

Titel: On a preparation of a text, [TEKST] 138-0080

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On the Preparation of a Text.

The raw material of linguistic study is a text, i.e. a piece of speech, written or spoken, which may vary in length, according to circumstances, from an overheard remark or fragmentary inscription to a whole literature or the outpourings of a speaker over a considerable time. Whatever the length of the text, it is, of course, only a sample: it is impossible to collect all the acts of speech even of one speaker. The value of the study depends upon the validity of the sample, which is partly a function of its length: the longer the text, the greater the probability that all the relevant features of the language are exemplified in it. But since the text remains anonymous until it is analysed, this is a hope and not a certainty.

It is necessary to insist from the outset on the importance of connected texts. A list of isolated words - always supposing that the language in question can be analysed into words at all - is an artificial abstraction, of doubtful value unless it has been reached by methodical analysis. Such a list is a most incomplete sample because it misses out a large number of important features - syntactic relations, sandhi phenomena, etc. - which are as important to the economy of the language as the vocables themselves. A list of words is of linguistic value only if it is a paradigm of known functions, extracted by analysis from a text; it is not enough to get together a list by going around pointing unless and until you are sure that you know the functions of the words: t i n k e r, t a i l o r, s o l d i e r, s a i l o r must be studied in a context:

I am going to marry a	tinker
	tailor
	soldier
	sailor

plus "he tinkered with the car all yesterday", "good tailoring is expensive", etc.

The text itself will have been encountered embedded in a context, the so-called context of situation, and the first operation, usually taken for granted, is therefore an analysis of the situation with a view to isolating the text. This context of situation embraces not only the speaker and the hearer and such non-linguistic occupations as may accompany the speech, but the whole cultural, and therefore historical, background of their existence and their coming together. The text reaches out into all this, parts of one depend on parts of the other; an utterance like "I see they are going to put a penny on the rates" implies the existence of newspapers, even a certain kind of newspapers, the structure of local

government, methods of taxation, and monetary system of Great Britain at the present time as well as, probably, a breakfast table and a speaker and hearer(s) so related to each other and to the society in which they live as to make that kind of remark possible.

The analysis of a context of situation is not part of linguistics proper but belongs rather to the other social sciences¹. The linguist is, however, naturally concerned that his material should be properly delimited so that he has an intelligible field of study without too many loose ends reaching beyond his ken. He has the advantage that, given the necessary information, a context of situation can always be replaced by a linguistic context, i.e. can be translated into an addition to the text, on the hypothesis that language is the most comprehensive form of human behaviour: what can be acted can be said, but not always vice - versa. This is the technique employed in stage directions - Butler, entering left: "Dinner is served, madam." If the linguist can obtain from the other social sciences an adequate description of the relevant situations - i.e. a translation from action into language - he can get on with his work; if such data are not forthcoming, he must either court failure by meddling with unfamiliar techniques or leave his analysis incomplete. The boundary between the neighbouring fields of linguistics and the other social sciences has not been finally determined; possibly the solution is to do away with it altogether. However that may be, far too much in this domain is still lightly taken for granted.

The text consists of two interrelated parts, an expression and a content, which must of course both be available to the investigator; a string of sounds or letters with no content attached is not suitable for linguistic analysis, nor, if that could be, is a string of meanings with no expression. The relation between content and expression, the sign-relation, is the crux of language, that which enables it to fulfill its function in the context of situation. This relation is seen, as the analysis proceeds, to consist of relations between parts of the content on the one hand and parts of the expression on the other. A content unit together with the expression unit to which it is related is called a sign. This term is thus technically used to indicate both content and expression and not expression alone. Signs are of different extensions: the whole text is a sign, so is a story, a chapter, a paragraph, a sentence, a clause, a phrase, a word, a stem, a prefix, a suffix, any part of a text in which there is a one-to-one correspondence between an expression and a content. Either the expression or the content of a sign may be zero - or, rather, the absence of something - since the value of any given sign always depends on its opposition to other signs. Thus the English sign

1. Cf. B. Malinowski's "Coral Gardens", 1935, and his Appendix to Ogden & Richards, "The Meaning of Meaning", 1923.

b o y has a suffix whose expression is the absence of -s, with or without apostrophe, and whose content is "singular number, non-possessive case", and in Maidu uk'oj, "to go", the prefix whose expression is y - has no content: it is there only in opposition to other signs which might occur in the same place to indicate a purpose, e.g. hunn-o-k'oj, "to go in order to hunt".

