

WHAT DOES IT MEAN TO SAY AN ENTITY “HAS A FUNCTION” AND WHICH ENTITIES HAVE FUNCTIONS?^[*]

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Abstract: The paper considers the concepts “having a function” in linguistics, and especially, “having a distinctive function”. It asks which entities have functions. There is an analysis and critique of mainstream views – particularly those of Martinet and Mulder, which represent opposed views of the notion of “having a function”. Some alternative interpretations are offered.

Keywords: function/functional, distinctive function, linguistic units

Preliminary remarks – functionalist fundamentals

In all functionalist approaches, linguistic entities are identified by their possession of some particular function and they may have other functions according to the type of analysis offered. Linguistic entities are said to be “functional” or to “have a (certain) function”. Functions are “communicational functions”. Now, the term “function” can mean several different things. For discussions of this point, see Rastall (2008), and Costaouec (2009). This point has been well-known for a long time. See, for example, Jachnow (1981). There have, furthermore, been recent discussions on the nature of functionalism in linguistics (Feuillard 2009, Morais-Barbosa 2009). For mainstream functionalists, however, the possibilities are principally that function means:

- Distinctive function (or “pertinence” in French);
- Pragmatic value (representation of states of affairs outside the utterance or self-referential reference to the utterance or part of it considered as a reality separate from the utterance itself (“metalingual” or “self-referential” function); address to the receiver, expression of the attitude or emotional state of the sender; social or aesthetic value of the utterance or part utterance);
- Contrastive function concerned largely with the organisation of the utterance, or attitudinal orientation of participants in it, and including demarcative and culminative features;
- Syntactic or phonotactic function concerned with the combinatory role of components of the utterance in relation to others;
- Semantic function concerned with the utterance or its parts from the point of view of their qualitative information value. Textual functions concerned with the construction and coherence of texts, both intra- and inter-sentential.

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From other points of view, a construction can be viewed as a “function” of its components, or individual linguistic units of whatever complexity can be viewed as variables satisfying a “function”; for example, the phonemes, /p, b, m/ in English, are variables satisfying the function “labials” or the function “occupying the initial pre-nuclear position”; the phonotagm, /map/, can be seen as a “function” of its component phonemes and their constructional relations or distribution. Such views are consistent with, and can be incorporated into, mainstream functionalist views, so the remarks below apply to those approaches too. A clear statement of the mainstream functionalist view with an account of the main functions is given by Akamatsu (1992). In all of these possibilities, linguistic units are said to “have a function”. While the discussion below refers mainly to distinctive function, the remarks apply also to any other case of “having a function”, such as “has a contrastive function”, “has a syntactic function”, “has a textual function”, etc.

The issue of what functions are and which entities have them is important for functional linguistics. Many linguists have pointed out not only the large number of possible meanings of the term “function”, but also the vagueness of the term (e.g. Morin 1980; Altmann 1981). Alternative conceptions of linguistics, such as generative ones and generative phonology in particular, have no place for functional analysis and reject functional analysis as trivial or unnecessary (e.g. Vennemann 1980). It is not the purpose of this paper to consider that debate, but to investigate what “has a function” and what it is to “have a function”. However, functionalists can respond to those who take a non-functional view by pointing out that the generative approach defines phonology in ways that they do not accept, and hence the generative critique misses the point. They can also reply that generative phonology has its own vagueness over the nature and identification of phonological, as opposed to phonetic units, and that generative phonology in effect relies on an unspoken functional principle, but in general that generative approaches, in working with purely formal constructs (rather than functional ones) divorce linguistic structure from non-linguistic experience and communicational purposes (as argued by Vachek 1980). Nevertheless, whatever one’s view of those disputes, it is incumbent on functionalists to clarify their fundamental concepts.

The vagueness of the term “function” can be seen in various ways. One problem is that of allowing the term to cover too much ground. In Glossematics, a function is any dependency relation in an analysis (see Hjelmslev 1953, ch. 11). Similarly, in French, so-called “neo-Prague”, approaches, such as that of Hagège (1980: 187), we read that a function is any

[...] correspondence that can be found between a material manifestation, whatever it may be, provided that it is recognized as belonging to a natural language, and a certain semantic content, whatever it may be.

In such approaches, the term “functional” does indeed seem to approach equivalence with “analytical”, hence appear to be rather trivial. Furthermore, a given linguistic unit may have (and normally will have) more than one of these functions. In the expression, *in the garden*, the sign *the* has a distinctive function, because it is opposed in the same context to the signs, *a, my, this*, etc.; it has a contrastive function in signalling a nominal construction and that a noun will follow; it has a syntactic function as an article in construction with *garden*; and it has a semantic function. The semantic difference between *in the garden* and

in a garden, for example, must be due to the difference between the semantic contributions of *the* and *a*, so however difficult it may be to specify the semantic contribution of *the*, it clearly makes one. One can reasonably say that these are all different ways of looking at the same utterance. Martinet frequently supported the view that functionalism was a way of presenting a scientific view of language accounting for its communicational properties. Using distinctive function as the fundamental epistemological tool to determine linguistic units with separate identity, the other functions form a kind of hierarchy in analysis (e.g. Martinet 1975a: 98, Altmann 1981). Morais-Barbosa (2009: 78) restates that view:

La linguistique fonctionnelle est avant tout un cadre épistémologique conçu pour la description des langues.¹

However, what distinguishes mainstream functionalism is the view that linguistic identity is conferred in the first place by having a distinctive function. That is, by separately making a contribution to the structure, content, and transmission of the message. One could not reasonably speak of the other functions of *the*, unless one could say that *the* was a unit with its own distinct identity. In Martinet’s dictum “function is the criterion of linguistic reality” (1962: 5). Nothing is considered a linguistic unit (i.e. one with separate identity) unless it alone makes a difference to communication. Distinctive units are thus distinguished from those whose role is not separate from that of others. Mulder’s version of this is “all features in semiotic sets are functional”, where “functional” means “separately relevant to the purpose of the whole of which it is a part” (2011: 275). Mulder explains this in an early version of his theory (1968: 10), as follows:

Nothing can be considered functional unless it is – in equivalent contexts – opposed to, i.e. distinctive, in respect to, something else, or to the absence of any member of the same class. Non-functional elements are not regarded as part of the system.

