

## The Prague School and North American functionalist approaches to syntax<sup>1</sup>

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(Received 18 November 1999; revised 12 May 2000)

Modern functionalist approaches to syntax were pioneered in the 1920s by the scholars associated with the Linguistic Circle of Prague and Prague-based functionalism is a dynamic force today. Nevertheless, citations of this work by North American functionalists are few and far between. This paper sets out to explain that state of affairs. It pinpoints the profound theoretical differences between mainstream North American and Czech approaches that have led to partisans of the former losing interest in the latter. The paper argues that, on the other hand, Praguian functional syntax has a great deal in common with more ‘formal’ functionalist approaches and with much work in formal semantics. Not surprisingly, then, recent years have seen increasing productive collaboration between North American and Western European practitioners of these approaches and members of the Prague School.

### 1. OVERVIEW

A compelling problem for linguistic historiography is the apparent lack of influence of the work of the Prague School linguists on North American functional syntax. It is not only true, but also a truism, that the first major call for a ‘functionalist’ approach to language came from scholars associated with the Linguistic Circle of Prague in the 1920s. It is also well known that after an interruption created by the Second World War and the ensuing period of extreme Stalinism, Czech and Slovak linguists were in the late 1950s again developing functional approaches to syntax. And yet, in most major functionalist syntactic work of the past decade written or edited by North American (and many Western European) scholars, one searches in vain for discussion, favorable or critical, of ideas put forward by the Praguians.

One’s first thought might be that we have here a classic case of (mostly) American linguists ignoring anything published outside the 50 states. But I

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[1] I would like to thank the following individuals for their comments on a pre-final version of the paper: Wallace Chafe, Catherine Chvany, Julia Falk, Eva Hajičová, Petr Sgall, Mark Steedman and Karen Zagana. Other friends and colleagues made helpful suggestions on its subject matter and are hereby acknowledged: Edwin Battistella, Joseph Greenberg, Paul Hopper, Laurence Horn, Talmy Givón, Susumu Kuno, George Lakoff and Barbara Partee. An earlier version was presented at the Eighth International Conference on the History of the Language Sciences, held at Fontenay-aux-Roses, France, in September 1999.

will argue below that American insularity is not the principal explanation. The evidence, both textual and that based on personal recollection, points to a reasonable degree of familiarity with Praguian work in the early 1970s, when functionalist studies started to dot the American linguistic landscape.<sup>2</sup> But for reasons I will explain in some detail, it was around this time that many American functionalists lost interest in the work of Czech linguists and therefore stopped following new developments in Prague School syntactic research. In fact, the mainstream of American functionalism continues to believe, with considerable justification, that their theory and methodology is at great remove from that of the Praguian scholars. However, another group of American (and American-trained) linguists, whom I call ‘formal functionalists’, shared with the mainstream some, but not all, of their reasons for turning away from Prague School research in the 1970s. This group did continue to cite and reinterpret Praguian work over the next two decades and now a number of its adherents have a close working relationship with members of the Prague School.

## 2. A GLIMPSE AT THE PRAGUE SCHOOL APPROACH TO SYNTAX

Both the founder of the Prague School (PS) itself and the principal initiator of its syntactic studies was Vilém Mathesius (1882–1945). Drawing on the earlier linguistic studies of Weil (1844/1887), Wegener (1885) and Gabelentz (1891), and on the psychological theory of Bühler (1934), he advocated an approach to grammar that he called ‘functional sentence perspective’ (FSP) (Mathesius 1927/1983: 126). FSP looks at the utterance from the point of view of the information conveyed by it. In particular, utterances are said to be composed of two components: the *THEME*, which represents material familiar to the addressee, and the *RHEME*, which expresses what is new and asserted about the theme. Mathesius saw the natural condition for language to be for thematic elements to precede rhematic elements, but was aware that the theme-before-rheme ordering was only a tendency. Much of his work was devoted to showing how in different languages (generally Czech, English and German) FSP interacts with other systems in the particular language. Czech exhibits FSP in its ‘purest’ form; given the relatively free word order of that

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[2] The majority of Prague School syntactic work has been published, quite reasonably, in Czech, a language which few North American scholars can read, no matter how ‘internationalist’ their orientation. However, my feeling is that sufficient material has appeared in English (and in French and German) to allow the interested non-Czech scholar to appreciate the full range of Prague School theory and analysis. Some of this material, of course, has appeared in publications that are not easily obtainable in North America. Hajičová & Sgall (1975: 47) attribute the lack of attention paid to the work on focus in Sgall (1967) and Dahl (1969) to ‘the non-American origin of the authors’. But that cannot be the entire story. The former was published in a journal of mathematical linguistics and the latter by a regional Swedish press. I doubt that either publication could have been found at the typical North American university library in 1975.

language, the speaker is generally free to put the thematic element in initial position. English, on the other hand, has strict grammatically-determined word order requirements which (in general) require the order subject-verb-object. Interestingly, as he pointed out, English has developed a set of processes which serve to make the subject thematic: a productive and frequently-used passive construction; the development of personal constructions (*I am sorry to hear that*); and the loss of impersonal constructions such as *(to) me is cold*.

Mathesius, like other members of the PS, saw himself as both a functionalist and a structuralist. Indeed, he called his approach ‘functional structuralism’ (Mathesius 1961/1975: 12). By 1936 he was characterizing the ‘sentence’ as an element of a structural system, to be encompassed under *langue*, rather than *parole* (see also Karcevskij 1931/1964):

[T]he sentence...does not entirely belong to the sphere of speech, but depends in its general form on the grammatical system of the language in which it is uttered. (Mathesius 1936/1964: 317)

In other words, he distinguished between the abstract system of grammatical elements and the communicative functions to which the elements of that system were applied. Many of his uses of the term ‘function’, in fact, refer to functioning internal to the system. That is, he considered a ‘functional’ distinction to exist between any two grammatical elements that contrast paradigmatically.

The leading PS syntacticians of the 1960s and the 1970s were František Daneš and Jan Firbas.<sup>3</sup> Daneš in a series of publications advocated a view of the interaction of form, meaning, and use that he called a ‘three-level approach to syntax’ (Daneš 1964). The levels are:

1. The grammatical structure of the sentence.
2. The semantic structure of the sentence.
3. The organization of utterance.

Daneš characterized the grammatical level as ‘autonomous, and not one-sidedly dependent on the semantic content: consequently, it is a rather self-contained and determining component’ (1964: 227), and provided a number of concrete examples illustrating the independence of syntactic patterning from semantics. He went on to propose a set of dependency-based rules to characterize the syntactically well-formed sentences of the language.

Daneš (1968) proposed two distinct semantic levels, one encoding ‘cognitive content’ and the other ‘linguistic meaning’ (the ‘semantic sentence pattern’ or ‘SSP’). The former level pertains to the logical structure of the

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[3] Firbas passed away on 5 May 2000. Daneš is a productive scholar to this day.

sentence, the latter to the specific contribution to the meaning of the lexical items and their syntactic interrelationships. Hence, semantic roles such as ‘actor’, ‘bearer of attitude’ and so on are properties of this level. The sentences *John likes music* and *Music pleases John*, then, are identically represented in terms of their cognitive content, but differently in terms of their SSP.