Some minimal signs, i.e. signs which do not themselves consist of signs, can be further analysed into figurae, by which is meant parts of a sign-expression to which no specific content corresponds or parts of a sign-content to which no specific expression corresponds. Thus the graphic expression b o y is divisible into three letters which are figurae since there is no specific content corresponding to each of them separately; its content, as it happens, is also divisible into three parts, "young", "male", "human", which are also figurae since there is no specific expression corresponding to each of them separately. Other sign-expressions or sign-contents may consist of a single figura which cannot be further analysed, but such a figura making up a simplex sign-expression or sign-content still remains anonymous, as it were: a final -s in English does not invariably mean "plural"; it can also form part of complex sign-expressions such as h i s, k i s s, and form another simplex sign-expression with the content "third person singular indicative". This mutual independence of the figurae of the two planes adds greatly to the difficulty of the analysis and seems a rather untidy arrangement, but a language with no figurae would obviously be very clumsy and unwieldy; as far as is known there are no such languages.

The sign-relation is arbitrary, i.e. although the association between a given content and a given expression may have a very long history, there is no necessary connexion between them; they may, and often do, change independently, and in fact a quite different expression would serve the content as well, and a quite different content the expression. The sign-relation is only a convention. This is true even of onomatopoeia, which vary considerably from one language to another. Arbitrariness seems to be a characteristic of signs in general: the association of crowns with kingship is very ancient, but it is clearly not inevitable; kingship could be equally well expressed in some other way, and a crown could equally well have another content, for instance dentistry.

If the expression of the text is spoken, it must be written down. If it can first be recorded, on disks, tape, wire, film, or whatever, so much the better; in this way the raw material - or a part of it, depending on the quality of the apparatus - is preserved, so that the analysis can be verified at any time or a fresh analysis made. Records also have the advantage over "live" speech that the text, or any part of it, can be repeated again and again without driving the informant to drink and without the

changes which are almost inevitable when you ask a speaker to "say it again". The record can even be slowed up, by means of a new electronic gadget, which should make it much easier for the investigator to study it and to write it down.

The first writing of the text-expression is a very difficult problem. There are, in theory, two solutions: a phonetic transcription, i.e. a written symbolisation of the sounds of the text, without regard to their linguistic functions; or a phonemic transcription, which is, in effect, a written symbolisation of the minimal expression *figurae*, usually by means of a phonetic alphabet so that some indication is given of the sounds attached to these *figurae*. The difficulty is that traditional phonetics does not furnish a basis for a satisfactory phonetic transcription, and that a phonemic transcription presupposes an analysis which cannot be made without some sort of a transcription.

In the first fine careless rapture of phonetic enthusiasm the slogan of "one sound, one letter" was proudly proclaimed. But the pioneers could not, and did not, mean "sound" in the same sense which we now ascribe to the word, for the sounds are infinite, and you could not have, or use if you could have it, an infinite alphabet. What they meant was something like "sound-type". The intention of the slogan is that for instance a dental t should always be written the same way, and with a symbol denoting nothing else, ignoring the fact, which was certainly known to the leaders of the movement, that the number of dental t's is limited only by the sensitivity of the phonetician's ear or apparatus. Even the most differentiated phonetic alphabet thus does not offer a symbol for every possible sound, or even for every perceptible shade of sound, but differs from less detailed alphabets only in recognising more types of sounds. The sounds form a continuum, like the spectrum, and the number and extension of the types recognised is therefore necessarily arbitrary.