In this view, then, the identity of linguistic units is their distinctiveness at specified levels of analysis. *The* “has a distinctive function” separately as a form-meaning unit with a grammatical potential, whereas /p/ in English is a differential unit. In the case of phonemes, for example, but *mutatis mutandis* for other units, Mulder says (1968: 187):

[...] the essence of a phoneme is the distinctive relation in which it stands in relation with regard to all the phonemes with which it commutes.

These functionalist views have not changed in the intervening years. Thus, parasitic features in phonology, such as the aspiration of English voiceless stops in absolute initial position before the vowel, or the lengthening of vowels in the context of following voiced consonants in English, or the variation in the forms of concord in Slavonic languages do not have separate identity and are, therefore, not in the inventory of linguistic units in those languages. Naturally, one can say that parasitic features or concord variation contribute to the transmission of information as contrastive features, but they do so as variants of lin-

¹ “Functional Linguistics is first and foremost an epistemological approach conceived for the description of languages” [PR].

guistic features – their role presupposes features with separate identity. Thus, the allophone, [p^h] in English, performs its signalling function in the transmission of speech acts as a variant of the distinctive unit, /p/, and the forms, /-u/ in Russian /ruku/ (“hand”) and /-a/ in /syna/ (“son”), are variants of a sign “accusative singular”, not separately relevant features in the system, although they are clearly important for the transmission and recognition of the signs in question and for their syntactic roles as “concord” features. Functionalists would say that a hierarchy of functions allows us to specify the *nature* of the communicational contribution of observables. This view has a long history, dating back to at least the work of the Prague School, and Trubetzkoy (1939) in particular in an explicit form, and much earlier in more implicit expositions, such as that of Winteler (1876) or early functionalists such as the Poles Baudouin de Courtenay (1894) and Kruszewski (1881, repr. 1995).

One can note that the issue of identifying those entities which constitute the operative distinctions in the phonology or grammar of a language, viewed as a communication system, is central to functional linguistics and its methods, but – as noted above – it is not the only functional perspective. However, it is important to remember that vagueness enters through the term “communication”, which has numerous parameters. Thus, as Hagège was pointing out (above), function must be correlated with specific communicational parameters or perspectives.

Another central point here is that functional analysis leads to an account of *communicational linguistic reality*, which differs from the account of the physical reality of the speech act. “Function” is a means of scientific analysis opposed to “nature” according to Martinet (1975a). By “function”, he means either the connections in the speech act linking the communicational units used to convey non-linguistic experience, as when speaking of syntactic functions such as “subject” or “verb”, or “pertinence” (separate relevance ensuring identity in the system). As Martinet often pointed out (e.g. 1962:14, or 1989: 61–63), the same physical features in speech can have quite different communicational functions. An example is the glottal stop, which is distinctive in Arabic, an allophonic variant in English, a contrastive feature in German, and a concomitant expressive feature in French. The physical occurrence of a feature, such as aspiration in English or concord variation in Russian, does not lead to the recognition of separate features in communication, but rather to a view of communication in those languages in which the operative distinctions are recognised as linguistic units and in which non-distinctive features are accounted for in relation to distinctive units. This use of “function” to identify the operative distinctions in communication and to separate them from physically present features, which are either merely concomitant or which play non-distinctive roles is one of the strengths of functionalism. Furthermore, the identification of functional units and roles is important in accounting for the conventional nature of verbal communication and the diversity of languages.

As functionalists of different persuasions have pointed out, this linguistic reality, focusing on those features which separately contribute to the transmission of information (are distinctive) and its organisation implies the recognition of relevant differences in verbal behaviour (Martinet 1949, 1956, 1989, Jakobson and Halle 1956, Malmberg 1972). As noted above, this view is obviously in the tradition of the Prague School. However, while the linkage of communication acts in functionalist approaches to non-linguistic experience and communicational needs serves to integrate the analysis of verbal behaviour with non-verbal reality, it has to be admitted that the analysis of functions does not lead to testable

implications for specific speech acts, and that the idea of communicational needs, though significant for the connection to non-linguistic experience, is a vague one (Altmann 1981). Communicational needs can only be recognised *a posteriori*. That is, we judge the speaker’s needs from the speech act, and not independently prior to the act of speaking. Thus, if a speaker says *pass me the salt*, we judge that the speaker had a need for salt; even if we could identify the speaker’s need for salt in advance, we could not predict the expression, *pass me the salt*, except as one of numerous possibilities – one of which is that no verbal act would occur at all – the speaker might simply pick up the salt. This is part of the vagueness inherent in the functional (and any other) approach.

Such issues, however, are removed from the business of identifying linguistic units and structures. It should be clear that the determination of linguistic units with separate identity is tested by the method of commutation, or (in America) the substitution test, and the descriptive usefulness of the method and the underlying concept have been amply demonstrated in many (often very revealing) linguistic analyses. The separate relevance, or distinctive function of a proposed analytical unit (phoneme, moneme, etc.), implies that the proposed unit must be replaceable by at least one other unit of the same type in defined contexts in such a way as to change or destroy the utterance, or that the absence of any unit of the same type in the same context will do the same (commutation with “zero”²). That is the point expressed by Mulder (above). This principle is clearly consistent with the view that the minimum communication system consists of at least two opposed possibilities (“choices” in the system) – Shannon and Weaver (1949) and Mulder and Hervey (1972). One should note, in view of what is to follow, that the establishment of a linguistic unit, such as a phoneme, i.e. the demonstration that it is functional, is not the same as calculating a value for that function.

Some questions

The usefulness of a functional approach is not in doubt. However, apart from the issues referred to above, there remains the issue of what it is “to have a function”. If we say “X has a Y”, as when we say “the phoneme /p/ has a distinctive function in English”, then one would expect that there is a phoneme /p/, there is such a thing as “distinctive function in English”, and that the two things are related by a relation of “having”. Then, one can reasonably ask:

- *What* is it that “has a distinctive (or any other) function”?
- What is a distinctive function (in English or any other system)?
- And what is it to “have a distinctive function”?