Pragmatic information, that is, ‘all extra-grammatical means of organizing utterance as the minimal communicative unit’ (1964: 228), is encoded at the third level. Here is where we find Mathesius’s functional sentence perspective. In languages such as Czech, in which word order is largely a property of FSP, generalizations about the sequencing of grammatical elements are stated at this level. However, Daneš noted that ‘some [word order generalizations] may be operative on the grammatical level, too’ (1964: 228).

Firbas’s main contribution was to develop an all-encompassing generalization operative at this third level (Firbas 1964b; 1965; 1971; 1974). This he called ‘communicative dynamism’ (CD) and redefined FSP in terms of it:

By FSP we understand the distribution of various degrees of communicative dynamism (= CD) over the elements within the sentence, this distribution being determined by the co-operation of the grammatical and semantic structures of the sentence under certain conditions of contextual dependence. By the degree of CD carried by a sentence element, we understand the extent to which the sentence element contributes to the development of the communication, to which, as it were, it ‘pushes’ the communication forward. (Firbas 1965: 170)

Firbas redefined the ‘theme’ as that element with the lowest degree of CD, the ‘rheme’ as that element with the highest, with the ‘transition’ in between. These redefinitions allowed for the possibility that new information might be thematic (Firbas 1959).

Firbas believed that there were extralinguistic reasons, rooted in the nature of human communication and cognition, for the most thematic elements to come first in the utterance, followed in their turn by elements with ever increasing amounts of CD, with the most rhematic element at the end:<sup>4</sup>

Sentence linearity is an indisputable fact. It makes the speaker/writer arrange the linguistic elements in a linear sequence, in a line, and develop the discourse step-by-step. I believe to be right in assuming that the most natural way of such gradual development is to begin at the beginning and proceed in a steady progression, by degrees, towards the fulfillment of the communicative purpose of the discourse. If this assumption is correct, then a sequence showing a gradual rise in degrees of CD (i.e. starting with the

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[4] Jakobson (1963) considered the principle that theme precedes rheme to be an ‘iconic’ one, since the flow of information from old to new matches the flow in time of the speech act.

lowest degree and gradually passing on to the highest degree) can be regarded as displaying the basic distribution of CD. I also believe to be right in assuming that this conclusion is quite in harmony with the character of human apprehension. (Firbas 1971: 138)

But Firbas also was aware that many sentences do NOT in fact show an inexorable rise in degree of CD. For example, in the sentence *A girl came into the room* (Firbas 1974: 18), the phrase *a girl* is most likely the rheme. He posited that a countervailing force was at work in such sentences. Verbs such as *come (into)* that explicitly convey the meaning of appearance or existence ‘show a strong tendency to recede into the background and to be exceeded on CD in the presence of a context-independent subject’ (Firbas 1992: 59). He also devoted considerable attention to how the semantic structure of the sentence affects FSP. In the above sentence, for example, the rhematic nature of the subject is signaled by its indefinite article.

The late 1960s saw the beginnings of an attempt to unify PS conceptions with work that was being done in generative grammar at the time. Sgall, Hajičová & Benesová (1973) pulled together the articles of the individual authors over the previous few years and proposed to integrate FSP into a generative semantic model of grammar whose semantic representations were case grammar trees. This work, called ‘Functional Generative Description’ (FGD), incorporates the notion of ‘CD’, but in a more precise sense than that of Firbas. The authors derive the amount of CD of a grammatical element from its role in semantic interpretation, based on its degree of ‘communicative importance’. However, given that the element with the greatest amount of communicative importance tends to be sentence-final, the idea of a gradual rise in CD is maintained. FGD is updated and treated in greater detail in Sgall, Hajičová & Panevová (1986).

An interest in the realization of the discourse notions ‘topic’ and ‘focus’ in terms of the syntactic structure of the sentence has played a central role in PS theorizing to the present day (see, for example, Hajičová 1993, 1994; Sgall 1994; Sgall, Hajičová & Panevová 1986; Firbas 1992; among other work).<sup>5</sup> Many of the essentials from the earlier studies of Daneš and Firbas are maintained (including a version of CD), though at a vastly more sophisticated level. The syntactic model has remained a version of dependency theory; a number of recent studies have built on the contribution of sentence meaning to CD, using dependency-based configurations of semantic relations to characterize the sentence topic and focus. A considerable amount of attention has been paid to valency relations as well – a more pressing issue for dependency theory than for constituent structure theory – much of it

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[5] The earlier terms ‘theme’ and ‘rheme’ are now generally referred to as ‘topic’ and ‘focus’ respectively. For an overview of the different positions that were taken on this issue in the 1970s and 1980s, see Sgall (1987a, b). Sgall (1994) is a useful overview of the entire history of PS theorizing about meaning and discourse.

anticipating later generative work in argument structure (Hajičová & Panevová 1984; Panevová 1974–1975; 1977).

In short, the main thrust of the PS has been to attempt an integrated formal model of structure, meaning and use, in which each component retains some degree of autonomy. How the PS linguists place themselves with respect to other trends can be appreciated from the following colorful metaphor:

The former, Chomskyan, Montaguian, and other trends – if viewed from a Praguian perspective under which the whole ‘building’ of communication within a linguistic community rests on its ‘basement’ consisting in the common language – construct this basement without realizing that it is a basement rather than a whole house....On the other hand the pragmatically oriented trends...would like to erect the building without any basement, arguing that those concentrating on the basement can never build the house. ... For those who are willing to divide the labor, since they realize that language is a complex instrument of human communication and that a systematic description of the instrument should be integrated into that of the activity, the Praguian approach offers useful starting points. (Sgall 1987b: 174)

### 3. THE BEGINNINGS OF AMERICAN FUNCTIONAL LINGUISTICS

The United States, throughout most of the twentieth century, gave first place to form-centered (as opposed to meaning-centered or function-centered) approaches to grammar. For Bloomfield (1933) the centrality of meaning did not prevent it from being ‘the weak point in language study’ (1933: 140), and therefore he advocated that primary attention be paid to the formal distribution of grammatical elements, followed by an investigation of their semantic properties. Some of his followers in the 1940s and 1950s were zealous in their attempt to literally confine grammatical analysis to a presentation of the distribution of these elements. The central document of early generative grammar, Chomsky (1957), reasserted the primacy of the investigation of form, providing empirical arguments for the desirability of characterizing syntactic patterning in terms of an autonomous generative system (for discussion, see Newmeyer 1986). While he stressed throughout his 1957 book the need for a model of syntax to connect with models of meaning and use, the practical consequence of the adoption of the autonomy hypothesis was to keep studies of the latter in the background among generative linguists until the 1970s.