Until quite recently phonetics has been almost entirely physiological: what has been studied, described, and classified is not the sounds themselves but their "gests", the movements and positions of the lips, tongue, etc. by which the sounds are produced. The technique of oral, as distinct from instrumental, or "experimental", phonetics is that the phonetician imitates the sound he hears and classifies it according to the "gest" he feels himself to be making; there is an obvious source of error here, which can be diminished but not entirely eliminated by rigorous training. In actual practice the phonetician soon comes to associate sounds with their appropriate class-names and letters, so that the intermediate stage of imitation can be skipped; the technique thus becomes *acoustic* in principle though the method is physiological. 18

The result of this study is the traditional three-dimensional classification of sounds² according to 1) manner of articulation:

2. See, however, K.L. Pike, "Phonetics", which introduces a new approach.

plosive, nasal, lateral, fricative, etc., (2) place of articulation: labial, dental, palatal, etc., and (3) voice, to which is now added a fourth dimension, that of "mechanism", i.e. the source and direction of the air-stream: pulmonic, glottalic, velaric ingressive and egressive. It is on this kind of classification that phonetic alphabets are designed, each letter representing a point in such a three- (or four-) dimensional system.

The number and extension of classes to be represented is, as we have seen, a matter of arbitrary choice. Such a choice can be exercised in one of two ways: either by drawing equidistant imaginary lines on the continuum, like the degrees of latitude on the globe, or by choosing points empirically, according to practical convenience, like locating places in relation to well-known towns. Both methods are in use in phonetics: the cardinal vowel system invented by Daniel Jones³ is an example of the former, and the traditional classes of consonants have gradually accumulated on the latter principle as more and more languages came under observation. It will be seen that this makes it very difficult, to say the least, to ensure a uniform level throughout the alphabet: if it is decided to have three types of k-like sounds, what is the correct number of a-types, and how many l's should there be? A phonetician's scope is largely circumscribed by his alphabet, which is, and should be, difficult to change, and an uneven alphabet will tend to produce uneven transcriptions. A certain amount of bias is in any case inevitable: a phonetician who has worked with Danish cannot help being more glottal-stop-conscious than one who has specialised, let us say, in French, so that the phonetic transcriptions of two investigators would only rarely coincide completely.

Another difficulty is that the text-expression itself is a phonetic continuum, so that its segmentation by alphabetic writing is also arbitrary. The sounds are produced by all the organs of speech working together, i.e. when a sound is made, each organ must be performing a definite movement or taking up a definite position, and each of these "gest-elements" influences the quality of the sound. The definition of (p) as a "voiceless bilabial plosive" takes in only the activities of the lips, soft palate, and vocal chords, but (p), as we have seen, is the symbol for a type, and each sound belonging to this type of course has a particular tongue-position which gives it a quality distinct from that of other (p)-sounds; compare the (p)'s in p *à* e l and in p e s l. The definition is relative, not absolute: "voiceless" serves to distinguish (p) from (b), "bilabial" from (t), (k), etc., and "plosive" from (m) and (ŋ).

3. See his classical "Outline of English Phonetics".

Now as each of the organs can move in relative independence of the others, the changes in the position of one organ do not necessarily coincide in time with those of any other, and as the criterion of analysis is these changes, the length of a sound being reckoned from one change to the next, the result is a number of conflicting analyses. The English syllable (maɪn), for instance, consists of two lip-sounds, three soft-palate-sounds, and one larynx-sound; the articulation of the tongue is difficult to analyse because of the continuous glide of the diphthong. The analysis thus does not produce anything resembling the usual concept of a speech sound or corresponding to the conventional values of the letters of the phonetic - alphabet. It was for this reason that Otto Jespersen devised his "antalphabetic" system⁴, which is, or can be made, accurate, but is not suitable for the transcription of connected texts. Its idea is to substitute for the synthetic form of alphabetic writing a sort of orchestral score with a separate part for each organ.

As a result of all this, there are no phonetic transcriptions. The term is still loosely used and is also sometimes employed in the technical sense of an uneven or otherwise imperfect phonemic transcription. Even the transcriptions made before the vogue of the phoneme - as far back as the invention of alphabetic writing - embody the phonemic principle, however vaguely; some of them, indeed, attempt to impose the phonemic system of one language on the sounds of another. But the acoustic branch of phonetics, which studies the sounds direct, with no reference to their "gests", has lately made great advances by means of newly invented electronic apparatus, and it seems likely that this line of investigation may lead to a reliable basis of phonetic transcription; some of this apparatus will even produce a readable record without the intervention of a human phonetician. The number and extension of sound-types recognised will still be a matter of arbitrary choice, built into the machine in the form of electronic filters, but the transcription, or mechanical record, will at least be even and the margin of error calculable⁵.

