (*e.g.*, *pet—pat*, *led—lad*, *ten—tan*)' (41-2, *OSG* 60).

Bloomfield's definition of sameness as 'same vocal features' and 'same stimulus-reaction features' is the H substantive analog to the above strictly H formal identification procedure. Similarly, the Prague School's definition of the morpheme as a 'minimum meaningful unit' and the phoneme as 'minimum differentiative unit' are H substantive analogs of the H formally stated difference between H signs and H *figurae*.

Morphemes and phonemes are, however, analogous to signs and *figurae* on the plane of expression only. The division of signs into *figurae* must be conducted on the content plane as well, and 'the method of procedure will be exactly the same for the content plane as for the expression plane' (42, *OSG* 61). 'Just as exchanges between *sai*, *sa*, and *si* can entail exchanges between three different contents, so exchanges between the content-entities 'ram', 'he', and 'sheep' can

entail exchanges between three different expressions. 'Ram' = 'he-sheep' will be different from 'ewe' = 'she-sheep', just as *sl* will be different from, say, *fl*, and 'ram = he-sheep' will be different from 'stallion = he-horse', just as *sl* will be different from, say, *sn*. The exchange of one and only one element for another is in both cases sufficient to entail an exchange in the other plane in language' (44, *OSG* 63–4). The analysis of the content plane will have to be continued, similarly to that of the expression plane, 'until all inventories have been restricted, and restricted as much as possible' (45, *OSG* 65).

'Till now, such an analysis of the sign-content into content-figurae has never been made or even attempted in linguistics,' says Hjelmslev (42, *OSG* 61); that is why 'the analysis of content has appeared to be an insoluble problem' (*ibid.*). Many American linguists, following Bloomfield's lead, would agree to the latter statement, although their reasons for the 'insoluble problems' in H content analysis would probably be different from Hjelmslev's, and more like Bloomfield's.<sup>21</sup> As regards the initial assertion, I would point to Jakobson's *Beitrag zur allgemeinen Kasuslehre*<sup>22</sup> as an example to the contrary, where the attempt to dissolve grammatical meanings (roughly equivalent to H sign-content) into semantic features (roughly equivalent to H content-figurae) has been made, although his procedure and conclusions remain controversial.

The 'correlation and ... exchange within a paradigm that have relation to a corresponding exchange within a paradigm in the other plane of language' (46, *OSG* 66) is a commutation; correspondingly, 'we can imagine a relation and a shift within a chain in the other plane of language' (*ibid.*)—a permutation. Hjelmslev cites no examples of permutation; I should think that the positional difference between subject and object in English is a case in point (although Hjelmslev, in one of his least lucid passages, [*ibid.*] considers subject and object in a different light): the H sign-expressions *The man loves the boy* permuted to *The boy loves the man* entail a corresponding shift in H content (in this case, grammatical meaning). In grammar at least I would be willing to venture that H commutation can be applied to morphemes with what Voegelin calls 'uniquely marked' and 'paradigmatically marked' meaning, and permutation primarily to 'inferentially marked meaning.'<sup>23</sup>

**2.6. Language and parole** (§§15–16, pp. 48–54; *OSG* 67–76). Hjelmslev's point of departure is here the purport, which in itself 'is unformed; ... if boundaries should be found here, they would lie in the formation, not in the purport' (48, *OSG* 69). It is therefore, 'impossible to take the purport ... as the basis for linguistic description' (*ibid.*), and the 'non-linguistic stuff, the so-called substance' (49, *OSG* 70) has to be described independently of the form which is the only subject of linguistic description. 'Linguistics must then see its main task in establishing a science of the expression and a science of the content on an internal and functional basis' (50, *OSG* 71); it must become a discipline 'whose

<sup>21</sup> *Language* 139 (New York, 1933): 'In order to give a scientifically accurate definition of meaning for every form of a language, we should have to have a scientifically accurate knowledge of everything in the speaker's world.'

<sup>22</sup> *TCLP* 6.240–88 (1936).

<sup>23</sup> Linguistically marked distinctions in meanings, *Indian tribes of aboriginal American* 230–3.

science of the expression is not a phonetics and whose science of the content is not a semantics. Such a science would be an algebra of language' (ibid.). In order to 'mark its difference from previous kinds of linguistics ... we call it *glossematics*' (51, *OSG* 72).

These formulations are reminiscent of recent American points of view; Hjelmslev himself cites several American references for 'a description of categories of the expression on a purely non-phonetic basis' (50 fn. 1). In *The field of linguistics*, Trager excludes both phonetics and semantics from linguistics proper ('microlinguistics') and places them in 'prelinguistics' and 'metalinguistics' respectively; similar views, though perhaps less concisely stated, have of course been prevalent for more than a decade. Trager's criterion for inclusion into microlinguistics is 'formal' and 'distributional', which approximates H expression-form, but does not take in H content-form. Algebraic and quasi-algebraic treatments of language abound in American linguistics—one need only think of Harris, of Hockett's Potawatomi,<sup>24</sup> and of Voegelin's morphological index method;<sup>25</sup> but I am not sure whether all of them would be purely H formal by Hjelmslev's criterion. Recent techniques of identifying allomorphs without regard to phonemic shape, by distribution alone, certainly come close to being H formal in the strictest sense.

Purport is formless, however, only from the standpoint of linguistics; the 'non-linguistic analysis of the purport ... leads ... to ... a "form" essentially of the same sort as the linguistic "form", although of non-linguistic nature' (51, *OSG* 72), and finally 'to the recognition of a non-linguistic hierarchy, which has function to the corresponding linguistic hierarchy' (51, *OSG* 73). The non-linguistic hierarchy, called 'linguistic usage', is said to 'manifest' the linguistic hierarchy, called 'linguistic schema'. This is reminiscent of the conception of allophones 'implementing' phonemes in Jakobson-Fant-Halle's *Preliminaries to speech analysis*;<sup>26</sup> it is also, although Hjelmslev does not say so here, the closest Hjelmslevian analog to the Saussurian langue-parole distinction (*Cours* 28–32).<sup>27</sup>

Hjelmslev subsequently discusses 'variants in the linguistic schema' (§16, pp. 52–4; *OSG* 73–6), which he divides in the customary manner into bound, called 'varieties', and free, called 'variations'. This division is important not only on the plane of expression, but on the plane of content as well. 'All so-called contextual meanings manifest [NB] varieties, and special meanings beyond these manifest variations' (52, *OSG* 14). This recognition of contextual and free variation of linguistic meaning may aid in a linguistic statement of meaning by leading towards an isolation of the H invariants of meaning, i.e. possible structural meaning units. Karl Bühler's 'feldfremd' (roughly context-derived) characteristics of the sign<sup>28</sup> are a step in that direction; American linguists have

<sup>24</sup> *IJAL* 14.1–10, 63–73, 139–49, 213–25 (1948).

<sup>25</sup> As exemplified in my Kutenai III, *IJAL* 14.171–87 (1948), and in W. L. Wonderly's Zoque III, *IJAL* 17.137–62 (1951).

<sup>26</sup> MIT technical report No. 13 (1952); see also my review, cited in fn. 5.