At no time, however, has the idea of formal autonomy been so strong among American linguists that rival approaches have not had a voice. Even in the 1940s and 1950s there were active and respected members of the field whose goal was to attempt to explain the formal distribution of grammatical elements by appealing to their external function, particularly their function

in discourse. And by the early 1970s a functionalist opposition to generative grammar was very much in evidence. Two already highly prominent linguists stand out as inspiring forces for the development of this trend – Dwight Bolinger and Joseph Greenberg. Bolinger had received a Ph.D. in Spanish from Wisconsin in 1937 and went on to teach at a variety of universities before settling at Harvard in 1963. He became known in the 1940s for his many articles on intonation, most leading to the conclusion that it had to be described, contrary to Post-Bloomfieldian opinion, by devices that allowed for nondiscrete continua. With the advent of generative grammar, he continued in the vein of attempting to demonstrate that meaning and function were such overweening factors in the shaping of form that attempts to construct an autonomous theory of grammar could only be wrong-headed. Many of the next generation of American functionalists share Talmy Givón's feeling that it was Dwight Bolinger who taught them 'that language could only be understood in the context of communication' (Givón 1979a: xiv).

Greenberg's background was rather different from Bolinger's. He was a 1940 Ph.D. from Northwestern, and in the 1960s a professor in the Anthropology Department at Columbia University. Greenberg published in general linguistics, and in language typology and classification, particularly of the languages of Africa. It was his 1963 paper on language universals that was to underlie not just American approaches to typology, but to give American functionalism its distinct stamp as well. This paper added the initials 'VSO', 'SVO' and 'SOV' to the lexicons of most of the world's linguists and initiated the program of attempting to find functional explanations for typological patterning. For example, the last section of the paper attributes the predominance of noun-adjective and subject-verb order to 'a general tendency for comment to follow topic' (Greenberg 1963: 100) and three universals that exemplify a 'general tendency to mark the ends of units rather than the beginning' are 'probably related to the fact that we always know when someone has just begun speaking, but it is our sad experience that without some marker we don't know when the speaker will finish' (1963: 103).

The major impetus to the formation of a functionalist movement in American linguistics in the 1970s came from developments internal to generative grammar. In the early years of this decade the approach known as 'generative semantics' had become predominant. In essence, generative semantics advocated the representation of all aspects of utterance interpretation in the underlying syntactic structure of the sentence, which was now regarded as identical to its semantic representation. Most importantly for our purposes, these included those aspects related to discourse function:

Given a syntactic structure  $(P_1, \dots, P_n)$  we define the semantic representation SR of a sentence as  $SR = (P_1, PR, Top, F, \dots)$ , where PR is a

conjunction of presuppositions, Top is an indication of the ‘topic’ of the sentence, and F is the indication of the focus of the sentence. (Lakoff 1971: 234)

Hence the path was now open for exploring the interrelations of form and function within syntactic theory.<sup>6</sup>

The two linguists associated with the generative semantic movement who were most instrumental in blazing the functionalist trail had established reputations in the field before generative semantics took off in the late 1960s. They were Wallace Chafe and Susumu Kuno. Chafe had received his Ph.D. from Yale in 1958 and taught at the University of California at Berkeley, specializing in the languages of Native America and semantics. Kuno was a 1964 Harvard Ph.D. who stayed on at that institution first as an instructor, then a professor, and who worked in the areas of Japanese syntax and mathematical linguistics.

Chafe, in his book, *Meaning and the structure of language* (Chafe 1970), developed a version of generative semantics giving far more prominence to discourse concepts such as ‘old information’ and ‘new information’ than had been the practice among American generativists. Kuno published a series of papers (Kuno 1969; 1972a, b; 1973a; 1974) and a book (Kuno 1973b), each of which was full of examples arguing that generalizations that formal generative grammarians had attempted to capture in the grammar proper lent themselves to explanations appealing to discourse function or to language processing.

Chafe and Kuno were to lead American functionalism in two markedly different directions. Chafe soon broke with generative grammar *in toto* and inspired a brand of functionalism diametrically opposed to all forms of formal linguistics. As Johanna Nichols characterizes this trend:

[Functional grammar] analyzes grammatical structure, as do formal and structural grammar, but it also analyzes the entire communicative situation: the purposes of the speech event, its participants, its discourse context. Functionalists maintain that the communicative situation motivates, constrains, explains, or otherwise determines grammatical structure, and that a structural or formal approach is not merely limited to an artificially restricted data base, but it is inadequate even as a structural account. (Nichols 1984: 97)

Since most American functionalists adhere to this trend, I will refer to it and its practitioners with the initials ‘USF’. Some of the more prominent USFs are Joan Bybee, William Croft, Talmy Givón, John Haiman, Paul Hopper, Marianne Mithun and Sandra Thompson. In its most extreme form (Hopper 1987, 1988), USF rejects the Saussurean dichotomies such as *langue* vs.

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[6] For early interpretivist approaches to focus, see Chomsky (1971) and Jackendoff (1972).

*parole* and synchrony vs. diachrony. All adherents of this tendency feel that the Chomskyan advocacy of a sharp distinction between competence and performance is at best unproductive and obscurantist; at worst theoretically unmotivated.

Note Nichols' stress upon the communicative situation 'motivating', 'constraining', 'explaining' and 'determining' grammatical structure. It is a watchword of USF that a system-internal explanation is no explanation at all. In order to explain the properties of language, it is necessary to go outside the system and appeal to properties of language users' minds and behaviors as well as to what is observed in the process of language change. Hence, central to explanation within USF are the cognitive representations of the conceptual relations among grammatical elements and strategies for successful communication and for processing language in real time.

Following the example of Joseph Greenberg, USF is characterized by a profound interest in typology. Increasingly, USF has taken the position that all universal aspects of language are functionally-motivated and representable by implicational hierarchies, arrived at through typological investigation. That which is arbitrary is language-specific. Hence, it goes without saying that the 'balance' between what is language-particular and what is universal cannot even begin to be appreciated without a wholesale commitment to typology.

Kuno was to lead American functionalism along a different path. Most importantly, he did not challenge the fundamental theoretical underpinnings of Chomskyan linguistics. Indeed, he has written that 'in theory there is no conflict in principle between functional syntax and, say, the government and binding theory of generative grammar' (Kuno 1987: 1) and even writes about 'the discourse component of the grammar' (Kuno 1980: 117). Those linguists who have worked along the lines that Kuno advocates typically probe the interactions of grammar and discourse, without making the claim that the former can be derived, in any interesting sense, from the latter. In fact, Ellen Prince, after Kuno the most prominent adherent of this tendency, argues that discourse analysis is 'part of the study of linguistic competence' (Prince 1988), a conclusion based on what she sees as the high degree of arbitrariness of the relationship between syntactic structure and discourse function. Given the close ties between this brand of functionalism and formal linguistics, I refer to it as 'formal functionalism'.<sup>7</sup> In addition to herself and Kuno, Prince (1991: 79) names the following as advocates of the 'formal functionalist' position: Nomi Erteschik-Shir, Jacqueline Guéron, Jeanette Gundel, Georgia Green, Laurence Horn, Tony Kroch, Gary Milsark, Tanya

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[7] Newmeyer (1998) excludes formal functionalism entirely from the domain of 'functionalism', and reserves the term for approaches in agreement with the above Nichols quote.

Reinhart, Michael Rochemont, Gregory Ward, Yael Ziv and Anne Zribi-Hertz.<sup>8</sup>

There is no sharp boundary between what I have called ‘formal functionalism’ and that branch of formal semantics devoted to what is known as ‘information structure’, namely the use of logical tools to characterize the nature of topic, focus and discourse referents. Hence, section 6, which addresses the current relations between the PS and formal functionalism, will by necessity include discussion of its relations with information structure semanticists as well.