4. First published in his "Articulations of Speech Sounds", 1886; see his later "Lehrbuch der Phonetik", which is still well worth reading.

5. Ref. "Visible Speech", etc. Also Señora de Chaves's book about the Fotoliptafono.

See Martin Joos, "Acoustic Phonetics", 1948.

Phonemic transcription it is, then, by general agreement, but that is as far as the agreement goes. The nature and definition of the phoneme are still in dispute, and there are almost as many phoneme theories as phoneticians. In this *embarras de richesse* it is possible to distinguish three main concepts, which we can call the psychological, the phonetic, and the structural phonemes.⁶

The principal protagonists of the psychological phoneme were E. Sapir and N. Trubetzkoy⁷. The theory is based on the observation that native speakers have a sort of feeling about the structure of their language ("Sprachgefühl") which can be exploited for purposes of classification. The phoneme is accordingly conceived as a sort of Platonic idea; the speaker has an "ideal sound-pattern" in his head which he tries to realise in his speech, but his actual sounds, through force of circumstances, are scattered like shots round the bull's eye of a target. The speaker always knows which ideal sound he is aiming at and can similarly interpret the efforts of other speakers. Attractive though it is, this theory now has few if any adherents. The Sprachgefühl is too vague and too subjective to make a firm basis for linguistic analysis, and in literate speakers the feeling of ideal sounds is apt to get mixed up with orthographic notions and so become unreliable. On the other hand, we have perhaps been too hasty in denying all interest to this feeling. As every language-teacher knows, the difficulties of teaching pronunciation are more psychological than physical: it is the ideal sound-pattern of the native language rather than its habitual tongue- and lip-movements that come between the learner and the foreign pronunciation.

The phonetic phoneme is the creation of Daniel Jones⁸. According to this theory the phoneme is a sound-type, "a family of sounds replacing each other in different surroundings". I.e. two or more sounds belong to the same phoneme if they occur in mutually exclusive phonetic circumstances; the word "family" indicates that the members of a phoneme must be related to each other: (h) and (ɣ) occur in mutually exclusive phonetic circumstances in English (one only initially and the other only finally) but are not regarded as belonging to the same phoneme because they are

6. Ref. Twaddell

7. See the articles contributed by both these writers to the "Journal de Psychologie", 1933. Trubetzkoy later changed his mind, cf. his "Grundsätze der Phonologie", 1939.

8. See his book, "The Phoneme", 1950.

phonetically too far apart, too different. It is left to the individual investigator to decide what constitutes a sufficient degree of relatedness. This theory furnishes an admirable basis for transcription in most cases, since it recognises the essential characteristic of minimal figures: their ability to occur in the same circumstances, without which they could not serve to distinguish one sign from another. But there are certain phenomena which are not satisfactorily explained by such a simple conception of the relation between phonemes and sounds. Here is an example:

In Danish the two sign-expressions *han*, "he", and *ham*, "him", are differentiated both by their final consonants and by a difference in vowel quality, which we can indicate by the transcription (*hæn*, *həm*). A final (*n*) may be replaced by (*m*) when immediately followed by a bilabial, as in *han b o r i K e b e n h a v n*, "he lives in Copenhagen", but when this happens, the vowel quality does not change correspondingly, so that we get (*hæn*) instead of (*həm*), and the two vowel sounds occur in the same circumstances. According to the phonetic phoneme theory it is then necessary to recognise either two *m*-phonemes, differentiated only in this one position and only by their effect on a preceding *a*, which is obviously unsatisfactory; or two vowel phonemes, an *a* and an *a*, which is also unsatisfactory, since the two vowels are evidently tied to specific conditions, though not to phonetic conditions. The correct solution must be to regard the (*m*) which occurs in *han* as representing the *n*-phoneme and the (*m*) of *ham* as representing the *m*-phoneme; the vowel variation can then be explained as being conditioned by the following phoneme and not the following sound, so that *a* is always represented by (*a*) when *n* follows and by (*æ*) when *m* follows, even when *n* is materialised as (*m*). But in that case the phoneme must be something other than a class of sounds.