<sup>27</sup> See also R. S. Wells, De Saussure's system of linguistics, *Word* 3.15–8 (1947).

<sup>28</sup> *Sprachtheorie* 183–4 (Jena, 1934).

in general focused on the contextual variability of meaning rather than any possible invariance (cf. Fries, *Structure* passim, for listings of H varieties on the plane of content). Recently, Henri Frei<sup>29</sup> has discussed an analog of H content variants in a strictly Saussurian setting, under the heading of 'variétés sémantiques'.

A point on which Hjelmslev differs from many Saussurians is the assignment of variants to the 'linguistic schema'; phonetic variants, for instance, are called 'sons de la parole' by Trubetzkoy.<sup>30</sup> Hjelmslev's point of view is not quite clear to me either; he calls his variants 'specimens' of the invariants (39, *OSG* 56), which would seem to imply that only the invariants are properly H formal, i.e. part of the schema, whereas the variants are H substantive instances of the occurrence of the invariants.

**2.7. Neutralization** (§§17–18, pp. 54–60; *OSG* 76–83). This favored concept of the Prague school<sup>31</sup> appears in Hjelmslev's glossematics under the name 'suspension' and is defined as 'the fact that the commutation between the two invariants may be suspended under given conditions' (56, *OSG* 78), much as happens with the neuter nominative and accusative in Latin, or with final devoicing in Danish (or, for that matter, in German or Czech). A 'suspension' in the sequence is called an 'overlapping'; 'the category that is established by an overlapping we call (in both planes of language) a *syncretism*' (56, *OSG* 79). On the phonemic level, the closest to the Hjelmslevian concept is the 'archiphoneme' of the Prague School; but H suspension includes the morphological analog as well, as evidenced by the Latin example. The only parallel to this that I can think of is my own 'neutralisation grammaticale';<sup>32</sup> the Prague School has to my knowledge not extended the 'neutralization' concept beyond phonemics, and American linguists as a rule disregard neutralization altogether.<sup>33</sup>

The conditioning factor of an overlapping is a variant. For instance, 'the entity whose presence is a necessary condition for the overlapping between *p* and *b*, is the variety of central part of a syllable that is solidary with a following *p/b*' (ibid.); the variant is then said to 'dominate' the overlapping. I understand this to mean that overlapping occurs in a given position, which by Hjelmslev is stated in terms of the particular positional variant adjacent to the position in question.

On this basis, Hjelmslev differentiates between 'an *obligatory* dominance ... in which the dominant in respect of the syncretism is a *variety* [i.e. positional variant], and a *facultative* dominance ... in which the dominant ... is a *variation* [i.e. free variant]' (57, *OSG* 80). This avoids giving a 'real' definition which for

<sup>29</sup> Langue, parole et différenciation, *Journal de psychologie* 1952.137–57, esp. 144–5.

<sup>30</sup> *Grundzüge der Phonologie* = *TCLP* 7 (Prague, 1939). Here cited from the French translation by J. Cantineau, *Principes de phonologie* 5 (Paris, 1949). All page references are to the latter version.

<sup>31</sup> Cf. Trubetzkoy, *Principes* 246–61; A. Martinet, Neutralisation et archiphonème, *TCLP* 6.46–57 (1936).

<sup>32</sup> L'obviation en Kutenai—échantillon d'une catégorie grammaticale amérindienne, *BSL* 47.1.212 (1951).

<sup>33</sup> An extreme opinion: W. B. S. Smith, *SIL* 8.6 (1950).

'concepts like facultative and obligatory would ... necessarily presuppose a concept of sociological norm, which proves to be dispensable throughout linguistic theory' (ibid.).

Here is one statement of Hjelmslev's with which one can take issue. Most American linguists have accepted as one of their basic assumptions the statement that language is part of culture;<sup>34</sup> this implies some assumption of a 'sociological norm'—'cultural' would probably be the preferred adjective—determining the habit pattern which constitutes or underlies speech behavior. Hjelmslev's general point of view, incidentally, is not irreconcilable with the concept of 'norm'. I have recently pointed out (*Lg.* 29.474–5) that linguistic structure can be considered a set of 'social norms' in the sense in which the social psychologists use the term; as far as I can see, H form is quite analogous to 'structure' in this sense, and hence the equation H form = 'social norm' is not impossible. The question whether such an equation can be dispensed with is not soluble, I believe, within the Hjelmslevian system; it hinges on the larger problem of the place of linguistics in the sciences. I shall return to this later.

**2.8. Interpolation of 'missing links' of the structure** (§§19–20, pp. 60–1; *OSG* 83–6). Since 'the analysis consists in the registration of functions ... the possibility must be foreseen that [this] may, by virtue of the solidarity [i.e. mutual presupposition] between function and functive, oblige us to interpolate certain functives which would in no other way be accessible to knowledge. This interpolation we call *catalysis*' (60, *OSG* 84–4). The specific function which is here concerned is H determination, i.e. the presupposition of one term by another but not vice versa. Hjelmslev's example is the Latin preposition *sine*, which governs the ablative: 'the presence of an ablative in the text is a necessary condition for the presence of *sine* (but not *vice versa*)' (60, *OSG* 84). If an ablative form is absent by some 'incalculable accident in the exercise of language' (ibid.), such as a damaged ms., this 'prerequisite for *sine* may be interpolated' (ibid.), provided no more is interpolated 'in the text than what there is clear evidence for' (ibid.). This will in most cases be 'not some particular entity, but an irresoluble syncretism [i.e. one of which the specific representative cannot be inferred] between all the entities that might be considered possible in the given "place" in the chain' (61, *OSG* 85). In the case of *sine*, this would be an ablative, but not some particular ablative. Catalysis applies not only to cases of textual reconstruction as implied above, but also to 'both aposiopesis and abbreviation' (60, *OSG* 84), and, I suppose, any other kind of 'incomplete utterance'. I have proposed an alternative interpretation of 'elliptic speech' or 'incomplete verbal responses' in an article called Referential adjustments and linguistic structure,<sup>35</sup> namely in terms of the 'field-derived characteristics' of the linguistic sign (i.e. those inferred from the context and the speech situation); this is based on Bühler's conceptual system (cf. fn. 28) and is undoubtedly H transcendent. Later (and admittedly influenced by *OSG*) I used interpolation to analyze 'syntactically isolated' cases of a morpheme that normally presupposes a

<sup>34</sup> Most emphatically Hockett, *Language 'and' culture: A protest*, *AA* 52.113 (1950).

<sup>35</sup> *AL* 4.59 (1944), issued 1948.

governing construction of some sort ('obviatif syntaxiquement isolé', *BSL* 47.203–4); it is a useful concept.

Catalysis is, however, not just another useful concept, but the 'kernel of [the] procedure' (61, *OSG* 86) by which, through textual analysis, H form is recognized 'behind the substance immediately accessible to observation by the senses, and behind the text a language (system)'. The form is interpolated on the basis of the substance, and the system on the basis of the text. This follows clearly from the two H determinations that substance presupposes form (which to me is implied by the fact that the purport is FORMED into substance; 32, 35, *OSG* 48, 51), and that the process presupposes the system (so stated by Hjelmslev, 24, *OSG* 36).