#### 4. PRAGUE SCHOOL INFLUENCE ON EARLY AMERICAN FUNCTIONALISM

There is strong evidence pointing to the conclusion that the pioneers of American functionalism not only were familiar with the central writings of the PS, but found them intellectually inspiring. I will demonstrate this point by reference to the work of Bolinger, Greenberg, Chafe and Kuno.<sup>9</sup>

Bolinger had begun to refer to the work of PS linguists as early as 1965. A book published in that year (Bolinger 1965a) reprinted some of his early papers and contained some never published ones as well. In a new preface to one of the former (Bolinger 1952/1965), he remarked that when he wrote the article, he ‘was not aware of the earlier work of V. Mathesius and the recent work of Jan Firbas on what Firbas calls “functional sentence perspective” ...’ (p. 279) and went on to cite a paper of Firbas’s and to characterize the (rather minor) differences between their respective positions. In a new paper in that same volume (Bolinger 1965b), he expressed his debt to a ‘cautious statement’ (p. 167) in Daneš (1957) regarding stress-timed rhythm in English that had helped to shape his thoughts on the matter. And in his popular 1968 introductory text, *Aspects of language*, Bolinger notes:

A group of Czech linguists refers to this tendency of many languages to put the known first and the unknown or unexpected last as ‘sentence perspective’ [a footnote here cites Firbas 1964a]. They point out that, in order to communicate the sentence dynamism that has been partially lost by the stiffening of word order, English must resort to other stratagems,

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[8] Not all of the above scholars are employed at American universities. Guéron and Zribi-Hertz are located in France; Reinhart, Ziv and Erteschik-Shir in Israel; and Rochemont in Canada. All but Zribi-Hertz have American doctorates, however.

[9] In this and the following sections, I will confine my discussion to direct influence by Czech and Slovak scholars identified with the PS. A more indirect influence comes from scholars who were members of the PS, or were closely identified with it, but worked elsewhere. Lucien Tesnière, Michael Halliday, Simon Dik, André Martinet and Oswald Ducrot are noteworthy examples. If their influence were included in the discussion, then of course the intellectual debt of American functionalism to the PS would be greater.

and these are among the things that give the language its distinctive syntactic appearance. (Bolinger 1968: 119–120)

Bolinger continued to cite PS work until the end of his career. For example, we find in Bolinger (1986) and Bolinger (1989) some discussion of the approach to accent prominence taken in Daneš (1960).

The influence of the PS permeates every page of Greenberg's seminal paper. Indeed, by Greenberg's own acknowledgement (Greenberg 1963: 104), the paper was written in response to Roman Jakobson's call for an 'implicational typology' of language universals (Jakobson 1957/1971). PS terminology is also rampant in the Greenberg paper, as is evidenced by the frequent description of one order of elements as being 'more marked' or 'less marked' than another.

In his 1970 book, Chafe notes that 'the basic role played by semantic structure in the structure of language... has been seriously neglected by the mainstream of linguists' (Chafe 1970: 210). To this remark he adds in a footnote:

It has not been totally neglected, however. Some members of the 'Prague School' have given it considerable attention, beginning with Vilém Mathesius and continuing now with, especially, the work of Czech linguists such as Jan Firbas (see Firbas 1966 and numerous other publications). (Chafe 1970: 210)

Kuno bestowed upon the PS a signal honor – he named one of his papers 'Functional sentence perspective' (Kuno 1972a), and began the acknowledgement footnote with the following remark:

I am most grateful to Jan Firbas for discussing with me the theme-rheme (or predictable-information vs. unpredictable information) interpretation of *wa* and *ga* in Japanese. The reader will find that I have been greatly influenced in my analysis by the Prague School notion of functional sentence perspective. (Kuno 1972a: 269)

We have the personal testimony of the 'second generation' of functionalists, as well, that their mentors, Chafe and Kuno, valued the work of the PS enough to call their attention to it:

Wally Chafe's work in the 1960s was an important influence on my thinking, and it was Chafe who got me to reading the Prague School work... I heard Chafe give lectures in the 1960s in which he referred to FSP, and spoke of it as the basis of his ideas. Pre-war names like Mathesius were often mentioned, so this wasn't merely the newer Prague School. (Paul Hopper, personal communication, 20 January 1999)

Incidentally, the person who pushed Prague School ideas on information flow the most here at Berkeley during the 70s was Wally Chafe, who of course was a major force behind the formation of the functionalist school

first here and later at Santa Barbara. (George Lakoff, *Funknet* posting, 11 February 1999)

At least by the early 1970s, Kuno was indeed talking about the Prague School. I remember reading Mathesius and Firbas on his recommendation at that time. (Ellen Prince, *Funknet* posting, 16 February 1999)

In short, there can be no question that the American functionalist movement, as it took form in the early 1970s, was shaped to a significant degree by the conceptions of the PS. Why this influence did not continue to the present day is the topic of the next section.

##### 5. THE AMERICAN MAINSTREAM FUNCTIONALIST TURN AWAY FROM THE PRAGUE SCHOOL

We find fewer and fewer references to the work of the PS in USF publications starting in the mid 1970s. After documenting this fact, I will attempt an explanation. My interpretation of this state of affairs will necessarily be more speculative than were the remarks of the previous sections. After all, one rarely presents one's reasons for NOT citing a particular publication.

Two major events of the mid 1970s signaled the coming of age of American functionalism. The first was a sequence of three annual conferences held at the University of California at Santa Barbara in 1974, 1975 and 1976 and quickly published as Li (1975, 1976, 1977). Most (though not all) of the contributions represented the nascent USF discussed above and dealt with 'traditional' functionalist issues, such as the role of subject and topic in word order and motivations for syntactic change. The other was a parasession on functionalism held in conjunction with the annual meeting of the Chicago Linguistic Society (Grossman, San & Vance 1975). Most (though not all) of the contributions were in the general domain of formal functionalism. In both the former three-volume set and in the latter parasession volume, references to the PS are conspicuous by their absence. The three Li volumes contain respectively 12, 18 and 14 contributions; references to PS work in syntax number 2, 3, and none at all. Of the 37 papers in the parasession volume, only 3 cite the PS.

After the mid 1970s references to PS work in syntax in USF publications all but disappear. I think that it is fair to cite the following papers as landmarks in the development of this approach: Hooper & Thompson (1973), Hopper & Thompson (1980, 1984), Langacker (1974), Haiman (1980, 1983) and Mithun (1984). Aside from some remarks in Haiman (1980) crediting Jakobson for the importance of iconicity in grammar, no PS work is cited at all in any of these papers. Of the (arguably) most important USF anthologies from the late 1970s to the late 1980s, the PS reference tally is as follows (again, exempting Jakobson on iconicity): Givón (1979b): 4 out of 20; Givón (1983): 2 out of 10; Haiman (1985), 0 out of 15; Craig (1986): 0 out

of 20; Tomlin (1987): 1 out of 20; Haiman & Thompson (1988): 0 out of 14; Traugott & Heine (1991a): 0 out of 12; Traugott & Heine (1991b): 0 out of 15; Downing & Noonan (1995): 6 out of 18; and Tomasello (1998): 0 out of 10.