The structural phoneme is an abstract form, defined by its functions and separate from, though in relation with, the sounds. The relation between phonemes and sounds is like the relation between a man and his job: a postmastership or a Cabinet post is defined by its functions in the society, including its relations with other official posts; such a post is filled by, but not identical with, a man, and the man will have various personal characteristics which can be studied and in terms of which he can be classified as fair or dark, brachy- or dolichocephalic, etc.; he will also have personal relations - with his wife, his children, his friends. But the personal and the official belong to different orders, even though it may take a careful analysis to get them separated.

9. It would, in that case, also be necessary to recognise two *n*-phonemes because of "*han gaar*", (*hæn* *gø*), "he walks".

hæn gø

In the same way the linguistic functions of the phoneme are considered to be of a different order from the phonetic characteristics and relations of the sounds by which the phoneme is manifested; the phonemes are points in a system of abstract forms which is projected on to the continuum of sounds and thus divides it into classes and segments, much as a political structure is projected on to a continent and lays down boundaries which do not derive from its geographical features.

Each language has its own system, and thus its own way of dividing up the continuum of sounds, which does not necessarily coincide with that of any other language; there is, consequently, no universal phoneme system and no universally applicable phonemic transcription. In English, for example, the two sound-types (d) and (ʃ) are manifestations of two different phonemes, as can be concluded from the existence of such pairs as *d e n: t h e n*, *r i d e : w r i t h e*; in Spanish (d) and (ʃ) manifest one and the same phoneme, since there are no pairs of sign-expressions differentiated by the difference between these sound-types¹⁰. And, just as there may be enclaves on the political map, so sounds do not have to be adjacent in the continuum to be grouped together under the same phoneme: the glottal stop (ʔ) is separated from (t) by (k), and yet in many English dialects it is phonemically grouped with (t).

The boundaries imposed on the textual continuum also vary from one language to another, though, as Pike has pointed out, not nearly so much. In English the two affricates, (tʃ) as in *e h i n* and (dʒ) as in *l l e d g e r*, can be regarded as manifestations of groups of two phonemes, since their constituent parts also occur separately, e.g. in *t i n*, *s h i n*; *l a d d e r*, *l e i s u r e*. In Spanish there is a (tʃ) and a (t) but no (ʃ), and, where it occurs at all¹¹, a (dʒ) and a (d) but no (ʒ), and the position is therefore different: the affricates cannot be treated as representing consonant clusters like the *tr* of *t r e s* and the *kl* of *c l a s e* but must be classified as manifestations of single phonemes. The case of Maidu (tʃ'), otherwise similar to the Spanish one, is even more striking, since Maidu does not admit any consonant clusters at all either in initial or in final position in the syllable. The Spanish and Maidu affricates can, of course, be further analysed but not at the phonemic level; Spanish and Maidu (ʃ), though phonetically very similar to the

10. For this and many other examples see D. Jones, "The Phoneme".

11. (dʒ) is found only in a few dialects, where it corresponds to the (ʒ) of some other dialects and the (j) and (ʎ) of Standard Spanish, e.g. in *y o*, *l l a v e*. The dialects which have (ʒ) have no (dʒ).

English (ʃ), are not structurally comparable with it, just as the combined postmaster and grocer of a village is not on the same level as the full-time postmaster of a city. Again, the long (i:) of English *peel*, etc., can be treated as representing the group ii although there is a difference in quality between (i:) and (i) and regardless of whether it is pronounced as a diphthong (iɪ); in Spanish long and short vowels are phonologically identical: lengthening is an emphatic device, cp. (*linda*), "beautiful", and (*linda*), "(bju:/'iŋi)", and has a different place in the system. And here is a final example: in the Received Pronunciation of English (R.P. for short) a final voiced consonant sound is usually fairly long if the preceding vowel sound is short, or, more accurately, if the central unit of the syllable is simplex, as in *tin* (tɪn); this lengthening is a regular phenomenon, and as there is no significant opposition, the long consonants can be phonologically identified with the short consonants occurring under other conditions. In Danish there is a significant opposition between a short, partially unvoiced final consonant, as in (*ten*), "tin, pewter", and a long, fully voiced final consonant, as in (*ten:*), "the peak"; one is found to represent a single phoneme, te-n, the other a sequence composed of a consonant, a vowel, and the same consonant again, te-nen. The phonetically similar (n)'s of English and Danish thus have very different phonemic segmentations.