This point is not much elaborated by Hjelmslev, but deserves attention since it has bearing on the recent 'hocus-pocus' versus 'God's truth' discussion. There can probably be general agreement on the assertion that the linguist indeed interpolates, or infers, a linguistic system (an H system and an H form) on the basis of observed speech behavior or written records (an H text and an H substance). The discussion I believe revolves around the status of this inference: is it based on the linguist's judgment only, or is it implicit in the data themselves? If one accepts the non-uniqueness of linguistic solutions, then the linguistic system has only 'hocus-pocus' status and varies with the investigator; this is certainly not Hjelmslev's point of view, since his 'catalysis' is based on the logical primacy (if I am interpreting H determination correctly) of H form and H system respectively. To Hjelmslev of course, since theory includes 'no existence postulate' (8, *OSG* 14), logical primacy does not imply 'existence' or 'reality' of any sort; but this is a matter of epistemology, and with a different theory of cognition the implication can be asserted.

Finally, H catalysis implies to me a statement of linguistic predictability: given a set of conditions (a context, stretch of speech, H substantive manifestation), we can predict which class of possible interpolated entities can occur, and which cannot. If prediction is the major desideratum for science, linguistics can strengthen its case for being considered a science by justly claiming for itself the ability to predict patterns on the basis of seemingly random occurrences of noise, and to predict pieces of pattern on the basis of previously ascertained pieces of pattern.

Extended beyond the limits of synchrony (treated in a Hjelmslevian manner or otherwise), something akin to catalysis has been used to almost predict linguistic change on the basis of properties of the system which indicate the absence of PRESUPPOSING elements ('gaps in the pattern') and which thus create the conditions for interpolating units not yet there.<sup>36</sup> Units soon to be lost,<sup>37</sup> I suppose, could be 'predicted' by a sort of 'reverse catalysis' based on the

<sup>36</sup> Cf. A. Martinet, *Function, structure, and sound change*, *Word* 8.1–32 (1952); Roman Jakobson, *Prinzipien der historischen Phonologie*, *TCLP* 4.247–67 (1931).

<sup>37</sup> Cf. Martinet, *Word* 8.1–32 (1952); and a recent case study by Josef Vachek, *Foném h/x vývoji angličtiny* [The phoneme h/x in the development of English], *Sborník prací Filosofické fakulty Brněnské university*, *Ling. series* 1.121–34 (1952).



absence or weakenings of PRESUPPOSED elements or functions in the system. Such treatments of linguistic history are as yet far from generally accepted, but in this context it seems important that they can be fitted into the Hjelmslevian scheme of things linguistic.

**2.9. Extreme units of the analysis** (§20, pp. 61–5; *OSG* 86–90). The linguistic H deduction must be carried out with equal exhaustiveness at every step: ‘the analysis must move from the invariants that have the greatest extension conceivable to the invariants that have the least extension conceivable, so that between these two extreme points as many derivative degrees are traversed as possible’ (62, *OSG* 87). In this, H analysis ‘differs essentially from the traditional one. For the latter is concerned neither with those parts of the text that have very great extension nor with those that have very small extension. An explicit or implicit tradition has it that the work of the linguist begins with dividing sentences into clauses, while it is thought possible to refer the treatment of large parts of the text, groups of sentences and the like, to other sciences’ (*ibid.*).

The criticism applies in full to prestructuralist linguistics, less so to the Prague School and (more recently) to American structuralists. The ties of the Prague linguists to literary criticism and the analysis of the ‘language of literature’<sup>38</sup> lead them to deal with entire texts. Harris’ discourse analysis of course postdates *OSG*; Harris deals with whole texts, but not with texts ‘of a very large or unrestricted extension’ (63, *OSG* 87). A. A. Hill, who in this country has approached literature from a linguistic point of view, has likewise mainly dealt with specific texts of limited extension.<sup>39</sup>

The important question is, however, not one ‘of practical division of labor, but of the placing of objects by their definitions’ (*ibid.*). That is, ‘unrestricted texts’ have to be subjected to H analysis (which is to say, linguistic analysis proper) as well as parts of the text, such as sentences, clauses, and the like.

The various attempts by other linguists to deal with large or even unrestricted texts (the Prague School even with entire literary traditions) do not use a treatment comparable to H analysis—and, I believe, with good reason. I think it can properly be asserted that linguistic analysis in the strict sense stops at the sentence boundary; this is certainly implicit in Bloomfield’s definition of the sentence as a ‘minimum free utterance’, which has at least in part been empirically validated by Fries (*Structure* 9–28). Anaphoric and similar dependences are often cited as evidence of the grammatical relationship of one sentence to another; it can be countered, however, that such dependences can exist quite similarly between a single sentence and the extralinguistic situation (e.g. anaphoric ‘he’ can refer to either a preceding sentence or a situation). A detailed analysis of a set of syntactic relationships in Kutenai has led me, from a vague definition of the sentence as some sort of independent unit, to defining it speci-

<sup>38</sup> Cf. Jan Mukařovský, *Jazyk spisovný a jazyk básnický* [Standard language and poetic language], *Spisovná čeština a jazyková kultura* 123–56 (Prague, 1932); *id.*, *Kapitoly z české poetiky* [Chapters from Czech poetry] (3 vols.; Prague, 1948). For some recent comment in English, see Viktor Erlich, *The Russian formalist movement*, *Partisan review* 1953.282–96.

<sup>39</sup> Cf., most recently, A sample literary analysis, *Georgetown University monograph series on languages and linguistics* 4.87–93 (1953).

fically as the maximum framework for one of the significant grammatical agreements in the language (*BSL* 47.177–8 and 207). Whereas, therefore, Hjelmslev admits an initial partition of an unrestricted text on the basis of all three of his fundamental H dependences (interdependence, determination, constellation), I would venture to say that the sentences in a text are in a relationship of H constellation only: none of them presupposes another, since each is potentially at least a self-contained unit. This does not mean to deny that in large, specially organized texts, such as essays and poems, dependences other than constellation exist beyond the framework of the sentence; but the basic function in terms of which they are constituted has, by the Prague linguists for instance, been differentiated from the ordinary communicative sign function and identified as the special ‘poetic function’ (cf. Mukařovský, *Jazyk* 126–8).

In the other direction, linguistic analysis should likewise ‘lead ... to entities of smaller extension than those which up to now have been viewed as the irreducible invariants. This is true not merely in the content plane, where we have seen that conventional linguistics is very far from having carried the analysis to the end, but also in the expression plane’ (63, *OSG* 88). On both planes, the ultimate units of the segmental analysis will be ‘taxemes’, which on the expression plane are roughly equivalent to phonemes. These taxemes can, however, be further partitioned: ‘when a taxeme inventory is “set up into a system” the logical consequence is a further partition of the individual taxeme’ (64, *OSG* 89): the resulting ‘end-points’ are ‘glossemes’, ‘and if we assume that one taxeme of expression is usually manifested by one phoneme, then a glosseme of expression will usually be manifested by a part of a phoneme’ (*ibid.*).