Turning to more recent books by individual authors, we find the same state of affairs. None of the following works of USF contain a single reference to publications of the Prague School: Croft (1990); Heine, Claudi & Hünemeyer (1991); Bybee, Perkins & Pagliuca (1994); and Givón (1995).<sup>10</sup>

I feel that it is safe to conclude, then, that USF has turned its back on the PS. The question is ‘Why?’. There are many reasons that one might point to. The first and undoubtedly most critical is the increasing disparity between the theoretical conceptions of the PS and those of USF. As this latter movement developed, it became increasingly hostile to the idea of a model of grammar in which distinct principles apply at distinct levels. The one homogeneous syntax-semantics-pragmatics envisioned by many American functionalists is a far cry from Daneš’s vision of a three-level model of grammar. Indeed, in recent years, many American functionalists have started using the term ‘structuralist’ as a pejorative appellation for any model in the Saussurean tradition (see, for example, Noonan 1998). The PS, which has always worn its structuralist roots on its sleeve, has for that reason seemed less and less appealing to American functionalists. I doubt that many would regard the ‘Functional Generative Description’ incarnation of PS syntax as differing in any more than nuance from other formal approaches. Givón (1995: 309) has condemned two models of grammar whose conceptions bear a strong resemblance to those of the PS, Role-and-Reference Grammar (Van Valin 1993) and Functional Grammar (Dik 1989), for ‘the practice of conferring functional-sounding labels on grammatical structures’. One imagines that he would render a parallel judgment for the PS itself.

I think that many USFs have come to believe – largely correctly, I would say – that their understanding of the notions ‘function’ and ‘functionalism’ are rather different from those of the PS. For USFs, ‘functions’ are, by definition, EXTERNAL to the language system itself and therefore explanations of these functions must be external as well. PS linguists do at times appeal to this sense of function, viz. the remarks in 2 above on their explanation for a gradual increase in CD in the course of a sentence. However, they also have a very different sense of ‘function’ in mind, and one which USFs do not regard as part and parcel of a functionalist approach at all. This sense is a description of the functioning of grammatical elements INTERNAL to the system, that is with respect to each other. As Mathesius put it:

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[10] Croft (1991) contains a one-page discussion of some Praguian work and Comrie (1989) gives a couple of literature references, but provides no discussion of them. The longest discussions of Praguian conceptions of which I am aware in current mainstream functionalist writing are the two three-page summaries and critiques by Wallace Chafe (1994a, b).

The second feature that distinguishes functional structuralism [i.e. the PS approach] from the previous currents is the conception of the system. Language can be used as a means of communication only because it forms a system of signs which are interrelated and balanced in a certain manner. If this system is disturbed, a new equilibrium is achieved through the workings of the language itself. (This point was discussed by Roman Jakobson, a member of the Prague School in *TCLP* 2, 1929 [= Jakobson (1929/1971)].) (Mathesius 1961/1975: 12)

The idea of ‘system-internal self-regulation’ is excluded from the very domain of functional explanation by USFs (see, for example, Croft 1995: 493).

Secondly, and of perhaps equal importance, is the feeling (shared by many American formal functionalists as well) that the key analytic notions of PS are gravely deficient. The consensus, I believe, is that the notion of ‘communicative dynamism’ is simply too ill-defined to play the role intended for it by most PS analysts. The key element in the definition of CD, that of ‘pushing the communication forward’, has proved too difficult to pin down. By the mid 1970s, Chafe was describing Firbas’s characterization of CD as ‘somewhat vague’ (Chafe 1976: 33) and even such an otherwise sympathetic commentator as Sandra Thompson wrote of ‘some obvious indeterminacies in this [PS] approach, the most troublesome being the difficulty of providing independent justification for the notion of “communicative dynamism”’ (Thompson 1978: 23).

Furthermore, American functionalists have found little reason to believe – even conceding that CD is a coherent concept – that the unmarked case would be for CD to exhibit a gradual rise over the course of the utterance. Hence, they have rejected the concept of FSP virtually to a person. Chafe, for example, expressed profound skepticism at this (crucial) attribute of CD:

[I]t is interesting to note that CD is said to be a matter of degree, and not a binary distinction ... For the moment, however, it is necessary to say that the examples cited by the Czech linguists for the scalarity of the distinction are unconvincing, and that it has not been demonstrated linguistically that given vs. new is anything more than a discrete dichotomy. (Chafe 1976: 33)

In a series of publications, Givón (1983, 1988) argued that the ‘natural’ tendency of language is to work in precisely the opposite way from that inherent in CD. Givón’s theory of ‘Communicative Task Urgency’ (CTU) suggests that it is in the speaker’s interest to ‘attend to the most urgent task first’. Hence he or she will tend to place unpredictable information before predictable and important information before unimportant. Since thematic information is often both predictable and unimportant, in many cases CTU and CD make opposing predictions. While CTU does not have universal support among practitioners of USF (and some believe that BOTH CTU and CD are at work in language), the challenge to what is seen as the central PS

concept has worked to diminish interest in that school among those who might otherwise be seen as its potential supporters.

A third problem that USF linguists have found with PS work is its treatment, or lack of it, of typological questions. There is in fact a long PS tradition of typological investigation (see Skalička 1979 for the major contribution and, for comprehensive overviews, see Skalička & Sgall 1994 and Sgall 1995). However, PS scholars have tended to take what might be called a 'top down' approach to typology, in which languages are classified into broad 'types' (isolating, inflectional, etc.) and generalizations are made about what constitutes a type and about the range of variation within each type. Whatever the merits of such an approach, it seems rather far removed from the practice within USF, which is generally to start with some very specific formal or functional feature of language, to assemble large corpora of data pertinent to it, and then in 'bottom up' fashion to begin to construct generalizations and (ultimately) functional explanations for its typological distribution.

Finally, USF, however much it may have rejected the fundamental theoretical underpinnings of generative grammar, has nevertheless retained a wide set of conceptions and practices that have always been part and parcel of the generative approach. For example, all but the most 'anti-structuralist' of them regard constituent structure as a 'real' part of language and therefore have continued to formulate generalizations embodying that concept. The PS view of dependency relations as being more central to language than constituent structure has served as another obstacle to any serious influence of the PS over American functionalists. The methodological innovation of generative grammar of basing one's final analysis as much on ILL-FORMED sentences as on well-formed ones (particularly those attested in texts) was retained by many within USF.<sup>11</sup> And USF inherited research areas from their generativist teachers which have not dominated the PS agenda, such as the analysis of syntactic relations between clauses, as opposed to those within clause boundaries.

In summary, profound differences exist between USF and the PS. These differences account for the increasing lack of attention that the former has paid to the latter.