The structural phonemes, being figuræ, are found by an analysis of minimal sign-expressions, which are again found by an analysis of larger sign-expressions ultimately derived from the complete text as the largest sign of all. At the time of the first writing of the text this analysis cannot have been made, and it is therefore necessary to base the transcription on a working hypothesis of the phonemic system of the language, a hypothesis to be verified and, where necessary, revised as the analysis proceeds. It is important to keep in mind that the unverified hypothetical transcription is of no value except for the work in hand; it should never be accepted as definitive, and it cannot be used for comparative purposes, since it may misrepresent both classification and segmentation. In framing his hypothesis the investigator will do well to remember that the assumption of too many phonemes is easily corrected later, while the assumption of too few may mean starting all over again. If it has been decided, for instance, to use two different symbols, say o and ø, in the preliminary transcription of a given text on the assumption that they represent different phonemes, no great harm has been done if the assumption turns out to be wrong; if, on the other hand, two phonemes have been written with the same symbol, every single occurrence of that symbol in the text has to be checked to find out which of the two phonemes it stands for. On the other hand, the transcription is not improved by being overloaded with fancy

symbols and diacritics, however impressively decorative. Only the flair that comes from experience can guide the investigator to the golden mean,

It is this preliminary, hypothetical transcription that is sometimes called "phonetic" to distinguish it from the definitive phonemic transcription, but that is not a happy nomenclature, since the preliminary transcription, as we have seen, is no more phonetic than the final version. No better is the use of "phonetic transcription" to denote a phonemic transcription into which extra symbols have been introduced, for pedagogical or comparative purposes, to denote variants of phonemes; it is much better to adopt Daniel Jones's term "narrow" for such a transcription, in contradistinction to "broad" by which ^{he} means a transcription using one symbol per phoneme.

For the purpose of the analysis itself the best notation is one that does not anticipate the results of work yet to be done. If a text is written in a preliminary phonemic transcription or in orthography with punctuation marks and spaces between the words, the whole of the analysis as far as the phoneme level is anticipated, and the investigator is continually tempted to take for granted what he does not know. It is partly for this reason that experiments with algebraic notations are now being carried out. With such a notation a piece of the text can be denoted by a single symbol until it is analysed, when the single symbol is replaced with the requisite number of new symbols, again to be replaced by more as the analysis proceeds. However, some sort of alphabetic writing will always be needed to identify the algebraic symbols.

If the investigator has a practical mastery of the language to be described, and if his eventual readers can be supposed to be similarly well-informed, the text-content can be left to be inferred from the transcription of its expression and needs no special treatment at this stage beyond, perhaps, a few footnotes. If this is not the case, a translation has to be provided, and this involves considerable difficulties. First of all, the investigator is at the mercy of his interpreter in ascertaining the text-content at all; the interpreter may act as a filter, and the investigator cannot be sure that he is getting a complete account. This handicap has to be accepted and counteracted by the use of several interpreters and by collation of different parts of the text.

Secondly, there is the question of translation itself. A sign in one language may correspond to one in another in several ways. (1) they may have the same meaning. This is, on the whole, rare and is more likely to happen with larger signs, such as sentences and phrases, than with minimal signs; i.e. there is more likelihood of finding an exact translation of "the light is on at my brother's house" than of matching any of its constituent signs. Even though the meaning of the two signs be extensionally identical, the intensional meanings may still be different: one may refer to

a fire on the floor of a mud hut, and the other to an electric chandelier in a 14th-century castle. Signs belonging to different languages usually overlap only partially; e.g. the English word *t r e e* overlaps with the Danish word *t r æ* but includes more than the Danish word in some directions and less in others. That is why a bilingual dictionary often has to give a long list of alternative translations. Or what is part of the content of a sign or signs in one language may have a special sign to itself in another: in Maidu there is a causative formed in a separate sign with the expression *-ti--paɟel*, "eat", *paɟel-ti*, "feed", *dopopo*, "make a noise like an engine", *dopopo-ti*, "drive (a car)"; in English there is no separate causative, it is included in one sign with the content of the central verb, either so that causative and non-causative are variant contents of the same sign - compare "the boat sleeps four" with "George sleeps in the blue room" - or so that there are separate signs for the two, as in *f e e d* contrasted with *e a t*¹².

