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*Shannon T. Bischoff,
Carmen Jany (Eds.)*

FUNCTIONAL APPROACHES TO LANGUAGE

TRENDS IN LINGUISTICS

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Shannon T. Bischoff, Carmen Jany (Eds.)
Functional Approaches to Language

Trends in Linguistics Studies and Monographs

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Functional Approaches to Language



Edited by
Shannon T. Bischoff, Carmen Jany

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Shannon T. Bischoff and Carmen Jany

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Shannon T. Bischoff and Carmen Jany

Introduction

1 Introduction

Functional approaches to language are mainly concerned with examining the question of why language structure is the way it is and with finding explanations in language use. Functionalism views language as a dynamic, adaptive, and emergent system representing crystallizations of recurrent patterns and frequent use and outcomes of internal and external competing motivations. This point of view has implications for three levels of linguistic inquiry: description, explanation, and methodology. At a descriptive level, functionalism is concerned with spontaneous, naturally-occurring language use in real time in different social situations, as most notably reflected in topics such as preferred argument structure (Du Bois 1987), conversation analysis (Schegloff 2007), and common ground management (Krifka 2008), in addition to, as Haspelmath (2008: 92–93) notes, “describing languages in an ecumenical, widely understood descriptive framework”. Unlike in generative linguistics, functionalist descriptions do not serve the purpose of being restrictive and therefore explanatory. Rather, they deal with cross-linguistic differences and linguistic idiosyncracies, alongside regular patterns. Description, then is separated from explanation in functionalism (Haspelmath 2008: 93). At the explanatory level, functionalism aims at finding explanations for linguistic structures on the basis of language use and the evolutionary and adaptive processes leading to current language usage. Functional explanations rest upon cognitive and communicative aspects of human behaviour, the changing nature of language (i.e. diachrony) and the origins of structural patterns (i.e. grammaticalization), regularities and patterns arising from frequent language use (i.e. ritualization, automatization, and exemplar-based models), and generalizations based on a wide range of languages (i.e. functional-typological approach). Grammar is not viewed as an autonomous system, because explanation can be sought in system-internal interaction (i.e. semantics explains syntax or phonology explains pragmatics, etc). Functionalism, then is data-driven and more empirically oriented than formal approaches to language, and it depends on studying real language use rather than abstract representations of language. As a result, functional approaches to language demand specific methodological choices. At the methodological level, functionalism has been linked to a wide variety of methods ranging from corpus-based linguistics (Gries 2011), psychological experimentation as in cognitive linguistics and language acquisition (Bates and MacWhinney 1982), conversation analysis (Fox et al. 2012), descriptive

grammar writing (Dryer 2006), to computer-generated exemplars (Wedel 2006), among others.

Given this broad range of phenomena related to the notion of functionalism, functional approaches have penetrated various linguistic subfields over the past four decades. Since the 1970s, inspired by the work of those such as Jespersen, Bolinger, Givón, Dik, Halliday, and Chafe, functionalism has been attached to a variety of movements and models making major contributions to linguistic theory and its subfields, such as syntax, discourse, language acquisition, cognitive linguistics, neurolinguistics, typology, and documentary linguistics. Further, functional approaches have had a major impact outside linguistics in fields such as psychology and education, both in terms of theory and application. The main goal of functionalist approaches is to clarify the dynamic relationship between form and function (Thompson 2003: 53). While in so-called formal approaches performance does not motivate competence, explanations generalizing in nature are sought on the basis of abstract linguistic representations, and crosslinguistic generalizations are due to the innate Universal Grammar, functionalists find explanation in the ways performance affects competence assuming that “language structure can be influenced by regularities of language use through language change” (Haspelmath 2008: 75).

Functional research into grammar offers new explanations for linguistic structure whereby grammar is “conceived in terms of the discourse functions from which it can be said to have emerged” (Thompson 2003: 54). This somewhat narrow view of functionalism has led to important work on discourse and grammar by Sandra A. Thompson, Paul Hopper, T. Givón, Joan Bybee, and others. Another major contribution of the functional perspective is found in linguistic typology. Building on the insights of Greenberg, Comrie’s seminal work on language universals (Comrie 1981) and his linking of typology and functional accounts of linguistic phenomena has had a profound impact on the field with the *World Atlas of Language Structures* (Dryer and Haspelmath 2011) as an exceptional resource for linguists across subfields, including researchers in documentary linguistics. Documentary linguistics, informed by and contributing to linguistic typology, has defined itself as a new subfield within linguistics, and data from previously unstudied languages are constantly re-shaping current linguistic theory. Work in language documentation is based on how actual language use is reflected in linguistic structure, a key issue in functionalism.