Although Hjelmslev—to judge from his statement that ‘traditional [analysis] ... is [not] concerned ... with those parts ... that have very small extension’ (62, *OSG* 87)—does not seem to think so, it strikes me that his ‘glossemes of expression’ correspond rather closely to the American ‘simultaneous components’<sup>40</sup> or the Prague School’s ‘distinctive features’,<sup>41</sup> ‘Distinctive features’ differ from glossemes, of course, by being H substantive in character (as Prague School phonemics are in general);<sup>42</sup> nonetheless, they constitute ultimate units of a comparable H derivative degree.

One part that remains totally unclear to me in the discussion of ‘taxemes’ and ‘glossemes’ is where the previously defined ‘figurae’ fit in. They seem to be the same as ‘taxemes’, but are they?

**3. The relationship of language to non-language** (§§21–23, pp. 65–82; *OSG* 90–112). The *Prolegomena* conclude with a discussion which—under such names as ‘metalinguistics’, ‘exolinguistics’, ‘language, culture, and personality’—is now again in the center of American linguistic interest. Having begun with the clarion call for an ‘immanent’ linguistics, Hjelmslev now attempts to integrate it ‘into a more general epistemological setting’ (65, *OSG* 90).

<sup>40</sup> Cf. Z. S. Harris, *Simultaneous components in phonology*, *Lg.* 20.181–205 (1944).

<sup>41</sup> Cf. Jakobson–Fant–Halle, *Preliminaries*, and my review thereof.

<sup>42</sup> See, for instance, J. Vachek, *Yaleská škola strukturalistické fonologie* [The Yale school of structuralist phonology], *Slovo a slovesnost* 11.36–44 (Prague, 1949), with strong emphasis on the phonetic characteristics of phonemes.

First of all, since linguistic theory 'is so constructed that linguistic form is viewed without regard for "the substance" (purport)' (65, *OSG* 91), it can be applied to 'any structure whose form is analogous to that of a "natural" language' (*ibid.*)—that is, to other sign systems.

Second, from this 'it further follows that "substance" cannot in itself be the definiens for a language' (66, *OSG* 91): the definiens is form. 'We must be able to imagine as ordered to one and the same linguistic form substances which ... are essentially different; the arbitrary relation between linguistic form and purport makes this a logical necessity' (*ibid.*). Thus, 'it is possible to replace the usual sound-mimicry-gesture substance with any other that offers itself as appropriate' (66, *OSG* 92), such as writing and flag codes.

Hjelmslev counters the objection that writing is secondary to speech by stating that 'the fact that a manifestation is "derived" in respect of another does not alter the fact that it is a manifestation of the given linguistic form' (67, *OSG* 93): the objection that 'a different "substance" is accompanied in many instances by a changed linguistic form' (66, *OSG* 92) is considered 'irrelevant because it does not alter the general fact that a linguistic form is manifested in the given substance' (67, *OSG* 93), but is held 'interesting ... in showing that different systems of expression can correspond to the same system of content' (*ibid.*).

Because of the arbitrary relation of H form and H substance, 'various phonetic usages and various written usages can be ordered to the expression system of one and the same linguistic schema' (*ibid.*); there is an apparent contradiction between this statement and the immediately preceding one regarding 'different systems of expression' corresponding to 'the same system of content'. Thus, purely phonetic changes can occur without affecting the 'expression system', and purely semantic changes without affecting the 'content system'. 'Only this way is it possible to distinguish between *phonetic shifts* and *semantic shifts* on the one hand, and *formal shifts* on the other' (67, *OSG* 94).

All this is possible because linguistic analysis is to be a 'general calculus' where 'there is no question whether the individual structural types are manifested, but only whether they are manifestable and, *nota bene*, manifestable in any substance whatever' (68, *OSG* 94); therefore linguistic theory must 'consider as [its] subject, not merely "natural", everyday language, but any semiotic—any structure that is analogous to a language' (*ibid.*), that is, any sign system. Sign systems other than 'natural' languages presumably differ in that they are 'manifested', or are capable of being 'manifested', in a different H substance, while essentially having H forms analogous to those of 'natural' languages. What Hjelmslev intends by his insistence on 'any substance whatever' is not clear to me, since it would follow from the glossematic principles (or should be included in them, whichever you prefer) that not every substance is capable of being formed linguistically, or being formed in a manner analogous to the linguistic.

The inclusion of 'natural' language among the semiotics is admittedly a development of de Saussure's conception of linguistics as part of 'la sémiologie' (*Cours* 33); but Hjelmslev seeks to rid this more general discipline of the 'essen-

tially sociological and psychological basis' (69, *OSG* 96) on which de Saussure had placed it, and to establish it 'on an *immanent* basis' (ibid.). This will lead to 'both the possibility and the necessity ... of an intimate collaboration between linguistics and logistics' (ibid.). 'In a new sense, then, it seems fruitful and necessary to establish a common point of view for a large number of disciplines [dealing with various semiotic aspects of culture] ... concentrated around a *linguistically defined setting of problems*' (ibid., italics mine).

There is a remarkable similarity between this and Trager's equally language-centered conception of 'metalinguistics': 'Metalinguistics is then a greatly expandable field of science,' says Trager, 'which can come to serve as the means whereby linguistics, and language, can become the tool for the scientific description (= measurement) of all phenomena in the universe. Its data will serve to connect the physical and biological sciences on the one side with linguistics, and the latter with the other social sciences (and humanities) on the other side' (*Field of linguistics* 8). Certainly Hjelmslev has in this respect departed very far from de Saussure, who modestly subordinates linguistics to the more general discipline; he has done this because his is 'a theory which is minimally specific' (65, *OSG* 91) and therefore has wider applicability than the object for which it was originally designed, 'natural' language.

What, then, is the place of language among all the 'semiotics', and what differentiates 'semiotics' from 'non-semiotics'?

Language is the one semiotic 'into which all other semiotics may be translated—both all other languages and all other conceivable semiotic structures. This translatability rests on the fact that languages, and they alone, are in a position to form any purport whatsoever' (70, *OSG* 97). As Sapir puts it, 'language is a perfect symbolism of experience'.<sup>43</sup> This 'remarkable quality' of language is probably based on 'the unlimited possibility of forming signs and the very free rules for forming units of great extension' (ibid.).

The criterion that separates semiotics from closely similar non-semiotics ('quasi-semiotics') is 'whether an exhaustive description of them necessitates operating with two planes [as is the case with a true semiotic], or whether the simplicity principle can be applied so far that operation with one plane is sufficient' (71, *OSG* 99). The latter situation obtains if the plane of expression and the plane of content have 'a one-to-one relation between the functives of the one plane and the functives of the other' (72, *OSG* 99)—that is, if they are 'conformal'. Semiotics, including languages, are non-conformal; an object can be tested for being a semiotic by the 'derivative test', which establishes whether its possible 'planes' are 'conformal'. Languages and some other semiotics give negative results for the 'derivative test'; on the other hand, 'the derivative test has positive results for many of the structures which modern theory has favored calling semiotics ... [such as] pure games, in the interpretation of which there is an entity of content corresponding to each entity of expression (chess-piece or the like), so that if two planes are posited the functional net will be entirely the same in both' (72, *OSG* 100). For the latter type of structures the

<sup>43</sup> *Selected writings of Edward Sapir* 12 (ed. D. G. Mandelbaum; Berkeley and Los Angeles, 1949).

term 'symbolic systems' is proposed (*ibid.*); their basic characteristic is that they do not allow 'the further analysis into *figurae* that is characteristic of [the] signs [of a semiotic]' (73, *OSG* 100–1).