However, other interpretations of the expression “having a function” are possible. These matters can be clarified by looking at ordinary usage. In ordinary English, one can say:

John has a car
John has a wife, etc.

² A procedure, which must be used with care – as is well-known.

In both of those cases, the sentence refers to an identifiable individual (John) named by the subject and an identifiable real-world individual named by the object (a car, a wife), and the sentence asserts an ordered relation between the individuals, i.e. this possibility corresponds to the interpretation of “x has a function” in which x and a function are separate real-world entities. The relation of “having” is clearly different in the two ordinary English sentences, and that is part of the general semantic indeterminacy of the word *have*. It ranges from possession (in the first case) to “strong association in time, place, or identity with”, as also in:

London has many churches.

Whatever the semantic indeterminacy, the sentences are of the general form: $(\exists x) \ \& \ (\exists y)$ such that $(x \ R \ y)$, where “R” is the relation of “having”. Presumably, the interpretation of “having” in “having a function” would be more like that of “strong association” or “possession of a quality”, rather than “ownership”.

But what are we to say when we have such sentences as:

John has British citizenship
John has a confident personality
John has sensitivity
?

In such cases, the object does not refer to an identifiable entity in the real world separate from John, but rather to some quality which we attribute to John and which is, in some sense, inherent to him. That is we cannot say $(\exists x) \ \& \ (\exists y)$ such that $(x \ R \ y)$, because there is no *real-world* extended object, “y”, to satisfy the function³. Rather, we must look at alternative interpretations of “having”. The sentences are instances of a general scheme: $(\exists x) \ (Fx)$, where F is the function “having British citizenship”, or “having a confident personality” or “having sensitivity”.

A third possibility for interpreting “having a function” can be seen in sentences such as:

John has the function (job) of doorman.
The handle has the function of starting the engine.

Here “having a function” has the meaning “performing a role” in the case of John, the doorman, or “being used for the purpose of” in the case of the handle. These meanings are obviously close to those in the interpretation of function as pragmatic value, and – as we shall see – in the attribution of linguistic analyses to speakers.

So, when we say some linguistic unit, x, “has distinctive function”, which of the three possibilities are meant? Essentially, this comes down to the questions:

- What is it that “has a linguistic function”?
- Are there identifiable linguistic entities that exist independently of distinctive functions?

³ This is, of course, not to assert that British citizenship, confidence, sensitivity, etc. are not “realities” as concepts or constructs.

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- Do distinctive functions exist separately from formally identifiable entities which “have” them?
- In what sense can entities “have” distinctive functions?
- Do linguistic entities perform actions and/or are they entities which are “used” for communication?

Some functionalist answers

The standard forms of functionalism are rather unclear on the above matters, but it is likely that functionalists in the Prague School tradition, including followers of Martinet’s functionalism, would deny the existence of linguistic entities without distinctive function and *vice versa*. As noted above, there is a clear difference of view between those who regard (distinctive) function as an inherent property of linguistic entities and essential to analysis, and those (like Vennemann and Morin, above) who regard linguistic entities as purely formal entities. To some extent, the debate is a terminological one over what counts as a linguistic entity (but note the comments above). For functionalists, it is “function” which determines that an entity is part of a language and its position in the linguistic system. After all, for Martinet, having a distinctive function is the “criterion of linguistic reality”, so it seems he sees distinctive function as an inherent component (property) of linguistic entities such as phonemes and monemes. The “possession” of distinctive function “creates” a linguistic reality. Standard functionalists would then deny that distinctive functions exist separately from the entities which “have” them. While *functional loads* might be quantified in terms of sets of oppositions of like entities in similar contexts, distinctive functions would be a property of entities. For standard functionalists, then, “having a distinctive function” is more like “having British citizenship” or “having confidence”. It is a defining and necessary property of linguistic entities⁴, but “standard” functionalism is unclear on the ontological status of those entities – are they real-world entities or entities which have reality in our conception of them in linguistic descriptions? Are linguistic realities determined by functional analysis *constructs of the linguist*? As I have argued elsewhere (Rastall, 2013), one cannot simply attribute the linguist’s analysis to the brain or mind of the native speaker. The linguist’s analysis is at most an account of the verbal behaviour of speakers seen from a coherent point of view showing how communication can take place. We return to this issue below.

Martinet, on the other hand, presents the linguist’s analysis as an account of the behaviour of the speaker and hearer. He says (1975a: 96):

Le principe de pertinence, emprunté par les premiers phonologues à Karl Bühler, se fonde sur l’observation que la réalité physique de la parole comporte, à chaque point, des éléments

⁴ As noted above, this does not mean that other functions are unimportant. However, there is clearly a problem with communicationally relevant relations in phonology or syntax. Relations, such as subject – verb or prenuclear – nuclear (in phonology) are not “separately relevant” in the sense of being opposed to some other relation or their absence in the same context (see also Rastall 1993 on this point). Relations seem to be “functional” in the sense of “necessary for the communicational coherence of combinations”. That obviously stretches the meaning of term “functional” in a way that needs to be addressed in any functionalist theory.

d’information de nature différente que l’auditeur qui connaît la langue employée, est dressé à trier inconsciemment et à interpréter correctement. Seuls pertinents pour l’étude phonologique sont les traits de la parole correspondant aux choix faits par le locuteur [...] ⁵

The linguistic system, for Martinet, is further identified with the communicational values of the community (1975a: 97). While Martinet’s views have a plausible appeal, they are presented without evidence for a direct attribution of the linguist’s analysis to individual speakers and without separate evidence of the communicational values of the speech community. Linked to Martinet’s view that the linguistic description accounts for the behaviour of the speaker is the view of many functionalists (and others) that languages and their components are “instruments for communication” that are “used” by speakers. In extreme forms, as I have pointed out elsewhere (Rastall 2013), the view has been taken that linguistic units “do things”, i.e. perform functions, as in the third interpretation of having a function (above). The idea of languages as instruments for communication is closer to the view that speakers “do things” with words (in Austin’s formulation, 1962, followed by many speech act theorists).