In the last decade there has been a sea change in linguistic inquiry as a direct result of technological advancement that has allowed for increased experimentation, corpus building and analysis, and greater communication among linguists. Moreover, during this same decade there has been a shift in the previously dominant Transformation Generative approach which has many ‘formal’ linguists

looking for answers and direction in functionalism, which in previous years was looked at as a *competing* approach, but today even to ‘formalists’ looks to hold promising alternatives to investigating language.

This volume thus reflects the widespread and in-depth impact of functionalism on the present-day linguistic scene. We now have a substantial body of literature from various perspectives on functionalism, making a positive impact on the field of linguistics in general and the various subfields, and pointing researchers in new and interesting directions. In an effort to bring leading scholars in this area together and to provide recognition to the impact of functionalist approaches on current linguistic theory, this volume highlights the nature of functionalism as an important force within linguistics defining its current and future directions. Due to the eclectic nature of functionalism, the seven papers in this volume deal with a broad range of topics from a historical overview of functionalist thinking to the examination of explanatory and methodological issues.

2 The Volume Papers

The papers in this volume remind us that language, and thus linguistics, cannot be reduced to one subfield or another. Additionally, these papers illustrate that language and linguistic inquiry can not be reduced to structure alone if we wish to understand language in its totality. Throughout this volume authors argue that the study of structure and function play crucial roles in expanding our understanding of language, but that functional approaches offer the most compelling explanation for linguistic phenomena.

In the first of seven papers in this volume **T. Givón** provides an overview of the history of functionalism in linguistic, intellectual thought and inquiry since antiquity. Starting with Platonic rationalism and Aristotelian empiricism and touching briefly upon Medieval logicians, Givón traces the direct antecedence of late-20th Century functionalism through von Humboldt, Paul and Jespersen, and subsequent work by Bolinger and Halliday. The impact of the two giants of structuralism – Saussure, Bloomfield – and of Chomsky is viewed by Givón as an important catalyst, which he traces from the late-1960s advent of functionalist thinking to the Generative Semantics rebellion of Ross, Lakoff, and others. Following what he refers to as a “despair of Chomskian structuralism”, Givón asserts that one may interpret the expanding agenda of the 1970s “as an attempt to integrate the multiple strands of the adaptive correlates of language structure: discourse/ communication, cognition, language diversity and universals, diachrony, acquisition, and evolution”.

Unlike others (e.g. Allen 2007) who make similar claims regarding the historical antecedents of functionalism in linguistics, Givón uses parallel historical antecedents in biology to make the claim that an approach to linguistic inquiry modelled on biology is preferable to that of physics which has dominated the Transformation Generative approach of Chomsky. Givón concludes with a call to look outside linguistics to allied fields such as evolutionary psychology and ethology for insights into linguistic phenomena and explanation. This call is echoed by a number of the contributing authors in this volume, a reflection of the often inter- and intra-disciplinary nature of contemporary functionalist approaches in linguistics.

In a similar vein, looking to other sciences and functionalism, **Esa Itkonen** examines the notion of function as it applies in the human sciences and the uses of functional explanation in linguistics. He argues that the methods actually used by linguists ought to be the focus of concentration in regards to explanation rather than model disciplines such as physics or biology, a seemingly opposing view to Givón's position. His argument is grounded in a set of examples (e.g. zero morphology, number systems) that are meant to illustrate the methods actually employed by linguists, in this case typologists. Itkonen concludes that typological-functional explanation, when analyzed more narrowly, is ultimately based on the notion of empathy, which according to him is by definition functional in nature, and on pattern explanation. Accordingly, Itkonen argues that this approach renders deterministic explanation unnecessary, statistical explanation valuable, but not capable of explanations in and of themselves, and Darwinist explanation simply not applicable. This final claim, regarding Darwinist explanation, is also taken up by both Givón and Harder in this volume who arrive at somewhat contrary perspectives to Itkonen – demonstrating that as with formal approaches, within functionalism there is still room for debate regarding the role and nature of evolutionary approaches to linguistic explanation.