'Natural' language is a '*denotative semiotic*, by which [is meant] a semiotic none of whose planes is a semiotic' (73, *OSG* 101); there exist also 'semiotics whose expression plane is a semiotic and semiotics whose content plane is a semiotic. The former [shall be called] *connotative semiotics*, the latter *metasemiotics*' (*ibid.*).

'Connotative semiotic' serves as the heading under which Hjelmslev discusses the identifying function of style, social dialect, language, idiolect, and the like: 'it is the semiotic schema(*ta*) and usage(s) which we designate as the Danish language that are *expression for* the connotator [i.e. the content plane of a 'connotative semiotic'] "Danish". Likewise it is the semiotic schema(*ta*) and usage(s) which we designate as the linguistic physiognomy [roughly idiolect] N.N. that are *expression for* the real physiognomy N.N. (that person), and correspondingly in all other cases' (76, *OSG* 105). The 'connotative semiotic' can thus be described in non-Hjelmslevian terms as the linguistic, dialectal, idiolectal pattern itself, functioning as a signal of the non-linguistic cultural fact associated with it; the identification of a person's regional origin (or identity) by his speech is an example of a 'connotative semiotic' in its 'usage' (cf. Trager and Smith, *Outline* 82–6).

A 'metasemiotic', on the other hand, is roughly equivalent to the 'metalinguage' of the logicians, that is, 'a semiotic that treats of a semiotic; in our terminology this must mean a semiotic whose content is a semiotic. Such a metasemiotic linguistics itself must be' (*ibid.*).

Using the concept of 'operation', Hjelmslev then subdivides 'semiotics' into 'scientific semiotics', which are operations, and 'non-scientific semiotics', which are not; a 'connotative semiotic' is now redefined as 'a non-scientific semiotic one or more (two) of whose planes is (are) (a) semiotic(s), and a *metasemiotic* as a scientific semiotic one or more (two) of whose planes is (are) (a) semiotic(s). The case that usually occurs in practice is, as we have seen, that *one* of the planes is a semiotic' (77, *OSG* 106).

This allows Hjelmslev to 'define a *meta-(scientific semiotic)* as a metasemiotic whose object semiotic is a scientific semiotic (a semiotic that enters as a plane into a semiotic is said to be the *object-semiotic* of that semiotic)' (*ibid.*); this brings another aspect of symbolic logic within the reach of glossematics. Furthermore, 'in conformity with Saussure's terminology we can define a *semiology* as a metasemiotic whose object semiotic is a nonscientific semiotic. And finally, we can use the designation *metasemiology* of a meta-(scientific semiotic) whose object semiotics are semiologies' (*ibid.*). Thus, the operations of which mathematics consists would be a scientific semiotic, and the 'language of mathematics' would be a meta-(scientific semiotic); language, if I understand Hjelmslev correctly, is a non-scientific semiotic, and therefore linguistics is a semiology. This leaves us with the problem of more closely defining the 'metasemiology' of linguistics.

'Usually,' says Hjelmslev, 'a metasemiotic will be (or can be) wholly or partly

identical with its object semiotic. Thus the linguist who describes a language will be able to use that language in the description' (ibid.). In order to avoid a repetition of the results of 'semiology' (in this case, linguistics) by 'metasemiology' (should I say H metalinguistics?), the latter 'must therefore direct its interest, not toward the language, already described by semiology, which semiology uses, but toward the eventual modification of it or additions to it which semiology has introduced to produce its special jargon ... the special *terminology* of semiology' (78, *OSG* 107). What Hjelmslev is driving at, then, is a linguistic analysis of the terminology of, say, linguistics, which ultimately means 'to subject the minimal signs of semiology ... to a relational analysis according to the same procedure that is generally prescribed for the textual analysis' (79, *OSG* 108). This means that the final entities of the analysis, which are unanalyzable within the bounds of the 'semiology' (i.e. of linguistics) now become analyzable in 'metasemiological' terms: 'the ultimate variants of a language are subjected to a further, particular analysis on a completely physical basis. *In other words, metasemiology is in practice identical with the so-called description of substance*' (79, *OSG* 109), namely, 'of the *things* which appeared for semiology as irreducible individuals (or localized entities) of content and of the *sounds* (or written marks, etc.) which appeared for semiology as irreducible individuals (or localized entities) of expression' (80, *OSG* 109). This is analysis of cultural referents on one hand, and of phones or graphs on the other; it is to be continued until the 'sought-for clarification by reasons and causes must give way to a purely statistical description as the only possible one: the final situation of physics and deductive phonetics' (80, *OSG* 110). 'Metasemiology' thus becomes comparable to both Trager's 'prelinguistics' and perhaps, to coin a new term in Trager's vein, a kind of physical 'pre-anthropology'; the H deduction by which Hjelmslev arrives at it is not quite clear to me.

To each 'connotative semiotic' 'can and must also be added ... a metasemiotic, which further analyzes the final objects of the connotative semiotic' (ibid.). This metasemiotic will treat the 'content-purports attached to nation (as content for national language), region (as content for regional language), ... personality (as content for physiognomy ...) ... etc.' (ibid.); the social sciences will hence have the status of 'metasemiotics' of 'connotative semiotics'.

Thus Hjelmslev's theory, which first eliminates all extralinguistic considerations, reintroduces them by an extension of the H formal analysis to 'connotative' and 'metasemiotics': 'all those entities which in the first instance, with the pure consideration of the schema of the object semiotic, had to be provisionally eliminated as non-semiotic elements, are reintroduced as necessary components into semiotic structures of a higher order. Accordingly, we find no non-semiotics that are not components of semiotics [by being, for instance, their content], and, in the final instance, no object that is not illuminated from the key position of linguistic theory' (ibid.). This theory, however, is no longer properly linguistic in the sense that most American linguists attach to this word, but is probably closer to the logician's conception of 'science as a language'.<sup>44</sup>

<sup>44</sup> Cf. Rudolf Carnap, *The logical syntax of language* 281-4 (New York, 1937).

Hjelmslev ends the *Prolegomena* on a Hegelian note: 'instead of hindering transcendence, immanence has given it a new and better basis; immanence and transcendence are joined in a higher unity on the basis of immanence' (81, *OSG* 112)—thesis, antithesis, and synthesis!

