

AN ARTICLE OF FAITH

H. V. George

(English Language Institute, Victoria University)

Linguisticians often describe their work as scientific. I am a Popper man in this respect, and feel that to qualify as scientific a statement about language (like a statement about the physical world) must lead directly to prediction that is experimentally verifiable or falsifiable.⁴ From this point of view, many premises of contemporary linguistics are articles of faith. This paper describes one article of faith put in the form of a prediction, experiments to verify to falsify the prediction, and some implications of the findings.

The article of faith is the assertion that in language the relationship between sign and meaning is arbitrary.

It is true that Bloomfield, after Jespersen, recognizes such facts as that many words in English beginning with sl represent varieties either of chopping and striking movements or of physical or mental "muddiness". These facts are noted, like onomatopoeia, as exceptional to the postulate that the meaning attached to a group of sounds is not intrinsic but socially determined.

The evidence for the postulate, or more precisely, the way in which the evidence is considered, is of methodological interest, and will be considered separately. Let us now reduce to experimental terms the statement under reference.

With an initial consonant, a vowel and a final consonant we have a simple formation pattern for an English word. Using l initially, varying the vowel, and taking final p, for instance, we form a series of "words": lip lep lap lop lup leap lape lipe ... and so on. Half of the words so formed are institutionalized, or "actual" words, and the others, lep lup lape ... I will call "contingent". The latter constitute material one can experiment with.

Taking for granted that actual words have actual meanings, there are three questions: May contingent words have actual meanings? Do actual words have contingent meanings? Do contingent words have contingent meanings? The third question is esoteric, and I have no experimental approach to it; the other two questions can be approached experimentally, and the first is considered here.

The question, May contingent words have actual meanings? cannot be put to experimental proof naively, by asking people, "What does lep mean?", for lep is a priori distinguished as not institutionalized, as not

⁴Popper 1935.

(yet) actual. We are by definition dealing not with actual actual meaning but with potential actual meaning.

Now from time to time, a contingent word does become an actual word, and the occurrence of actualization offers a clue to an experimental approach. Here are three actualizations: Klim smog spiv.

The condition for such actualization is the coming into existence, or perception, of a new designatum. Most actualizations are of unknown provenance. However smog is the sm of smoke and the og of fog, while Klim is milk backwards; and if these formation procedures were the whole facts of even one type of actualization we would have formulas for conjuring the contingent into the actual. While it has to be admitted that the unlikely Mho has established itself - at least as a written word - on the klim formula, I for one hardly imagine that niaw or eniw will come to life when this substance too is retailed as a powder. My prejudice is with the poet:

Twin are the gates of sleep, of horn and polished ivory.
The true shades issue from the one, and from the other
Wraiths.

Here indeed we have the basis of experiment. It is said that the relationship between sign and meaning is arbitrary and socially determined. We predict, therefore, that when, for a designatum which as yet has no socially accorded sign, systematically chosen alternative contingent signs are proposed, no feature of any one such sign can make it more acceptable for representation of the designatum than any feature of any other sign; therefore, that when several people are invited to select one of the signs proposed for representation of the designatum, sounds associating randomly with meaning and no particular sign being preferred, the votes for each artificial word will be, within statistical limits, equal.

Experiment 1

Eight designata were proposed. Here is a specimen:

The month: Having 12 months with different totals of days is very awkward. Having 13 months of four weeks each is a much better idea. A name is required for a thirteenth month to come between May and June in the present calendar.

Ten contingent words (Alternatives a - j in Table 1) were selected to compete for representation of each designatum. The raw materials of the contingent words were obtained by breaking down to their constituent sounds the actual signs for adjacent designata, those of other months for the specimen cited above.²

The form of the experiment was explained to a group of graduate students at the Central Institute of English in Hyderabad, India, then a tape-recording was played, consisting of designatum definition followed by the ten contingent words read from the first to the tenth then repeated from the tenth to the first. Each student followed the reading on his

² For the month, the ten contingent words were a) toſba, b) bevrov, c) mu:pem, d) ſedʒbi, e) aknou, f) dilti, g) nepdu:, h) vləsi, i) olsem, j) ronta.

voting paper showing the words in I.P.A. script, and ticked his preference if he had one. This is how the voting went:

Alternative:	Designatum:							
	1	2	3	4	5	6	7	8
a	2	8	1	7	4	3	9	8
b	4	2	1	2	2	5	5	3
c	25	10	25	5	9	16	4	2
d	5	3	4	8	-	2	1	4
e	3	6	1	4	15	8	2	5
f	3	1	1	1	17	7	21	6
g	-	5	15	2	3	8	-	9
h	1	3	2	4	-	-	5	5
i	2	7	-	-	1	3	2	8
j	4	5	2	17	1	1	1	-

TABLE 1

The prediction that there would be substantially the same number of votes for each word was fulfilled with respect to Designata 2 and 8, and unfulfilled with respect to Designata 1, 3, 4, 5, 6 and 7. The postulate leading to this prediction must be held not verified.

What I take to be a similar experiment, though performed with a different purpose, is cursorily described in "Studies on Thought and Speech Problems" by R. G. Natadze.³ The outcome appears to have been similar too, and one of the conclusions is that the result "seems to us to constitute a powerful argument against the mechanistic explanation in terms of association, which describes the naming process as a simple association between the attribute and the name for it."

Now when we observe, for instance, that Alternative c was accorded 25 votes for representation of Designatum 1, no other Alternative gaining more than 5 votes, we may not conclude that Alternative c is particularly suited to representation of Designatum 1. Indeed, the Soviet psychologist's interest is the processes by which the "objectively indifferent (my italics) sound complex" is "appreciated by the subject as naming a particular attribute". We conclude only that Alternative c and the other popularly selected words are intrinsically more generally acceptable for admission into the language. To discover whether Alternative c, rather than any

³Natadze 1957: 306-8

other of the popular words, is particularly suited to representation of Designatum 1, a further experiment is needed.