Before moving to evolutionary arguments, **Peter Harder** claims that the division between formalist and functionalist approaches depends in part on a difference of focal research interests. Formalists, Harder explains, are interested in language structure and believe one has to start out with structure in order to understand how language functions, while functionalists believe that structure can only be understood as embedded in function – and therefore the two groups focus on different sets of problems. This seems to echo the sentiments of Chafe, who also addresses this issue from the perspective of function and structure but takes the discussion in a different direction. Harder notes that although this difference is not likely to go away, the familiar polarization is not the only possible form of the argument, and in fact there have been developments towards discussions targeted at finding common ground.

Harder then turns to recent developments in evolutionary theory, specifically in recent claims regarding niche construction and cultural evolution. Following Harder, from this position, both groups are right in their main claim: functions of units in human language as we know it presuppose structure, just as structural units presuppose function. Harder argues that from a panchronic perspective, this form of circularity can be reanalysed as reflecting a co-evolutionary spiral which reflects a series of niche-constructural bootstrapping relations between structure and function. To capture this, it is necessary for linguists to see the structure of a specific language as constituting a socioculturally entrenched system in the speakers' environment, to which learners have to adapt – until they crack the structural code, they are functionally incapacitated.

The position Harder defends belongs on the functionalist side of the divide: it sees structural categories as reflecting a partial order imposed on communicative resources, ultimately sustained by functional relations (analogous to functional relations that shape the biological evolution of organs). However, Harder argues that this view differs from some functionalist claims in seeing structural properties as distinct from the properties of online usage events. Among the issues considered in the light of this hypothesis are variability, grammaticalization, and recursion.

Wallace Chafe, like Harder, addresses the division between formalism and functionalism. Chafe begins with the question of how one goes about interpreting how something functions. Chafe argues that there are two ways to interpret how something functions. Using the notion of the automobile to illustrate, Chafe says you can study how the automobile is used to go from place to place or how it is constructed for such use. He focuses on the second approach and argues that language functions by “associating thoughts with sounds” and by “organizing thoughts in ways that make the association possible”. Chafe proceeds to explore the concept of “thought” and two contrasting perspectives of “language design”: syntax-dominated (formal) versus thought-based (functional). The remainder of the paper is dedicated to explaining and exemplifying his proposed thought-based language design tackling the relationship between thoughts and semantics, semantics and syntax, syntax and phonology, and more generally between language and thoughts. Chafe concludes that syntax is the greatest source of diversity (rather than universality) and states that language universals “may be maximally present in thoughts, a bit less in semantics, and much less in syntax”.

Finally, Chafe argues that linguists need to develop a better understanding of thought, and that this understanding can and should be reached, in part, by looking to other disciplines. This call to look outside of linguistics for answers to linguistic questions emerges elsewhere in the volume. Similarly Menn, Duff-

field, and Narasimhan argue that questions of linguistic structure can be further addressed by looking beyond functional explanation. This openness to other disciplines and subfields within linguistics is perhaps a hallmark of functionalism.

Chafe suggests that what unites functionalists is an agreement that language, and thus linguistic inquiry, cannot be simply reduced to formal syntax. This argument is made throughout this volume in nearly every chapter whether directly or indirectly and demonstrates what Chafe refers to as the comprehensiveness of functionalism. For Chafe this comprehensiveness reveals a different kind of unity in functionalism among scholars, as compared to formal approaches, “one that embraces cognitive linguistics, ethnolinguistics, sociolinguistics, psycholinguistics, pragmatics, discourse studies, corpus linguistics, language documentation, and more”.

Perhaps another hallmark of functionalism is the belief that, in general, language learning or acquisition involves the same set of cognitive mechanisms responsible for other types of learning, as opposed to views that see language learning or acquisition as unique and thus necessitating some type of language specific organ. This is the view pursued by **Michael P. Kaschak and Morton Ann Gernsbacher**. Kaschak and Gernsbacher explore linguistic change over short spans of time, i.e. minutes, days, and weeks. They look to a series of empirical studies of syntactic and phonological learning and adaptation effects from psycholinguistics to argue that the language system is quite malleable over short stretches of time, which reflects procedural learning common in other types of learning. For example, they find the following similarities between syntactic adaptation and perceptual learning: adaptations a) occur quickly, b) are long-lasting, c) are somewhat context-specific, and d) seem to follow general principles of learning and memory. Kaschak and Gernsbacher argue that this type of implicit learning, found in syntactic adaptation, follows the same general principles of implicit and procedural learning found in other domains of knowledge.