4. **Critique of glossematics.** *OSG* has been reviewed and discussed by a number of European linguists<sup>45</sup> and by one American linguist then still in Europe.<sup>46</sup> Of these, Vogt takes an essentially wait-and-see attitude, noting the significance of the work and holding his judgment in abeyance until one can 'voir la théorie appliquée à l'analyse d'un état de langue donné' (98). Hammerich rejects glossematics entirely, considering it a 'recherche du temps perdu' (21). Other reviewers, while hailing *OSG* as an important contribution, complimenting its logical cohesiveness, and deploring its terminological complexity, take issue with Hjelmslev on the following points: the arbitrary relation of form and substance (Fischer-Jørgensen, Martinet, Hintze, Bazell), content figurae (Martinet, Fischer-Jørgensen, Bazell), rejection of the social norm (Hintze, Skalička). All of these points, I believe, deserve some comment; in addition, as Wells has already observed (*Lg.* 27.555), Hjelmslev, to be properly understood, must be viewed in his Saussurian setting.

4.1. **Hjelmslev as a Saussurian.** The three schools of thought that have, in part or entirely, taken their inspiration from de Saussure's *Cours*, have made different phases of it their point of departure: the Geneva group has adhered closely to the letter of the law (sometimes to the extent of an almost philological exegesis of the *Cours*), and has often stressed de Saussure's mentalistic psychology;<sup>47</sup> the Prague School has made the langue-parole distinction its center of interest, assigning phonetics and phonemics to 'langue' and 'parole' respectively, (cf. Trubetzkoy, *Principes* 4-7); Hjelmslev, finally, has concentrated on de Saussure's conception of language as a system of values, and has elaborated the Saussurian dictum that 'la langue' is 'une forme, non une substance' (*Cours* 169). It is clear, however, that this is a one-sided interpretation of the Saussurian concept of langue. Henri Frei, in a recent article (see fn. 29), has pointed out that the langue-parole distinction was by de Saussure intended to be dual: 'langue' contrasts with 'parole', on the one hand as a social institution versus individual behavior, and on the other as a system of values—distinctive elements—versus nondistinctive variants. Hjelmslev bases glossematics on the latter dichotomy only, and rejects the former. It is worth noting that the Prague School likewise rejects a crucial Saussurian concept, namely that diachronic linguistics deals with 'parole' (as early as 1928, in the Jakobson-Tru-

<sup>45</sup> Eli Fischer-Jørgensen (in Danish), *Nordisk tidsskrift for tale og stemme* 7.81-96 (1944); Hans Vogt (in French), *AL* 4.94-8 (1944); C. E. Bazell (in English), *Archivum linguisticum* 1.89-92 (1949); L. L. Hammerich, *Les glossématisés danois et leurs méthodes*, *Acta philologica scandinavica* 21.1-21 (1950); Fritz Hintze, *Zum Verhältnis der sprachlichen 'Form' zur 'Substanz'*, *Studia linguistica* 3.86-105 (1949); V. Skalička, *Kodaňský strukturalismus a pražská škola*, *Slovo a slovesnost* 10.135-42 (1948).

<sup>46</sup> A. Martinet, *Au sujet des Fondements de la théorie linguistique de Louis Hjelmslev*, *BSL* 42.1.19-42 (1946).

<sup>47</sup> Cf. Charles Bally, *Le langage et la vie* 156 (Geneva, 1952): 'une linguistique qui s'inspire des idées saussuriennes doit—nous l'avons vu—tout ramener à la conscience intérieure que nous avons de la langue.'

betzkoy–Karcevski theses at the 1st International Congress of Linguists at the Hague).<sup>48</sup> The Geneva group alone accepts the entirety of de Saussure's teaching without criticism (and defends the 'Maître genevois' against the criticism of others).<sup>49</sup>

Hjelmslev's Saussurian orientation, unlike that of some of his Swiss colleagues, but like that of the Prague linguists, is original and productive, leading to an elaborate systematization which draws initially on Saussurian thought, but gradually comes closer to the formulations of modern logicians.

**4.2. The arbitrary relation of form and substance.** Hjelmslev's conception of form as independent of substance is close to the logical concept of 'pure form', as defined, for instance, by Susanne K. Langer: "*Logical form*" means "*structure*" or the way a thing is put together ... an orderly arrangement of parts ... distinguished from ... "*content*" (= H substance).<sup>50</sup> This conception has been most consistently challenged by Hjelmslev's reviewers (see above); the most extensive critical analysis, from the standpoint of Gestalt psychology, is contained in Hintze's paper.

Two major arguments have been brought up against the glossematic conception: that two H substances (for instance, speech and writing) cannot equivalently manifest the same H form (Bazell, 91);<sup>51</sup> and that the phonetic H substance in particular has a definite bearing on the H formal relationships that are manifested by it, as is evinced by phonetic classifications of phonemes such as correlations (Hintze, 95–6), and by the need of phonetic criteria for 'sameness' in phonemics (Fischer-Jørgensen, 91–2; Martinet, 37–8).

In regard to the non-equivalence of writing and speech, Bazell marshals evidence for both of the propositions that Hjelmslev rejects in this respect: writing 'may be regarded as secondary for purely synchronic reasons: for instance the fact that certain letter-combinations are not found in a given language may be immediately comprehensible if we know the acoustic features they symbolize, whereas a study of graphic features would throw no light on the possibilities of phoneme-combination' (91); also, in many languages 'we should have to deal with graphic and phonic systems that are asymmetrical to each other in the same way as both [are] asymmetrical to the content-system' (92). Both of Bazell's observations seem to me to apply to English, and to be valid criticisms.

Vachek—who does not refer to Hjelmslev in his paper—brings out two significant differences between the structure and function of speech and those of writing. (1) Both are systems of signs, but speech is manifested acoustically and its function is to respond to a stimulus dynamically (i.e. quickly and readily), whereas writing is manifested graphically and its function is to respond in a static way (i.e. permanently and deliberately; 67). This is an H transcendent observation, but nonetheless valid. (2) Spoken utterances are one-dimensional, written utterances are two-dimensional (sometimes even three-dimensional:

<sup>48</sup> *Actes du 1er Congrès international de linguistes* 35 (Leiden, 1929).

<sup>49</sup> See *Cahiers Ferdinand de Saussure* 4.65–9 (1944); 9.7–28 (1950).

<sup>50</sup> *Introduction to symbolic logic*<sup>2</sup> 42 (New York, 1953).

<sup>51</sup> See also the interesting discussion by Vachek, *Written language and printed language*, *Recueil linguistique de Bratislava* 1.67–74 (1948).



Vachek here undoubtedly is thinking of such things as script in relief; 68). Here the difference is H immanent. Thus, speech and writing are clearly two different SYSTEMS, i.e. represent different H forms, not just different substances.