#### 6. THE PRAGUE SCHOOL AND AMERICAN FORMAL FUNCTIONALISM

The primary USF reason for dismissing interest in PS research does not apply to the formal functionalist group. The adherents of this group never turned their back on formal theory per se, nor on the distinction between *langue* and *parole* (or competence and performance). Therefore the fact that

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[11] Though not by all, since many USF practitioners insist that only data from naturally occurring discourse is permissible. In a typical USF-oriented anthology like Tomasello (1998), about half of the papers appeal to ill-formed sentences.

the construction of a formal theory of competence remained a Praguian goal could not have served to turn them away from the PS. And indeed, we do see a steady degree of discussion of PS research by members of this group during the 1970s and 1980s. It will be recalled that Ellen Prince named 14 linguists as taking a formal functional approach to syntax. All but four of them cited PS publications in their own work in this period. This fact does not mean that they KEPT UP with PS research, however. Almost all of their references were to the same PS papers from the 1960s and early 1970s. In other words, they found this early PS work interesting enough to reanalyze on their own terms, but not interesting enough to trace its later developments. After documenting and explaining the formal functionalist response to this PS research, I will close by noting that real contacts, including jointly undertaken research, have been forged between PS linguists and members of the formal functionalist school in recent years.

The primary goal of formal functionalist work with respect to the PS in the 1970s was to try to recast CD into something less fuzzy and more testable. For example, Contreras (1976), regarding a gradient CD as a 'step backward' (p. 16) from the work of Mathesius, proposed an explicit set of rules relating deep and surface structure, whose effect is to characterize precisely the possibilities for theme and rheme. These rules work in concert with a semantically-oriented Rheme Selection Hierarchy.<sup>12</sup>

One member of the formal functionalist school, Nomi Erteschik-Shir, stands out in her attempt to integrate PS notions with those that have consumed the attention of American scholars (see especially Erteschik-Shir 1973, 1979, 1988, 1997; Erteschik-Shir & Lappin 1983). However, she recognized that the first step would have to be to eliminate the major unclarity inherent in Firbas's characterization of CD. She remarks:

This paper, as well as most of my work in syntax, owes a great debt to the Prague school in that the basic intuitions are to be found in the work of FSP linguists such as Mathesius, Daneš, and Firbas. However, it has always been difficult to profit from FSP theory because the basic theoretical notions used are often ill-defined both theoretically and procedurally. (Erteschik-Shir 1988: 145)

Erteschik-Shir redefines Rheme in terms of speakers' intentions, thereby, she argues, eliminating some of its vagueness:

A constituent *c*, of a sentence *S*, is dominant in *S* if the speaker intends to direct the attention of his/her hearer(s) to the intension of *c*, by uttering *S*. (Erteschik-Shir 1988: 148)

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[12] Adjémian (1978) has called attention to a certain degree of similarity between Contreras's proposals and those in Sgall, Hajičová & Benesová (1973), in particular noting that the former's Rheme Selection Hierarchy has points in common with the latter's hierarchy of communicative importance.

And the notion ‘dominance’, in turn, is applied to the solution of a wide variety of problems, in particular an explanation of extraction possibilities (Erteschik-Shir & Lappin 1979).

Rochemont (1986) offers a parallel praise for the PS and a parallel critique. Noting that ‘it is true that Prague school theoreticians have succeeded in uncovering what we take to be the most fundamental problems/issues in the interaction of prominence, focus, and information structure’, he rejects the specifics of the PS approach on the basis of his belief that ‘the notion of “communicative dynamism” is not sufficiently well developed to allow firm and accurate predictions of what may or may not be focus/prominent in a given sentence in a specific context’ (p. 184). He attempts to accomplish this by presenting a formal definition of focus within the general context of a principles-and-parameters approach to syntax.<sup>13</sup>

Reinhart (1983), citing Firbas (1975),<sup>14</sup> observes that CD can be applied to an account of the anaphor-antecedent relationship. She writes:

The pronoun cannot be lower in its degree of CD than the antecedent (i.e. if a given full NP is higher on the hierarchy of CD than a given pronoun, they are interpreted as non-coreferential). (Reinhart 1983: 98)

She goes on to explore the relationship between relative degrees of CD and the structural ‘c-command’ relationship between two elements in the sentence. In the end, she opts for a c-command account, as more general than one based on CD, and proposes a processing explanation for why more thematic information tends to c-command less thematic information.

The major challenge to CD (at least in its 1960s Firbasian version) was put forward by the formal functionalist John A. Hawkins. He questions the very functional plausibility of structuring utterances in terms of a gradual rise in CD:

The Prague School theory of given-before-new ordering seems to be particularly *non-functional*: why should each sentence begin with what has already been presented, delaying the newest information till the very end? There are plausible cognitive explanations for the positioning of a topic before a comment (cf. Sasse 1987), but the theory of communicative dynamism is more general than this, claiming that given before new holds for all adjacent items throughout a sentence. But why should this be? (Hawkins 1994: 116–117)

Hawkins goes on to provide a parsing explanation for why CD appears to hold true in some instances and CTU in others.

[13] Hajičová (1994: 265) remarks that Rochemont’s book represents ‘a remarkable convergence with the results of the Prague School’, but criticizes him for not citing any PS work beyond that of Firbas from the mid 1960s.

[14] Reinhart had acknowledged Firbas for his comments on a pre-publication version of an earlier work (Reinhart 1982).

Even counting the discussion of the earlier work by Firbas and Daneš, the references to PS work by formal functionalists remained, in general, at a fairly low level after the mid 1970s. For example, neither of Kuno's major recent books (Kuno 1987, Kuno & Takami 1993) cites any PS work at all. Kuno does not attribute this fact to profound theoretical disagreements, but rather to divergent research interests:

My work on empathy, direct discourse analysis, binding conditions, discourse deletion, passivization, *it*-clefts, and *what*-clefts, etc. does not seem to have been much influenced by the Prague School linguists. These are not problems that have concerned them very much. And my *Functional Syntax* book does not have any reference to works in the framework of Prague School linguistics because it does not deal with word order problems. (Susumu Kuno, personal communication, 21 June 1999)

Kuno's feelings are widely shared, I believe. It is very easy to get the impression that PS grammarians have confined their attention to a rather narrow range of questions pertaining to syntax and semantics and their interaction – topic and focus and their relationship to word order and some questions pertaining to argument structure, in particular. This impression is based, I think, on the fact that the two extraordinarily prolific scholars who have presented PS research to the outside world in the past few decades, Petr Sgall and Eva Hajičová, have been most interested in these 'traditionally Praguian' issues. In fact, the impression is false. If one digs deeply enough, one can find a myriad of other issues discussed (see, for example, Králíková 1984 on passivization and Pišha 1986 on coordination). Nevertheless, whether the state of affairs has been due to the international situation or to some other factor or combination of factors, the seeming narrowness of research interests within the PS was another factor in generating a lack of interest in its approach among many North American linguists.<sup>15</sup>

As noted earlier in this paper, by the 1980s a number of PS scholars had begun to formalize their ideas about syntax to a degree that had never been undertaken by Firbas or Daneš. For example, Sgall, Hajičová & Panevová (1986) provided a formalization of the 'tectogrammatic' (sentence-meaning) level of structure in tree-notation. But they did not specify how these trees mapped onto surface structure and offered only promissory notes concerning the semantics. These facts, as well, made it difficult to integrate PS proposals

[15] Two somewhat non-mainstream trends in North American linguistics DID however draw from Prague-inspired conceptions throughout the 1970s and 1980s. One is Fillmore's 'Case grammar'. In its seminal publication, Fillmore (1968: 1) noted that Tesnière (1959) and Halliday (1966), works by authors with Prague School connections, had earlier proposed sequence-free base representations. Fillmore (1977) explicitly cites Panevová (1974–1975) in the context of remarking that his approach has much in common with the European approach to valence (what we would now call 'argument structure'). Secondly, many American Slavist syntacticians continued to follow and cite Praguian work in this period (see, for example, Yokoyama 1986 and the collection of papers by Catherine Chvany published in Yokoyama and Klenin 1996, in particular).

into the formal functionalist variants of the generativist approach. While there was a generative characterization of their model in Sgall (1980), Plátek, Sgall & Sgall (1984), and Petkevič (1987, 1995), these formalisms specified the equivalent of deep structure. They were essentially context-free and thus fell short of what a generative grammarian would recognize as a formal theory of grammar.