It should be clear that words do not “do things” or “perform actions” (in the way that John performs the function of doorman in our example), and that it is, at best, a misleading shorthand to say, for example, that a nominative noun in Russian conveys the agent or that the English phoneme /p/ distinguishes /pat/ from /at/. One might reasonably say that people, in their verbal behaviour, “do things” or perform actions, when they speak, and our descriptions may be taken as accounts of speaker behaviour from a communicational point of view. However, that does not imply that speakers “use” a communication system as an instrument, in the way that a person might use a hammer. Such a view would require that the communicational instrument, in some sense, existed separately from the speaker, and that the speaker, in some sense, operated – consciously or unconsciously – “with” it. The vagueness of such a position is conveyed by the expression “in some sense”, but the fundamental weaknesses of this approach are, firstly, that the language or instrument of communication is the product of linguistic analysis, and, secondly, that the approach implies a distinction between a rational mind and the linguistic system, such that the mind (in some sense) operates with that system. The first point implies an unjustified attribution of the linguist’s analysis to speakers’ brains, and the second point implies an unacceptable form of mind-brain (or mind-body) dualism.

In short, the third set of ordinary-language meanings for “having a function” (above) should be avoided. (Morais-Barbosa, in the above-mentioned article, reaches a similar conclusion.) Now, while Martinet’s approach looks like the second ordinary-language interpretation (above), in Mulder’s analysis, there appears to be the alternative (first) way of interpreting the relation of having a function.

⁵ “The principle of relevance, borrowed from Karl Bühler by the early phonologists, is based on the observation that the physical reality of speech contains, at each point, elements of information of different types which the hearer who knows the language being used has been trained to sort unconsciously and correctly. The only features of speech relevant for phonological study are those which correspond to the choices made by the speaker.” [PR]

Mulder’s position

In Mulder’s axiomatic functionalism (the latest version of the theory is found in Bičan and Rastall 2011: 275ff), the first axiom states that “all features in semiotic sets are functional”, and “functional” is defined as “separately relevant to the purport of the whole of which it is part” (def. 1a). While the axiom seems to allow for a range of different functions, and later on the non-distinctive function, “contrastive function” is allowed for (e.g. defs. 18a and 19a), the definition immediately following the axiom and referring to separate relevance clearly refers to distinctive function. Distinctive function is defined later as “the set of oppositions in which an entity may partake” (def. 7a3, 2011: 278). “Features” are also separately defined as, “elements, analytical properties of elements or relations between elements or analytical properties of elements”. (See the above footnote 2 in this respect.)

At least on the surface, this looks as though Mulder is saying that one can identify semiotic features on the one hand and distinctive functions on the other, and that features and distinctive functions can be associated, where features “are functional” or “have a distinctive function”, and distinctive function can be separately calculated for any feature (distinctive feature, phoneme, phonotagm, moneme, plereme, syntagm, para-phonotactic or para-syntactic feature).

That impression is certainly confirmed in the calculus of possibilities in Mulder’s early work, *Sets and Relations in Phonology* (1968), where the distinctive functions of phonemes and distinctive features are calculated in terms of sets of oppositions (97ff and 187–8). The latest version of the theory, as noted has the same definition as in 1968 (def. 7a3, 2011: 278). Furthermore, Mulder’s “signum theory”, which (among other things) embodies the ontological framework of the theory, seems to confirm the view that Mulder’s interpretation of “having a function” is more like that in *John has a car*. This ontological framework (presented, and going through different versions, in various publications, e.g. Mulder 1993 as an example of the latest stage in development), starts with the primitive idea of an “image” (*i*) of a phonetic event.

Now, axiomatic functionalism distinguishes clearly between real-world phenomena as that which is to be analysed and described, and the linguist’s constructs which present the analysis.

We can think of the “image” as a phonetic construct of the (or perhaps better, *selected*) real-world physical properties of an utterance or part utterance. Later it is necessary to work with our construct of the information or message conveyed in a real-world utterance. An image seen in the perspective of its communicational value is a construct with both form and distinctive function (an “allophonon”, $i R d$, where $R d$ expresses the relation of “having a specific distinctive function” or “being functional”). For Mulder, a further application of distinctive function in grammar leads to the definition of the utterance⁶, $(i R d) R d$, i.e. an utterance is a model with the distinctive function of an image and the distinctive function of an allophonon – a phonetic-grammatical entity. One can generalise, to define a phonetic form, f , as a class of images ($f = \{i\}$). $[t^h]$ is a phonetic unit. A phonetic form with a distinctive function ($f R d$) is an allophone (e.g. $[t^h]$ with its distinctive function in English) and a class of allophones is a phonological form ($p = \{f R d\}$), e.g. the allophones $[t]$,

⁶ Other linguists have not followed Mulder in this, see Rastall (1993) and below for an alternative position, although that is irrelevant to the current argument.

[t^h], etc. representing the phoneme, /t/, i.e. class of allophones, each with a functionally non-different distinctive function. By adding a second level of distinctive function in grammar to the allophone ((*i* R *d*) R *d*), one arrives at the allomorph (such as [ðə]/“the”) and a phonological form with distinctive function in grammar (*p* R *d*) is an allomorph (/ðə/ – “the”). A class of allomorphs is a signum ($S = \{p \text{ R } d\}$), “the” = /ðə/, /ðij/, etc.. The approach allows one to distinguish models of particular utterances from more general models for classes of utterances – the universe of speech events under consideration in a given speech community.

The formulae of the type, $x \text{ R } y$, plainly suggest that $(\exists x)$ and $(\exists y)$ such that x and y are separate entities linked by a relation, R (see below). I have criticised Mulder’s presentation in two earlier publications (Rastall 1993 and 2011). The main criticisms are relevant to this discussion.

Firstly, Mulder’s axiom (“all features in semiotic sets are functional”) invites the question whether the copula “are” is to be interpreted as an equivalence (as in “all vipers are adders” and *vice versa*) or an implication, as in “all horses are four-legged animals” (whatever is a horse is four-legged animal, but not *vice versa*). Given Mulder’s definition of “functional” above (“separately relevant to the purport of the whole of which is a part”), one must assume that the axiom cannot state an equivalence. Otherwise, one would have to conclude (absurdly) that the steering wheel of a car or a girder in a bridge are features in semiotic sets, since they are clearly “separately relevant to the purport of the wholes of which they are part”.