(2) the two signs may have the same referent¹³. English *i t a l i e s*, German *k u r s i v e*, and Spanish *b a s t a r d i l l o* all refer to the same kind of type, though they do not mean the same; each refers to the type by pointing to one aspect of it, and the three languages happen to have chosen different aspects. Similarly, you *u p l i f t* your dividends in Scotland but *d r a w* them in England. Community of referents cannot, therefore, be taken to imply community of meaning.

(3) the two signs may be equivalent in respect of a context of situation. The most obvious example is greetings: *g o o d m o r n i n g*, *g r ü s s G o t t*, *h e i l H i t l e r*, *s h a l o m* (= "peace"), *c o l d d a y* (in Scotland), *ɬ á a w n i* (Maidu, = "I arrive" in the constative mood, which indicates awareness that the hearer already knows) all these fulfil the same social function without having the same meaning or the same referent. These equivalences belong to the no-man's land between linguistics and the other social sciences; it is necessary to have proper sociological analyses of situations before one can be sure that

12. Note that *f e e d* can also have the non-causative sense: *w e f e e d a t e i g h t = w e e a t a t e i g h t*.

13. This term is taken from Ogden & Richards, "The Meaning of Meaning", a justly famous but difficult book.

identification is justified¹⁴. Until such guidance is forthcoming the translator must continue to do the best he can with such difficult problems as forms of address (in what situations would a given character say *sir*, *Mr. Smith*, *Sir George* *Smith*, *Sir George*, *Smith*, *George*?) and the use of superlatives, to name but two.

Translation is, then, not just a simple matter of looking up corresponding signs in a dictionary (and a grammar); it also involves decisions as to what kind of correspondence meets each particular case. For the purpose of combing out a text-content it is clear that correspondence of meaning is the relevant kind, since the object of the analysis is to find the forms imposed upon the meaning by the language under investigation; neither referent nor situation is relevant to this inquiry. What is needed is thus a literal rather than a literary translation. But even with the greatest care translation is bound to involve a change of form. Consider the following Maidu sentence:

1 2 3 4 5 2 6 7 8 2 6 7 9 2 10 4
 hojja- n k'aw-i k'ale-m noi-n jep'-in na:-n ha-m pa:n-i
 11 12 13 14
 to:-pe-t'om-(m)atoj.

A fairly close English rendering of the whole sentence is "once upon a time there was an old woman and an old man who had two sons"; translated sign by sign it looks as follows: 1. "early", also "to begin"; 2. adjunctive-subjective case; 3. "time", also "earth, ground"; 4. objective-adverbial case; 5. "woman", also "wife"; 6. "old", also "to grow"; 7. coordinating connective used with both verbs and nouns; 8. "husband", also "man" (cf. the English use of *wife* in the sense of "woman", e.g. in *fishwife*, *old wives' tale*); 9. anaphoric used for summing up two or more preceding nominal or verbal units; 10. "two"; 11. "son"; 12. a suffix meaning "to have" and also used to form the nomen agentis from verbs; 13. indicative mood, distant-past tense (there are three different past tenses in Maidu); 14. quotative (with all verbs in the indicative it must be indicated whether the source of information is direct experience, inference, or hear-say).

14. Folklore tends to go very far in this respect in the innumerable jokes supposed to illustrate national character, e.g. "remark in a dentist's chair": American, *do it fast!* English, *do it well!* German, *do it cheaply!* Danish, *does it hurt?* Or "books about the elephant": English, "Elephants I Have Shot", French, "La vie amoureuse de l'éléphant", Danish, *100 Ways to Cook an Elephant*, Polish, "The Elephant And The Polish Corridor".

This is probably as near as it is possible to get to the Maidu content with a hypothetical analysis. In some places description is used instead of translation, but the description is not entirely accurate and will not be until an exhaustive analysis has been made; the English translations do not in any case - with the possible exception of the numeral "two" - cover exactly the same meaning as the Maidu originals.

For the purpose of analysing the content an algebraic notation is therefore even more valuable than in the case of the expression, where the hypothetical transcription can be used, although with some inconvenience. This is no less so where translation is dispensed with, since a systematic analysis cannot be expected to coincide in all particulars with traditional notions.