The next paper returns to issues of structure, specifically discourse structure. **Bernd Heine, Gunther Kaltenböck, Tania Kuteva, and Haiping Long** argue that attempts to reduce discourse structure to canonical principles of sentence grammar have not been successful. They further argue that most frameworks of linguistic analysis highlight phenomena of language use and/or language knowledge such as sentence and word structure, while backgrounding or ignoring other phenomena that are interpreted as being of more marginal interest for the linguist. In particular, they identify certain forms of discourse structures, such as formulae of social exchange, vocatives, interjections, and what are traditionally known as parenthetical constructions, which have turned out to pose problems to grammatical analysis. The authors argue that such units do not conform to canonical principles of sentence grammar, and rather than being located at the

periphery of language use, they play an important role in discourse organization. Heine et al. find a place for such elements in structure by appealing to Sentence Grammar (SG) which concerns itself primarily with propositional content and clauses and Thetical Grammar (TG) which in contrast subsumes elements that are seen outside SG: parenthetical constructions. They argue that SG and TG are the major components of Discourse Grammar which they outline in the paper by elaborating on the role of TG, its relationship to SG, and its role in accounting for parentheticals in grammatical structure. Heine et al. conclude, like many of the papers in the volume, by offering suggestions on how to further research in linguistic inquiry by appealing to allied fields and subfields.

Lise Menn, Cecily Jill Duffield, and Bhuvana Narasimhan further the call to look to other fields and methodologies to pursue linguistic inquiry by highlighting the benefits of combining functional approaches with greater experimental research. The authors discuss experimental methods which test functionalist explanations for formal choices, such as information flow and word order. First, they outline three problem areas for functional explanations: competing factors, constraints imposed by how the brain works, and circularity of purely text-based functional explanations. Then, they discuss how these can be addressed by experimental methods focusing on the motivations of speakers in their formal choices (rather than on the listeners). They argue that such choices are influenced by “automatic consequences of the way the brain works”, such as lexical and structural priming. Thus, the consequence is that functional explanations do not account for all instances in which particular structures are preferred over others as they may result from processing demands of the brain. However, Menn et al. argue that functional ideas can help tease apart interactions of cognitive factors that influence a particular choice. They conclude that experimental methods to test functionalist explanations are possible and necessary, but need to go through various stages of re-design as they turn out to be very tricky due to too many unanticipated variables.

Overall, the seven papers in this volume demonstrate that as a theory functionalism is answering age-old questions and raising exciting new ones. The authors remind us that there is much work to be done and that linguists may not always agree, but they do agree more than we might expect.

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T. Givón

On the Intellectual Roots of Functionalism in Linguistics

1 Antiquity

In Biology, the mother of all functionalist disciplines, one can trace two traditional lines of adaptive-functional thought. The first, global or macro functionalism, is the Darwinian discussion of **adaptive selection**, whereby organisms or populations adapt to their external environmental (Darwin 1859), or to their self-created niche (Waddington 1942, 1953; Odling-Smee *et al.* 2003). In this sense, one may consider language an adaptation selected for a particular niche in which communication enhanced sociality and conferred various adaptive-reproductive advantages (Darwin 1871; Washburn and Lancaster 1968; Lieberman 1984 Greenfield 1991; Dunbar 1992, 1998; Knight 1998; Számadó and Sathmáry 2006; Tomasello *et al.* 2005; Bickerton 2005, Givón 2009; *inter alia*).

The second line, concerning the **functional motivation** for the structure of individual bodily organs, harkens back to Aristotle, the founder of empirical biology. Two structuralist schools dominated Greek biological thought prior to Aristotle, both seeking to understand bio-organisms like inorganic matter. Empedocles proposed to explain organisms by their **component elements**, while Democritus opted for understanding them through their **component parts** – their structure.

In *De Partibus Animalium*, Aristotle first argued against Empedocles' elemental approach, pointing out the relevance of histological and anatomical macro-structure:

(1) "...But if men and animals are natural phenomena, then natural philosophers must take into consideration not merely the ultimate substances of which they are made, but also flesh, bone, blood and all the other homogeneous parts; not only these but also the heterogeneous parts, such as face, hand, foot..." (McKeon ed. 1941, p. 647)

Aristotle next noted the inadequacy of Democritus' structuralism:

(2) "...Does, then, configuration and color constitute the essence of the various animals and their several parts?... No hand of bronze or wood or stone constituted in any but the appropriate way can possibly be a hand in more than a name. For like a physician in a painting, or like a flute in a sculpture, it will be unable to do the *office* [= function] which that name implies..." (*ibid.*, p. 647; italics & bracketed translations added)