Of course, one might object that the undefined term, “purport”, should be understood to mean “meaning (of a text)”, rather than “purpose or object” (of a totality). The lack of definition on that point is part of the vagueness referred to above. However, that narrower interpretation raises further difficulties, as including “meaning” would seem to restrict “functional” entities to semiotic ones, and make the axiom look tautologous. Alternatively, it would raise questions about what can be included in the already very elastic term “semiotic”. Would a brushstroke in a painting or a single note of a songbird, for example, be a (separately relevant) semiotic feature? Is the curve of a car bonnet – an aerodynamic design feature – a “semiotic feature”?

If the axiom is read as an implication, however, one must be able to identify features in semiotic sets independently of function (and *vice versa*). If “function” or “functional” enters into the definition of features, then the axiom becomes an empty tautology (“all functional features in semiotic sets are functional”). Similarly, if “semiotic feature” is part of the definition of “functional”, we arrive at “all features in semiotic sets are functional features in semiotic sets”, and – even worse combining the two – “all functional features in semiotic sets are functional features in semiotic sets”. That is, Mulder set up an axiomatic-deductive theory with definitions. When we substitute definitions for terms, the theory will only say something constructive, if it is not tautological, and that implies that the definitions of “features in semiotic sets” and “functional” are different⁷. It is difficult to follow the chain of definitions much further, but all of the “features” Mulder discusses clearly

⁷ As I understand it, Mulder’s axioms are not purely analytic (where the meaning of the predicate is contained in the meaning of the subject) or semantically empty, as in a formal axiomatic theory. They are a priori statements which can be interpreted as bringing together separate ideas to form meaningful propositions. In Kant’s terms, they are “synthetic a priori” statements.

must possess distinctive function – distinctive features, phonemes, signa, etc. or cenemes, pleremes in non-linguistic semiotic systems, etc. In other words the axiom cannot be read as an implication either.

If we look at the formalism described above, which represents the series of definitions under axiom E of the theory (2011: 283) we run into other problems. The most obvious is that a phonetic form (f) is a class, and distinctive function is attributed to f to arrive at the allophone ($f R d$). Clearly, this cannot be right. One cannot attribute the properties of members to the class, and class characteristics, such as forming a power set, cannot be attributed to the members. A horse may have four legs and a tail, but a class of horses does not.

In the first place, it is not at all clear that an image, or its real-world correlate, is *opposed to* anything. The relation of “opposition” implies comparison with other entities. The “image” is simply a record of what is found in the phenomena. That is, the allophonon is already a product of linguistic analysis (comparison). One does not (additively) attribute some separately existing function to an image. The allophonon is the linguist’s way of accounting for the communicational aspect of utterances or part utterances. The presentation of classes of classes in the model to provide an ontological framework is, therefore, rather misleading, if read in such a way that distinctive function is “added to” or somehow separate from otherwise identifiable “features”.

More importantly, the *class* of images does not have a distinctive function. One might, however, define the allophone as a class of allophonons, i.e. $\{i^1 R d, i^2 R d, \dots i^n R d\}$, where all i are members of the class, f . Presumably, what Mulder wants to say is that a distinctive function is the defining property of the members of an allophone class, and *not* that the *class* has a distinctive function. It looks as though he is using a convenient, but misleading, shorthand in the formal expression of his theory. If that is correct, “distinctive function” is not a separate linguistic entity and one cannot see the allophonon as a combination of the phonetic feature and the distinctive function, i.e. as separate entities in a relation $i R d$. They are different, but simultaneous, aspects of the same construct.

One should note, furthermore, that in the case of a relation, R , between an entity, x , and a distinctive function, d , the entity, x , appears on **both** sides of the relation in Mulder’s account, i.e. it is not the case that there are two separate entities, x and d . This is because d is the set of oppositions which x enters, i.e. $\{x \sim a, x \sim b, x \sim c, \dots x \sim n\}$, where “ \sim ” means “is opposed to”; i.e. we get by substitution, $x R \{x \sim a, x \sim b, x \sim c, \dots x \sim n\}$. So, also from this point of view, a functional entity and its distinctive function are not separable. Indeed, on this view, an entity contracts a relation with its own opposition to other entities. It is as if we are saying that the identity of John is not his differences from all other people, but the relation of John to John’s differences from other people. I am at a loss to understand what that could mean. One might speculate that Mulder was trying to find a formal way of expressing an entity in its functional aspect, but the formalisation is at best misleading.

However, that raises another wider problem. How can one attribute a distinctive function to a *construct*? Are we really to take the view that it is constructs, such as allophones or phonemes that “have distinctive function” and are separately relevant to the purport of the wholes of which they are part? Constructs would then be separately relevant to the *class* of constructs of which they are part. Rather, we should say that distinctive (or any other) function is part of the construct, and it helps us to understand the communicational value of real-world speech acts and their components.

Rastall : What does it mean to say an entity “has a function” and which entities have functions?

Yet attributing a distinctive function to a construct seems to be exactly what Mulder is saying in the above quote when he says, “the essence of a phoneme is the distinctive relation in which it stands with regard to all the phonemes with which it commutes”. Earlier, Mulder says (1968: 127):

The essence of a phoneme, i.e. the very reason for its establishment, apart from its being the minimum *syntagmatic* unit in phonology, is the *distinctive relation* in which it stands with regard to all the other phonemes in the language. This is all I mean when I say a phoneme *has* distinctive function.

But, of course, that is not all Mulder means. He goes on to say (1968: 127–8):

Once established as a distinctive item, its [the phoneme’s, the linguistic unit’s] exact distinctive function within the universe of discourse can be calculated (this is in theory even true for the distinctive function of entities in grammar) [...]

and he proceeds to present a calculus for determining the distinctive function of phonological entities.

Mulder very clearly here seems to be saying that distinctive functions are separate from the entities (e.g. phonemes) that “have” distinctive function, but there seem to be some confusions here.