Hintze uses the Prague School concept of correlations as proof that an important H formal characteristic of the phonemic pattern is based on phonetic substance, and is not manifestable in another substance: 'Denken wir einmal das angeführte Beispiel Hjeldmslev's durch,<sup>52</sup> indem wir für die Formenelemente der Sprache etwa farbige Flaggen wählen. Also etwa: "rot" für *m*, "grün" für *i*, "gelb" für *t*. Eine Flaggenfolge "rot-grün-gelb" wäre einwandfrei das deutsche Wort *mit*, "grün-rot" folglich *im*, usw. Wählen wir für das auslautende *e* "blau", and für das lange  $\bar{i}$  (doch offenbar ein von *i* verschiedenes Formelement) "violett". Die Folge "rot-grün-gelb-blau" wäre also *mite* (Mitte), "rot-violett-gelb-blau" wäre also *mīte* (Miete). Welche Beziehung besteht nun zwischen "grün" and "violett", ausser der, dass sie verschieden sind? Wie kann in der anderen Substanz die Relation  $i : \bar{i}$ , die ja in der phonischen Substanz genau und eindeutig definierbar ist, zum Ausdruck gebracht werden?' (95). Hintze has here deliberately oversimplified his example, but the objection is valid for a fustier analysis of German as well. It could perhaps be countered by saying that Hintze's choice of colors was 'loaded'; he could have proposed light-green for *i* and dark-green for  $\bar{i}$ , and would then have had a correlation of 'darkness' corresponding one-to-one to the correlation of quantity which he adduces as evidence. But this counter is, to my mind, not valid, since other H substances in which the same language is manifested (such as writing, or real—not hypothetical—flag codes) use units which often cannot reflect correlative phonemic features in any way. Another alternative is to reject the concept of correlation; but most viable systems of phonemic classification are based at least in part on phonetic criteria, and such classifications could thus not be established 'bei einer Umsetzung in eine andere Substanzkategorie' (97).

The need for at least some phonetic criteria for the 'sameness' of phonemes is stressed by both Fischer-Jørgensen and Martinet. The former points out that 'the commutation test can lead us to recognize that a language has 15 different initial elements and 10 different final ones; but it cannot decide which goes together with which, whether, for instance, final *p* belongs with initial *p* or initial *t*' (92). Martinet accepts this, and adds to it that no one could predict whether a final *p* permuted into initial position (for instance by cutting and pasting a motion picture sound track) would remain identifiable (37).

A closely related point is made by Josef Vachek in another recent paper,<sup>53</sup> namely that the phonemes of speech and the graphemes of writing are differentiated on the basis of totally different features, inherent in the acoustic and in the graphic H substances respectively. Even if a case can be made out, in certain languages, for a general H formal equivalence of phonemes and (alphabetical) graphemes, there is no doubt that on the level of distinctive features

<sup>52</sup> Cited from Hjeldmslev, Über die Beziehungen der Phonetik zur Sprachwissenschaft (II), *Archiv für vergleichende Phonetik* 2.214 (1938).

<sup>53</sup> Some remarks on writing and phonetic transcription, *AL* 2.86-95 (1945/49).

we are dealing with two different kinds of systematizations, which must imply a separate H form for each H substance.

One other point. Hjelmslev includes navy flag codes as one of the possible H substances in which a 'natural' language can be manifested (66, *OSG* 92). It strikes me, however, that in the case of alphabetic flag codes and the like, we are not dealing with H semiotics at all, but with H symbolic systems. The plane of expression consists of flags and the like, while the plane of content consists of the letters of the alphabet, the two planes being H conformal. Hjelmslev makes no provision in his theory for a symbolic system whose plane of content is a semiotic.

For the Morse code, 'dot' and 'dash' could be considered figurae of the entire signs, which would make the two planes H non-conformal and the Morse code an H semiotic whose content plane is a semiotic (the letters of the alphabet)—i.e. a metasemiotic (cf. 73, *OSG* 101). On the other hand, since the Morse code, as far as I can see, is not an operation, it is also a non-scientific semiotic; and since it is a non-scientific semiotic one of whose planes is a semiotic, the Morse code is also a connotative semiotic (cf. 77, *OSG* 106). Thus, the Morse code introduces a serious logical contradiction into the part of Hjelmslev's theory that deals with language and non-language; for I imagine that the same object cannot very well at the same time be an H metasemiotic and an H connotative semiotic.

The Morse code can be a useful illustration from another standpoint as well. It is one of the few sign systems that can be manifested in any physically suitable H substance whatever, without any change in its H form: blinker light, marks on paper, different 'dot-and-dash' noises, lighter and harder knocks, etc. The Morse code is an H semiotic by virtue of having H figurae (the dots and dashes), but it differs significantly from other H semiotics in having completely unanalyzable H figurae, whereas the phonemes or graphemes of a language can be dissolved into some kind of distinctive features. As Vachek has pointed out, it is on the level of these features that phonemes and graphemes most clearly belong to different systems; it is here that the H substance most clearly asserts itself. We might therefore say that the relation of H form to H substance is COMPLETELY ARBITRARY (and subject to limitations of physical feasibility alone) ONLY FOR SUCH H SEMIOTICS AS LACK DISTINCTIVE FEATURES. In regard to other H semiotics, including language, I concur in the conclusions of Fischer-Jørgensen, Martinet, and Hintze, best formulated by the last: 'zwischen Form und Substanz besteht ein unauf lösliches Wechselverhältnis' (101).

**4.3. Content figurae.** The criticisms leveled at the concept of 'content figurae' have perhaps been precipitated by Hjelmslev's choice of examples showing lexical (not grammatical) contrast. This is clearly stated by Bazell: 'The difficulty in such analyses [as Hjelmslev's 'ewe = she-sheep', 'ram = he-sheep'; 44, *OSG* 64] is that lexical oppositions are not minimal as are phonemic oppositions' (92). To this could be added that the H figurae shown in the examples are not ultimate units: 'she' could be divided into 'animate' and 'female' (animate as opposed to 'it', female as opposed to 'he'); also—and this is Bazell's

point—'he-sheep' does not exhaust the content of 'ram'. Bazell (*loc.cit.*) and Fischer-Jørgensen (89) also point out that substance plays a more important part in regard to content. 'In the lexical field,' says Bazell, 'matter dominates and even prejudices form'; while Fischer-Jørgensen observes that 'content includes a much greater area of substance, than expression.' She adds that from the standpoint of 'language as a form of cognition'—which is, of course, an H transcendent viewpoint—it is essential to know 'what is formed in a single sign'.

Martinet observes that the alleged content-figurae, in addition to being H content, always have or can have also expression (šəval, fəmel corresponding to the contents 'horse', 'female'), whereas expression-figurae (i.e. phonemes) only exceptionally have content (o = 'eau', 'aux', etc.; 39-40).

Both sets of objections can be partially met if we limit ourselves to an underlying analysis of grammatical content, as in Fischer-Jørgensen's example of the Latin suffix *-us* in *dominus*, which can be dissolved into the expression figurae /u/ and /s/, and the content-figurae 'nominative', 'singular', and 'masculine' (though the last, I believe, applies only to *-us* as an adjective suffix, cf. feminines such as *mālus*, *quercus*); 'the content entities that are here considered are limited in number, recur in many combinations, and are therefore easy to systematize' (*loc.cit.*).

But there still remains the fact that expression-figurae can be segmented both in the sequence and in the system, whereas content-figurae obviously cannot be segmented in the sequence, but exist simultaneously. This adds weight to Martinet's objection: 'Dans ces conditions, nous ne voyons pas comment maintenir, sur ce point central, le parallélisme des deux plans' (40).