Experiment 2

A colleague from Osmania University, Hyderabad, undertook this experiment with a group of undergraduates. Each undergraduate was provided with a simple description of Experiment 1, a list, in "ordinary" writing and in alphabetical order, of the eight popular words, (Designatum) 1 (Alternative) c, 3c, 3g, 4j, 5e, 5f, 6c, 7f, from Table 1⁴, and the original definitions for the six Designata 1, 3, 4, 5, 6 and 7, with a note that for two of the definitions two words had been found equally appropriate. The student then matched each definition with the word or words he thought most likely to have been chosen for it.

Assuming that the relationship between sign and meaning is arbitrary, we predict that, since no feature of any of the signs can make it more acceptable for representation of a particular designatum than any other sign, the votes for all the artificial words as representatives of particular designata will be, within statistical limits, equal. This is how the voting went:

Alternative:	Designatum:					
	1	3	4	5	6	7
1 c	9	8	5	2	8	9
3 c	7	19	3	2	2	2
3 g	1	16	4	4	5	4
4 j	2	-	28	1	6	2
5 e	9	1	4	19	4	-
5 f	3	3	-	23	9	3
6 c	15	1	2	3	9	5
7 f	2	4	1	1	9	25

The prediction was fulfilled with respect to Alternative 1c, while Alternative 6c, previously selected as best representing Designatum 6, has been voted more appropriate for representation of Designatum 1. The prediction was unfulfilled with respect to Alternatives 3c, 3g, 4j, 5e, 5f, and 7f, each of which was assigned to the designatum which, in Experiment 1, it had been selected to represent; and the postulate upon which the prediction was based is therefore falsified.

⁴namely, abross, dilrima, ma, moopem, neach, stobe, tave, ziferi

The reader may reasonably hesitate to accept this last statement as a statement of fact, based as it is on limited experiment in particular circumstances. As far as the object of this modest paper is concerned, distinction between article of faith and scientific statement, it is indeed not at all necessary to consider the fact established. Rather the contrary, for the statement "the postulate upon which the prediction was based is therefore falsified" is scientific (in the Popper sense) simply because it is itself falsifiable (or verifiable), by experiment.

Having undermined, if not destroyed, an article of faith, one is curious to examine the means by which the article of faith was substantiated. We may go back to De Saussure for denial of a relationship, other than the socially conferred one, between sound and meaning, and for what have become typical evidence and assertion. The evidence is that what is b-ø-f on one side of a frontier is o-k-s on the other, the assertion, that the meaning of "sister" might just as well be represented by no matter what (De Saussure's words) other sequence of sounds.⁵

However, there is no practical or logical obligation to assume that, in order for there to be a substantive relationship between sound and meaning, there must be one sound sequence per designatum throughout the world. The existence of such a relationship is entirely compatible with representation of one designatum by b-ø-f, o-k-s and indeed as many sequences of sound as we actually find. One would be wrong to conclude, from the external differences between pine needle, oak leaf and banana leaf that there could be only arbitrary relationships between leaf and leaf function.

The methodological error with respect to "evidence" is that reference of a postulate to observation "proves" (De Saussure's word) the postulate. It shows that postulate and evidence are not incompatible; and that is all. It is the particular inference from the evidence, which De Saussure takes for granted, that requires verification; for an observation may be equally compatible with a number of inferences.

It is perhaps always tempting to feel that what is asserted positively in well defined terms and with reference to observation is more "scientific" than something vaguely stated; it may be, and may not. It would not occur to us to call Alexander Pope's line, "The sound must seem an echo to the sense" scientific, yet methodologically Pope compares favourably with De Saussure, for Pope proceeds to demonstration of what he means, for verification on our part; whereas De Saussure's assertion that the meaning of "sister" could just as well be represented by no matter what other sequence of sounds is not experimentally verifiable or falsifiable, and so far as one can judge was not made with this criterion in mind: it is, in fact, an unscientific kind of statement.

The word "scientific" is used both as a classifying, and, more popularly, as a descriptive adjective. In the first (and more "scientific") use, there is understood, I think, a methodological element absent from much linguistic study. Perhaps necessarily, for language, like life of which it is a part, is messy rather than orderly, and its behaviour only partially, often only statistically predictable. The problem of the relationship between sound and meaning is a messy problem. Languages, with

⁵

De Saussure 1957: 100, 159.

the peoples that use them, have evolved, each developing its own "cut"⁶, to which - however difficult to define - old and new acoustical phenomena adopt. As a language's words have altered, so presumably its speakers' feeling of appropriateness of sound for meaning has altered too, keeping fairly well in step. There is no chance of "sister" getting represented by no matter what other sequence of sounds, since, it seems, sounds are not indifferent counters in sets of permutations. Insisting on the "mathematics called linguistics", our work may be the less, not the more, scientific; for one opposite of "mentalism" is "fundamentalism", with a register of articles of faith.

⁶ Martinet 1961: preface.

POPPER, K., 1935, Logik der Forschung (The Logic of Scientific Discovery, London, Hutchinson, 1959)

NATADZE, R.G., 1957, "Studies on Thought and Speech Problems", in Ed. O'CONNOR, N.O., 1961, Recent Soviet Psychology, Pergamon Press, 306-308.

DE SAUSSURE, F. Cours de Linguistique Générale. Paris, Payot.

MARTINET, A. 1961, A Functional View of Language, Oxford. Clarendon Press.