A phoneme is already by definition a linguistic entity with a distinctive function. It is a functional feature. As Mulder says, that is its essence. By defining distinctive function as a sum of oppositions between phonemes or other linguistic units, distinctive function becomes a function of already functional entities. (In $x \in R d$, then, d is already included in x , just as x is included in d – as we saw above.) That is, one should distinguish distinctive function *as a defining property of linguistic entities* – i.e. the assertion that x is a functional or distinctive entity – from *a calculus of functional value or load* – the sum of the oppositions a phoneme or other linguistic unit enters⁸. Differences of functional load account for the information value of linguistic units and for the observation that some linguistic units carry more information than others. Linguistic entities in closed inventories, such as articles or prepositions, enter fewer oppositions in the same context than nouns or verbs, and thus convey less information, as quantity of information is proportional to the number of “choices” in a system⁹. Similarly, some phonemes, such as /ð/ and /θ/ in English enter fewer oppositions than others in most contexts. That may well be associated with the absence of those phonemes in some varieties as features with a low functional load tend to lose their functions or to disappear. The great variability in prepositions is also very likely related to their low functional loads. (For an interesting early discussion with many diachronic examples, see Horn 1923.)

Now, I have used the words “appear” and “seem” above with regard to the interpretation of Mulder’s presentation of his theory. This is because the issues discussed above arise

⁸ One might reserve “functional load” for specific, or micro-, contexts, e.g. the functional load of /p/ in the context /ti-/ as opposed to the functional value of /p/ in the overall system of phonemes.

⁹ It could be argued that Mulder’s first axiom is not absolutely “primitive” since it is implied by ideas from communication theory, such as the necessity of having at least two “choices” in a system for information transfer. However, it might also be argued that the first axiom is Mulder’s way of expressing those ideas.

from apparent interpretations of his theory as it is stated. In my view (although this is somewhat speculative), those are not, for the most part, interpretations that he intended. However, one can only address the theory as it is stated, and – as it stands – Mulder’s version of Axiomatic functionalism presents a view of “having a function” (of whatever sort) in which semiotic features and functions (especially distinctive function) are presented as separate entities which are linked by a relation of “having”, as in the ordinary English sentence *John has a car* (above). That view cannot be maintained. Mulder attempted to present a theory which was as explicit as possible, and he attempted to use an axiomatic-deductive framework with a formalism borrowing from set theory and relation theory. In my view, he was constrained by his own formalism, which did not say what was intended. That is, I believe Mulder’s use of the axiomatic formalism and the set-theoretical notation did not correspond to his meaning. It is an old philosophical complaint that “language” is an inadequate vehicle for expressing thoughts. That is (ironically) one reason for the development of symbolic logic (Whitehead and Russell 1910: 1–3). Mulder would probably have denied that his first axiom was either an equivalence or an implication. It is a statement of the inherent nature of semiotic entities, and his axioms and definitions an analysis of fundamental concepts. Thus, he would have said that his formalism included an analysis of the idea of “having a distinctive function” and that his concept of distinctive function was a way of calculating the value of a distinctive function. As we have seen, some of Mulder’s statements can be interpreted as taking the view that function is an inherent component of any semiotic entity. Nevertheless, the presentation is clearly misleading. One must distinguish “being functional” from “the value of a functional load”, and re-work functional constructs in that light.

Some conclusions

I should like to propose the following. Linguists set up constructs to account for the communicational value of real-world utterances and part utterances from a variety of perspectives. That is a fundamental ontological distinction. Those constructs all consist of entities which are simultaneously, inherently, and indissolubly both formal and functional. Form and function are simply different ways of viewing the *same* entities. The expression “*x* has distinctive function” is therefore misleading. The construct, *x*, is an entity (such as a phoneme) established by the linguist in which the form accounts for physical aspects of verbal behaviour (to locate the reference of a construct in the speech event) and function accounts for its communicational value from a range of perspectives. “Having a function” is thus an inherent part of the essence of any linguistic entity. We should not say that a construct such as a phoneme or moneme has a distinctive (or other) function. Rather, the function is our analytical perspective in setting up the construct.

Distinctive function is the central perspective in determining the identity of linguistic units. We cannot say that real-world speech events “have distinctive function”, as Trubetzkoy and Martinet appear to. Distinctive function is a way of accounting for communicationally relevant and observable differences in real-world speech behaviour. This view could be expressed as – “all semiotic features are form-function constructs accounting for the communicational value of real-world speech events or part events”, where the copula

expresses an equivalence. The formulation is clearly similar to the view of the sign proposed by Saussure as simultaneously and inherently the signifier of a signified and a signified of the signifier, when he says that language, and hence its components, the signifier and the signified, are indissoluble aspects of the same thing, like the recto and verso of a sheet of paper (1972: 157ff). It is also similar to the tagmemic concept of the tagmeme as a form-function correlate (Cook 1969: 15ff).

It should be noted that the view presented here differs from that of Martinet, for whom linguistic analysis is the segmentation of the phonic substance or utterance (1975b: 17) through oppositions. Martinet was following Trubetzkoy, who also saw oppositions in the phonic substance, rather than in the constructs established by the linguist and justified through the comparison of speech events or part speech events. Trubetzkoy (1969: 3) says:

Oppositions of sound capable of differentiating the lexical meaning of two words in a particular language are *phonological* or *phonologically distinctive* or *distinctive oppositions*. In contrast, those oppositions of sound that do not have this property are *phonologically irrelevant* or *non-distinctive*.

However, one cannot actually “interchange” sounds in real-world utterances. Commutations are thought experiments involving the comparison of selected (and usually generalised rather than particular or individual) sound features taken as representing real utterances or part-utterances¹⁰. So the relationship of our linguistic constructs and methods to real-world speech phenomena is not as simple as Trubetzkoy, Martinet, and others such as Jakobson suggest.