**4.4. Rejection of social norms.** Except for Skalička, Hintze is the only European reviewer who seriously challenges Hjeltslev's contention that 'sociological norm ... proves to be dispensable throughout linguistic theory' (57, *OSG* 80). 'Die Sprache,' says Hintze, 'ist also ihrem Wesen nach eine soziale Institution, ein "fait social" in Sinne Durkheims ... In der Nichtberücksichtigung dieses wesentlichsten Kennzeichens der Sprache, nämlich ihres sozialen Charakters, scheint mir die eigentlich Ursache der sehr abstrakten Auffassung zu liegen, die Hjeltslev vertritt, einer rein formalen Theorie, die nur der kalkülmässigen Seite der geschichtlich und sozial gewordenen Sprache gerecht wird, nicht aber der sprachlichen Ganzheit in ihrer phänomenologischen Wirklichkeit' (102-3). Hintze's point of view, of course, implies an 'existence postulate' such as is rejected by Hjeltslev (8, *OSG* 14); the question thus arises whether an 'existence postulate', or for that matter all reference to a social norm, is indeed to be rejected as dispensable, as Hjeltslev claims.

Skalička, in an otherwise quite confused review, points out that even in a chess game 'the dependence on social manifestation is just as valid as in economic life. The chess game naturally changes according to whether it is a pastime for a few people or a mass phenomenon, etc. And this dependence on social manifestation is so much the more true for language' (138).

The discussion in the preceding two sections has indicated some of the serious operational difficulties arising from the purely formal approach advocated by

Hjelmslev. It seems more plausible to accept a formulation in terms of the 'interplay of form and substance' (Fischer-Jørgensen, 92). If we do so, however, we are no longer bound to the same extent by the desideratum of H immanence, and are free to accept some H transcendent factors—as part of the 'interplay', if you will—if they can help us otherwise to meet the requirements of the empirical principle. We have also, in accepting considerations of H substance, implicitly accepted the 'existence postulate'.

In the paper mentioned in fn. 29, Frei points out that in many languages there are phonemic variants which, though non-distinctive, are yet 'socially obligatory' (144–5); an example is English unaspirated [p] after /s/, or aspirated [p<sup>h</sup>] initially. It would be difficult to describe this difference in purely H formal terms; it seems that the 'obligatory' nature of this variant should nonetheless be included in a description, to meet the requirement of exhaustiveness contained in the empirical principle. For such cases the H transcendent concept of social norm must therefore be included. Indeed, in all actual phonemic descriptions, 'preferred variants' and 'obligatory variants' are included as a matter of course as part of the statement of allophones.

Finally, most American linguistics (as already observed in §2.7) are biased (I believe justly) in favor of a culturalist approach to linguistics. This bias is due partly, as Hockett has said, to the anthropological training of many American structuralists (*IJAL* 18.89), partly to the very suggestive hypotheses that were formulated in the Sapir-Whorf tradition of 'language and culture'. It is no accident that the word 'conventional' or an equivalent appears in nearly all definitions of language by American linguists; it springs from their basic orientation, and has proved extremely fruitful in tying up loose ends of both language and culture. In the American conception, linguistics is a social science, because conventionality is part of the definiens of language. Hjelmslev, rejecting this definiens, would leave linguistics 'homeless' in the eyes of many Americans.

**5. Glossematics and linguistics.** The novum of the *Prolegomena* lies not in any one of the numerous detailed rules of procedure; many of these are currently in use, under one term or another, in American and European practice. Nor does it lie in the demand for an 'immanent' linguistics; many American linguists have been aware of the need for delimiting their discipline. Hjelmslev's outstanding merit lies in having pulled together, for the first time in modern linguistics, a tangle of theoretical details into a logically consistent, close-knit body of definitions and corollaries, based on a minimum of assumptions. In spite of some serious deficiencies, he has been able to assemble into a single deductive (not H deductive) system many insights and techniques of structural linguistics previously scattered through the literature. The *Prolegomena* can thus serve as a skeleton for a less one-sided, more far-reaching (and perhaps more definitive) general theory of language, a skeleton in which the 'pattern points' for additions and improvements are often already in place.

The *Prolegomena*, once understood, are an esthetic delight. Their usefulness for concrete linguistic analysis, on the other hand, is not immediately apparent. The few major attempts that have been made so far to apply Hjelmslev's theo-

ries in practical work have not been conspicuously successful,<sup>54</sup> less because of the defects of glossematics than because the investigators have not always been thoroughly familiar with either glossematic theory or the material at hand.

The inclusion of both H expression and H content in 'immanent' linguistics,<sup>55</sup> the rigorous handling of H text and system (especially in avoiding the ill-defined concept of utterance), the neat statement of function types and the clear distinction between H form and H substance, the technique of H catalysis, the discrimination between H semiotic and symbolic system, and finally the definition of an H connotative semiotic as one 'whose expression plane is a semiotic' (78, *OSG* 105)—all these aspects of Hjelmslev's theory can become useful tools of linguistic analysis. Not all of the theory is new; but its restatement in Hjelmslevian terminology clarifies the relationships, and resolves some of the apparent differences between American and European structuralist methods.

<sup>54</sup> Cf. Martinet's review of Knud Togeby, *Structure immanente de la langue française*, *Word* 9.78-82 (1953). For a more favorable opinion, see M. Fowler, *Lg.* 29.165-75 (1953).

<sup>55</sup> On this I agree with Eli Fischer-Jørgensen, *Remarques sur les principes de l'analyse phonémique*, *TCLC* 5.216-9 (1949).

**Meaning, communication, and value.** By PAUL KECSKEMETI. Pp. viii, 349. Chicago: University of Chicago Press, 1952.

Reviewed by ERIC H. LENNEBERG, *Massachusetts Institute of Technology*

The outstanding characteristic of this book is its encyclopedic nature. This is at once an evil and a virtue. To level the crumbling walls which arbitrarily divide knowledge into independent departments not only is a desideratum but is, indeed, consonant with present trends of education. This is the virtuous aspect of the book. The evil is derived from the degree to which Kecskemeti exercises the new freedom of interdisciplinary mobility. He traverses so many fields of knowledge at such neckbreaking speed that most readers are certain to run out of breath in their efforts to follow the author and his arguments.

Here is a sketchy survey of topics dealt with. The Introduction (The Concept of Meaning) and Part I (Meaning and Situation, 1-97) cover subjects that are by and large pertinent to the captions; but the relation of the concept of meaning to the unity of science (10-3) is not very clear, and the section Meaningless Expressions and Philosophy (78-97) discusses a variety of matters which cannot easily be reconciled with the chapter title, Standards of Meaning—e.g. a critique of positivism (84), democratic attitudes (86), the nature of freedom and morality (87), the philosophy of science (90), a defense of Plato (92). Part 2 (Meaning and Behavior) includes chapters on Meaning and Consciousness (in which Kecskemeti comes to the conclusion that meaning has nothing to do with consciousness), and on Learning and Freedom. The latter is in essence the often heard attack on stimulus-response psychology. A subsection is devoted to the topic of freedom (119-21). The author states that the essence of freedom 'is elusive and mysterious. Freedom itself is free; it brooks no confinement within formulas.' Accordingly, this subsection is also on the elusive and mysterious side.

Part 3 (Meaning and Language) encompasses semantics, symbolic logic,