However, in the past decade, there has been a tremendous explosion of interest in PS syntax among formal functionalists, an interest which has gone along with an increasing degree of accessibility of PS writings to Western linguists. The most active individual force behind these changes has been the American formal semanticist Barbara Partee. Partee paid two short visits to Prague in 1981 and 1985, mostly to talk about her own work to a highly interested audience. But conversations with Petr Sgall, Eva Hajičová and others convinced her that there was more than a little common ground between their respective approaches. She resolved to devote an extended visit to Prague, and had the opportunity to do so in a sabbatical semester in autumn of 1989. At that time, she began a collaboration with Sgall and Hajičová that has continued to this day. The most important fruit of their joint work is a co-authored book, *Topic-focus articulation, tripartite structures, and semantic content* (Hajičová, Partee & Sgall 1998), which combines the results of decades of theorizing on discourse structure by the PS with work that comes out of the formal semantic tradition, in particular involving constructions sensitive to the sentence focus, such as those involving quantification. One also might mention the Festschrift for Hajičová, co-edited by Partee and Sgall (Partee & Sgall 1996), as dramatic testimony to the degree of mutual interaction and respect.

Partee's highly favorable remarks to her North American colleagues have, as might be expected, triggered in turn their interest in PS syntax. Partly for this reason, partly because the PS syntacticians have begun to publish in more accessible locations, and partly as a result of the greater ease of contact between Czech and North American linguists following the collapse of the Communist regime in Czechoslovakia, their level of interaction has reached unprecedented heights.<sup>16</sup> Hajičová (1994: 269) lists the following linguists, all of whom have either taught or studied in the United States, as part of 'the new wave of interest in [PS work] in TFA [= Topic/Focus Articulation]': Barbara Partee, Mats Rooth, Manfred Krifka, Hans Kamp, Elisabeth Selkirk, Janet Pierrehumbert and Mark Steedman.<sup>17</sup> Steedman's views are perhaps representative of the entire group:

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[16] For dramatic personal testimony on the difficulty in keeping alive the research group headed by Sgall and Hajičová during the Communist years, see Panevová & Sgall (1996) and Partee (1996).

[17] Several of these individuals would consider themselves to be primarily formal semanticists. See my remarks in §4 on the blurry boundary between formal functionalism and a particular subdivision of formal semantics.

I've always had a frustrated fondness for the Praguean view of information structure – frustrated because for many years there was for understandable reasons comparatively little presentation of that view in a form in which it could be understood and evaluated in terms of other linguistic frameworks for the study of syntax, semantics, and focus, but fond because the Prague group really were among the very first linguists to formulate a theory of information in dynamic terms. (personal communication, 3 October 1999)

Steedman went on to note that he has been spending some time in Prague and was hoping to work in Edinburgh with the Czech post-doctoral student Ivana Korbayová.

Mutual contact has, of course, led to a number of PS scholars formulating their ideas in terms more accessible to North American and Western European formal functionalists. The writings of Eva Koktová (1996, 1999) are noteworthy in this respect. The promissory notes with respect to semantics have begun to be redeemed as well, as is evidenced by such work as Peregrin (1996) and Kruijff-Korbayová (1998). And Hajičová, Skoumalová & Sgall (1995), which provides an algorithmic solution to the assignment of TFA, has also helped to bridge the gap.

There is another, essential, factor that has helped to spur joint work between Praguean scholars and formal functionalists and formal semanticists from abroad. Over the past decade or two, most models of formal syntax developed primarily in the United States have been moving in directions congenial to positions long taken by syntacticians of the PS. Very few American grammarians have abandoned constituent structure theory in favor of dependency theory. Nevertheless, almost all frameworks have increasingly stressed dependency RELATIONS at the expense of configurational ones. This is particularly true for the two successive principles-and-parameters (P&P) approaches – Government Binding Theory and the Minimalist Program. The importance put on predicate-argument structure and on projecting syntactic properties from lexical heads brings P&P syntax halfway to a dependency-based view of grammatical relations. The P&P adoption of exclusively binary branching and a phrasal projection for every lexical item, while hardly a move in the direction of dependency theory, is a (tacit) move AWAY FROM a constituency-based view of syntax. These theoretical innovations render meaningless the tests for constituency that dominated early transformational grammar and hence the importance of constituent structure itself. And finally, P&P, in keeping with other syntactic frameworks, has separated principles of linear ordering of elements from principles determining their hierarchical relations. Hence, a treatment of ‘free-word order’ languages closer to that of the PS has become possible.

Other theoretical positions long held by Praguean scholars have found their way into the canon of North American-based approaches to formal

syntax and semantics. For example, most of the latter now accept the idea (originally put forward in Sgall 1967 and Sgall, Hajičová & Benesová 1973) that topic and focus are syntactic and semantic constructs, not just elements of pragmatics (see, for example, Chomsky 1977 and Kaplan & Bresnan 1982). And Joan Bresnan has suggested (at a lecture at the Vilém Mathesius Center in Prague in March 1999) that Optimality Theory owes a great debt to, and can be thought of as a strengthening of, Roman Jakobson's concept of 'markedness'.

Few of the changes described in the preceding paragraphs came about under the direct influence of PS writings in linguistics. Nevertheless, the fact that they DID come about has opened new avenues for mutual contact and influence between the approaches developed on the two sides of the Atlantic.<sup>18</sup>

## 7. CONCLUSION

Prague School writings had a major impact on the early development of North American functionalist approaches to syntax. For largely theoretical reasons, mainstream North American functionalists have turned their back on Prague School research. However, formal functionalists and their natural allies in formal semantics have discovered many points of mutual agreement with recent work in the Prague School; recent years have seen productive collaboration between these groups of scholars – a collaboration that promises to intensify.