We have thus answered our questions. We have identified what “has” distinctive function and what it is to “have” distinctive function. Distinctive (and all other functions) are defining, component properties of linguistic constructs and they serve as ways of accounting for aspects of real-world communication. (A similar view of constructs is found in Lyons 1977: 233ff). To assert that *x* is a distinctive linguistic unit, or is functional, is to state that *x* is a construct which accounts for the separate communicational contribution of real-world speech events or part-events from a given perspective. The perspective will always involve the identity of the unit, and may involve other perspectives, such as the value of the unit in the transmission process of speech, or its value in combinatory relations, or its relation to non-linguistic experience, or its value as an index of social or varietal perceptions, or its role in a text, or its role in inter-personal relations (to name a few possibilities). “Functional” can be defined as the property of separate relevance to a specified parameter of communication. While “separate relevance” can be demonstrated through oppositions, the concept of “separate relevance” must be extended to allow for non-oppositional, but necessary, combinatory relations. Separate relevance in the case of relations can be seen as “necessary for the coherence of the construction of which it is a part”. While all features in semiotic sets will be functional, and distinctiveness is essential for linguistic identity, it should be clear that all functional entities may enter non-distinctive functions, and that we need to reflect that hierarchy of functions in our thinking and presentation of the theory.

¹⁰ Indeed, as Hervey (1990) says, one must distinguish linguistic data (which are themselves constructs involving comparisons, thought experiments, idealisations, etc.) from real-world phenomena with which they are connected.

The definition of “distinctive function” (in Mulder’s theory) is in fact a definition of “functional value or load”.

Real-world events are variables satisfying descriptive functions. Those descriptive functions depend on the analytical framework provided by the theory. The linguistic description provides a coherent account of verbal communication from a given point of view, but does not imply that the linguist’s constructs are cognitive entities or indeed that there are naturally occurring real-world correlates of linguistic entities. Linguistic entities are ways of understanding the world we observe from a functional perspective.

In a sense, then, this approach agrees with Martinet’s idea that functional analysis presents a linguistic reality. The hierarchy of functions is a “reality” in the sense that it is a way of understanding real-world verbal behaviour. (See also Jachnow 1981 on the hierarchy of functions.) This is similar to Martinet’s view without the assumption that the linguist’s analysis is the speaker or hearer’s verbal behaviour or some supra-individual communication system of the community. It is, however, a way of accounting for the observable properties of communication in a community. Viewed in this light, Mulder’s signum theory can be re-interpreted in such a way that we do not divorce form from function, and provided we treat the assignment of distinctive function to classes as merely a convenient, if rather misleading, shorthand. That is, when we speak of allophones or allomorphs as functional entities, it is for the purpose of generalisation over the members of the classes they name. Allophonons, allophones, phonological forms, allomorphons, allomorphs, and signa can be retained as form-function constructs in an ontological hierarchy of abstraction in the above sense, but the formalism – if retained (and I am doubtful whether an unambiguous formalism is achievable) – would have to be elucidated, and the axioms and definitions amended.

Post-script¹¹

This is not the place to re-work Axiomatic Functionalism, and I have already expressed doubts about the axiomatic format of the theory. An axiomatic-deductive approach has advantages in transparency and the organisation of our ideas. It provides starting points for discussion, but as suggested above we must be careful not to allow a format to distort the message.

That said, axiomatic functionalism has provided a number of significant contributions to functionalist linguistics. We could offer the following, as an example of how a different view of axiomatic functionalist concepts might look, and be integrated with other functionalist approaches. In a number of ways, they would be closer to mainstream functionalism, in particular in making a fundamental distinction between constructs accounting for purely differential function from those accounting for constructs with both distinctive identity and semantic value, and in regarding the model of the utterance (the sentence) as the construct which brings together all communicative perspectives. This is similar to the position adopted by Hervey (1990).

¹¹ I have inserted this section at the suggestion of Aleš Bičan, who felt that some indication of how a reworking of axiomatic functionalist concepts might look would be useful. The suggestions below are entirely my own view, and not intended to be in any way representative of axiomatic functionalist thinking.

In such an approach, an allophonon would be a form-function construct accounting for a single speech act (event) or component of a speech act (event)¹² as a physical manifestation with a separate communicational value. The distinctiveness of a given allophonon – its place as a necessary unit in a description would be tested through commutation. I.e. hypotheses of phonological units would be tested as usual by commutation, seen as a thought experiment comparing allophonons.

An allophone would be a class of communicationally similar allophonons viewed extensionally, while the distinctive function would be the defining property of the class. A class of allophones with non-different functions would be a phonological form. Classes of entities are useful as generalisations – ways of understanding classes of speech acts or part speech acts of the same sort from selected perspectives.

As already indicated, I do not share Mulder’s view of the *signum*. In my view, the allomorphon should be seen as a distinctive form-function unit bringing together an allophonon with a semantic function. Allomorphs would be classes of allomorphons, seen extensionally with a nexus of formal and semantic features defining the class, and a signum would be a class of functionally non-different allomorphs. Allomorphons, allomorphs, and signa are also distinctive entities from the point of view of their identity. Thus, they too can be viewed from the point of view of their functional value or load in a specific context. Grammatical entities, on this view, would be distinctive formal-semantic entities seen from the perspective of morphological or syntactic functions. This seems to me to be much closer to the normal understanding of the duality (or double articulation) principle, and builds in the connection between signa and non-linguistic experience that is central to functionalism.

Signa as formal-semantic entities could then also enter a range of other functions, when seen from different perspectives – e.g. associative, pragmatic or textual. The sentence would be a construct bringing together all the relevant communicational perspectives for an account of a real-world speech act or event. The model of a single speech act or event would be an “utterance” with the “sentence” as a class of utterances. Thus, an English signum, e.g. *later*, from a grammatical point of view consists of *late* + *positive comparative*, and enters a range of syntactic contexts as an adjective or adverbial. From a pragmatic point of view, an utterance of *later* can be seen as an address to the hearer to defer action, and from a textual point of view it may refer the receiver to a part of the text which is still to come. This is not exclusive. Clearly, the signum *later* can also enter a range of other functions (e.g. in combination with paratactic features) and might be seen in other functional perspectives (for example, in terms of its social and register value, as distinct from *not now*, *in due course*, *afterwards*, etc.). Following Saussure (1972: 175), one can also see *later* as entering a range of (paradigmatic) associative relations as a function of which *later* occupies a place in a kind of lexical “space” – (*lat*)*er* ~ *lighter* ~ *greater* ~ ...; *lat(er)* ~ *delayed* ~ *postponed* ~ ...