Next, Aristotle offered his functionalist touchstone – the teleological interpretation of living organisms, using the analogy of usable artifacts:

(3) “...What, however, I would ask, are the forces by which the hand or the body was fashioned into its shape? The woodcarver will perhaps say, by the axe and auger; the physiologist, by air and earth. Of these two answers, the artificer’s is the better, but it is nevertheless insufficient. For it is not enough for him to say that by the stroke of his tool this part was formed into a concavity, that into a flat surface; but he must state the *reasons* why he struck his blow in such a way as to affect this, and what his final *object* [= purpose] was...” (*ibid.*, pp. 647–648; italics added)

Finally, Aristotle outlined the governing principle of functionalism, the isomorphic mapping between form and function:

(4) “...if a piece of wood is to be split with an axe, the axe must of necessity be hard; and, if hard, it must of necessity be made of bronze or iron. Now exactly in the same way the body, which like the axe is an *instrument* – for both the body as a whole and its several parts individually have definite operations for which they are made; just in the same way, I say, the body if it is to do its *work* [= function], must of necessity be of such and such character...” (*ibid.*, p. 650; italics and brackets added)

Ever since Aristotle, **structuralism** – the idea that structure is autonomous, arbitrary and requires no ‘external’ explanation; or worse, that structure somehow explains itself – has been a dead issue in biology, a discipline where common-sense functionalism is taken for granted like mother’s milk. Thus, from a contemporary introductory anatomy text:

(5) “...anatomy is the science that deals with the structure of the body... physiology is defined as the science of function. Anatomy and physiology have more meaning when studied together...” (Crouch 1978, pp. 9–10)

Paradoxically, Aristotle, following Epicure, is also the father of structuralism in linguistics, as may be seen in the opening paragraph of *De Interpretatione*:

(6) “Now spoken sounds [=words] are symbols of affections of the soul [=thoughts], and written marks are symbols of spoken sounds. And just as written marks are not the same for all men [=are language specific], neither are spoken sounds. But what these are in the first place signs of – affections of the soul – are the same for all [=are universal]; and what are these affections are likenesses of – actual things – are also the same for all men...” (J.L. Ackrill ed. 1963; bracketed translation added)

From Aristotle’s **empiricist** perspective, thoughts (‘affections of the soul’) reflect external reality (‘actual things’) faithfully, iconically (‘are likenesses of’). What

is more, this reflecting relation is universal ('the same for all men'). In contrast, linguistic expressions ('words') bear an arbitrary relation to ('are symbols of') thoughts. And this relation is not universal ('not the same for all men').

Paradoxically again, Aristotle wound up hedging his bets about language. In his treatment of grammar in *The Categories*, and in various other works on logic (*Prior Analytic*, *Posterior Analytic*), an **isomorphism** – functionally motivated relation – is postulated between grammatical categories and sentences, on the one hand, and logical meaning.

A similar hedging of bets is found in Plato's *Cratylus* dialog (Hamilton and Cairns eds 1961), where Cratylus argues for the Aristotle/Epicure arbitrariness position (*nomos*), while Socrates argues for a motivated, natural, isomorphic relation (*physis*); and further, that language is an *organ* dedicated to the expression of meaning.

Socrates' (i.e. Plato's) naturalness position was extended to grammatical analysis in the works of the Alexandrine philosopher Marcus Terentius Varro (116–26 BC) and the Roman philosopher Apollonius Dyscolus (80–160 AD). This extension merged Plato's 'naturalness' position concerning the compositionality of lexical words with Aristotle's functionalist analysis of grammatical categories (Itkonen 2010).

2 Middle Ages to the 19th Century

Most later Platonists opted for Socrates' naturalism and universality. And indeed, from early on there tended to be a less-than-perfect clustering of approaches to language along the philosophical dichotomy of Aristotelian **empiricism** vs. Platonic **rationalism**.

(7) domain	functionalism	structuralism
epistemology:	rationalism	empiricism
motivation:	naturalness	arbitrariness
universals:	universality	diversity
mind:	mentalism	externalism
ontology:	innateness	input-dependence
diachrony:	emergence	???
evolution:	evolution	???

That the clustering in (7) was imperfect was obvious from two glaring exceptions. The first goes back to Aristotle: Medieval Latin grammarians/logicians, the