The above remarks are intended only as a way of indicating how Mulder’s ideas might be re-interpreted, and made more consistent with other functionalist approaches. They are not intended to be exhaustive or exclusive. However, we have arrived at a position in which “having a function” is similar to Hjelmslev’s notion (above) of being a component of an analysis, but where the central aim is to connect verbal behaviour to non-linguistic

¹² We can view the phenomena as either acts by a speaker or as observable events in time and space.

experience in a range of communicational parameters (as Hagège, above was clearly pointing to.) In this approach, “having a function” is inherent to our constructs as a way of understanding communicational reality from a range of specified perspectives.

References

- AKAMATSU, T. 1992. *Essentials of Functional Phonology*. Louvain: Peeters.
- ALTMANN, G. 1981. “Zur Funktionalanalyse in der Linguistik”. *Forms and Functions* (eds. Esser, J. – Hübler, A.), 25–32. Tübingen: Narr.
- AUSTIN, J. 1962. *How to Do Things with Words*. Oxford: OUP.
- BAUDOIN DE COURTENAY, J. 1894. “Próba teorii alternacji fonetycznych, Cześć 1”. *Ogólna RWF* 20.219–364.
- BIČAN, A. – RASTALL, P. (eds.). 2011. *Axiomatic Functionalism: Theory and Application*. Bern: Lang.
- COOK, W. A. 1969. *Introduction to Tagmemic Analysis*. London – New York: Holt, Reinhart, Winston.
- COSTAOUÉC, D. 2009. “Quelques propositions sur la notion de fonction”. *La Linguistique* 45:2.123–32.
- FEUILLARD, C. 2009. “A propos des fonctions syntaxiques”. *La Linguistique* 45:2.93–114.
- HAGÈGE, C. 1980. “The concept of function in phonology”. *Phonologica, Akten der vierten internationalen Phonologie-Tagung* (eds. Dressler, W. U. et al.), 187–93. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- HERVEY, S. G. J. 1990. “Sentences and the linguistic data”. *La Linguistique* 26:1.17–27.
- HJELMSLEV, L. 1953. *Prolegomena to a Theory of Language* (trans. F. Whitfield). Madison: University of Wisconsin.
- HORN, W. 1923. *Sprachkörper und Sprachfunktion*. Leipzig: Mayer und Müller.
- JACHNOW, H. 1981. “Sprachliche Funktionen und ihre Hierarchiegefüge”. *Forms and Functions* (eds. Esser, J. – Hübler, A.), 11–24. Tübingen: Narr.
- JAKOBSON, R. – HALLE, M. 1956. *Fundamentals of Language*. The Hague: Mouton.
- KRUSZEWSKI, M. 1995 [1881]. “On sound alternation”. *Writings in General Linguistics* (ed. Koerner, E. F. K.). Amsterdam: Benjamins.
- LYONS, J. 1977. *Semantics I*. Cambridge: Cambridge University Press.
- MALMBERG, B. 1967. *Structural Linguistics and Human Communication*. Springer: Berlin.
- MARTINET, A. 1949. *Phonology as Functional Phonetics*. London: Philological Society, OUP.
- . 1956. *La description phonologique*. Paris: Droz.
- . 1962. *A Functional View of Language*. Oxford: OUP.
- . 1975a. “La notion de fonction en linguistique”. *Studies in Functional Syntax*, 101–10. Munich: Fink.
- . 1975b. “A linguistic science for language and languages. *Studies in Functional Syntax*, 9–32. Munich: Fink.
- . 1989. *Éléments de linguistique générale*. Paris: Colin.
- MORAIS-BARBOSA, J. 2009. “Qu’est-ce que la linguistique fonctionnelle?” *La Linguistique* 45:1.73–82.

- MORIN, Y.-C. 1980. “The concept of function in phonology”. *Phonologica, Akten der vierten internationalen Phonologie-Tagung* (eds. Dressler, W. U. et al.), 315–21. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- MULDER, J. W. F. 1968. *Sets and Relations in Phonology*. Oxford: OUP.
- . 1993. “How real are linguistic entities? *La Linguistique* 29:2.143–67.
- . 2011. “Postulates for Axiomatic Functionalism” (with S. G. J. Hervey). *Bičan – Rastall 2011*: 275–88.
- MULDER, J. W. F. – HERVEY, S. G. J. 1972. *Theory of the Linguistic Sign*. The Hague: Mouton.
- RASTALL, P. 1993. “La linguistique fonctionnelle axiomatique”. *La Linguistique* 29:2.135–48.
- . 2008. “Aesthetic responses and the “cloudiness” of language”. *La Linguistique* 44:1.103–31.
- . 2011. “‘Theory’ in linguistics: strengths and weaknesses in Axiomatic Functionalism”. *Bičan – Rastall 2011*: 255–74.
- . 2013. “Four dogmas of linguisticism – some philosophical questions for linguists”. *Jazykovědné aktuality* 50:3/4.96–115.
- SAUSSURE, F. de. 1972. *Cours de linguistique générale* (éd. critique de T. di Mauro). Paris – Geneva: Payot.
- SHANNON, C. – WEAVER, W. 1949. *The Mathematical Theory of Communication*. Urbana: University of Illinois.
- TRUBETZKOY, N. S. 1969. *Principles of Phonology* (trans. C. A. M. Baltaxe). Berkeley: University of California Press.
- VACHEK, J. 1980. “Phonology – non-functional?” *Phonologica, Akten der vierten internationalen Phonologie-Tagung* (eds. Dressler, W. U. et al.), 387–90. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- VENNEMANN, T. 1980. “Phonology as non-functional non-phonetics” *Phonologica, Akten der vierten internationalen Phonologie-Tagung* (eds. Dressler, W. U. et al.), 391–401. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- WHITEHEAD, A. N. – RUSSELL, B.. 1910. *Principia Mathematica*. Cambridge: CUP.
- WINTELER, J. 1876. *Die Kerenzer Mundart*. Leipzig: Winter.