## REFERENCES

- Adjémian, C. (1978). Theme, rheme, and word order: From Weil to present-day theories. *Historiographia Linguistica* 5, 253–273.
- Bloomfield, L. (1933). *Language*. New York: Holt.
- Bolinger, D. (1952/1965). Linear modification. In Bolinger, D. (ed.), *Forms of English: accent, morpheme, order*. Cambridge, MA: Harvard University Press. 279–307.
- Bolinger, D. (ed.) (1965a). *Forms of English: accent, morpheme, order*. Cambridge, MA: Harvard University Press.
- Bolinger, D. (1965b). Pitch accent and sentence rhythm. In Bolinger, D. (ed.), *Forms of English: accent, morpheme, order*. Cambridge, MA: Harvard University Press. 139–180.
- Bolinger, D. (1968). *Aspects of language*. New York: Harcourt, Brace & World.
- Bolinger, D. (1986). *Intonation and its parts: melody in spoken English*. Stanford, CA: Stanford University Press.
- Bolinger, D. (1989). *Intonation and its uses: melody in grammar and discourse*. Stanford, CA: Stanford University Press.
- Bühler, K. (1934). *Sprachtheorie: Die Darstellungsfunktion der Sprache*. Jena: Fischer.
- Bybee, J. L., Perkins, R. D. & Pagliuca, W. (1994). *The evolution of grammar: tense, aspect, and modality in the languages of the world*. Chicago: University of Chicago Press.
- Chafe, W. L. (1970). *Meaning and the structure of language*. Chicago: University of Chicago Press.

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[18] For a summary of recent contacts and joint work between Praguian and North American linguists, see the following web page: <http://ufal.ms.mff.cuni.cz/int-contacts.html>.

- Chafe, W. L. (1976). Givenness, contrastiveness, definiteness, subjects, topics, and point of view. In Li, C. (ed.), *Subject and topic*. New York: Academic Press. 25–55.
- Chafe, W. L. (1994a). *Discourse, consciousness, and time: the flow and displacement of conscious experience in speaking and writing*. Chicago: University of Chicago Press.
- Chafe, W. L. (1994b). Review of *Functional sentence perspective in written and spoken communication* by J. Firbas. *Language* 70. 350–353.
- Chomsky, N. (1957). *Syntactic structures*. The Hague: Mouton.
- Chomsky, N. (1971). Deep structure, surface structure, and semantic interpretation. In Steinberg, D. & Jakobovits, L. (eds.), *Semantics: an interdisciplinary reader in philosophy, linguistics, and psychology*. Cambridge: Cambridge University Press. 183–216.
- Chomsky, N. (1977). On *wh*-movement. In Culicover, P., Wasow, T. & Akmajian, A. (eds.), *Formal syntax*. New York: Academic Press. 71–132.
- Comrie, B. (1989). *Language universals and linguistic typology* (2nd edition). Chicago: University of Chicago Press.
- Contreras, H. (1976). *A theory of word order with special reference to Spanish*. Amsterdam: North-Holland.
- Craig, C. (ed.) (1986). *Noun classes and categorization*. (Typological Studies in Language.) Amsterdam: John Benjamins.
- Croft, W. (1990). *Typology and universals*. Cambridge: Cambridge University Press.
- Croft, W. (1991). *Syntactic categories and grammatical relations*. Chicago: University of Chicago Press.
- Croft, W. (1995). Autonomy and functionalist linguistics. *Language* 71. 490–532.
- Dahl, Ö. (1969). *Topic and comment: a study in Russian and general transformational grammar*. Göteborg: Elanders Boktryckeri.
- Daneš, F. (1957). *Intonace a věta ve spisovné češtině*. Prague: Československé akademie ved.
- Daneš, F. (1960). Sentence intonation from a functional point of view. *Word* 16. 34–54.
- Daneš, F. (1964). A three-level approach to syntax. *Travaux Linguistiques de Prague* 1. 225–240.
- Daneš, F. (1968). Some thoughts on the semantic structure of the sentence. *Lingua* 21. 55–69.
- Dik, S. C. (1989). *The theory of functional grammar, part 1: The structure of the clause*. Dordrecht: Foris.
- Downing, P. & Noonan, M. (eds.) (1995). *Word order in discourse*. (Typological Studies in Language.) Amsterdam: John Benjamins.
- Erteschik-Shir, N. (1973). *On the nature of island constraints*, Ph.D. dissertation, MIT.
- Erteschik-Shir, N. (1979). Discourse constraints on dative movement. In Givón, T. (ed.), *Syntax and semantics*, vol. 12: *Discourse and syntax*. New York: Academic Press. 441–468.
- Erteschik-Shir, N. (1988). Topic-chaining and dominance-chaining. In Tobin, Y. (ed.), *The Prague School and its legacy in linguistics, literature, semiotics, folklore, and the arts*. Amsterdam: John Benjamins. 145–153.
- Erteschik-Shir, N. (1997). *The dynamics of focus structure*. New York: Cambridge University Press.
- Erteschik-Shir, N. & Lappin, S. (1979). Dominance and the functional explanation of island phenomena. *Theoretical Linguistics* 6. 41–86.
- Erteschik-Shir, N. & Lappin, S. (1983). Under stress: a functional explanation of sentence stress. *Journal of Linguistics* 19. 419–453.
- Fillmore, C. J. (1968). The case for case. In Bach, E. & Harms, R. (eds.), *Universals in linguistic theory*. New York: Holt, Rinehart and Winston. 1–90.
- Fillmore, C. J. (1977). The ‘Case for case’ reopened. In Cole, P. & Sadock, J. M. (eds.), *Syntax and semantics*, vol. 8: *Grammatical relations*. New York: Academic Press. 59–81.
- Firbas, J. (1959). Thoughts on the communicative function of the verb in English, German, and Czech. *Brno Studies in English* 1. 39–68.
- Firbas, J. (1964a). From comparative word-order studies. *Brno Studies in English* 4. 111–122.
- Firbas, J. (1964b). On defining the theme in functional sentence analysis. *Travaux Linguistiques de Prague* 1. 267–280.
- Firbas, J. (1965). A note on transition proper in functional sentence perspective. *Philologia Pragensia* 8. 170–176.
- Firbas, J. (1966). Non-thematic subjects in contemporary English. *Travaux Linguistiques de Prague* 2. 229–236.
- Firbas, J. (1971). On the concept of communicative dynamism in the theory of functional

## THE PRAGUE SCHOOL AND FUNCTIONALISM

- sentence perspective. *Sbornik Prací Filosofické Fakulty Brněnské University* (Studia Minora Facultatis Philosophicae Universitatis Brunensis) **A-19**. 135–144.
- Firbas, J. (1974). Some aspects of the Czechoslovak approach to problems of functional sentence perspective. In Daneš, F. (ed.), *Papers on functional sentence perspective*. Prague: Akademia. 11–37.
- Firbas, J. (1975). On the thematic and non-thematic section of the sentence. *Style and Text* **8**. 319–334.
- Firbas, J. (1992). *Functional sentence perspective in written and spoken communication*. Cambridge: Cambridge University Press.
- Gabelentz, G. v. d. (1891). *Die Sprachwissenschaft: Ihre Aufgaben, Methoden und bisherigen Ergebnisse*. Leipzig: Weigel.
- Givón, T. (1979). *On understanding grammar*. New York: Academic Press.
- Givón, T. (ed.) (1979). *Syntax and Semantics*, vol. 12: *Discourse and Syntax*. New York: Academic Press.
- Givón, T. (ed.) (1983). *Topic continuity in discourse: a quantitative cross-language study*. (Typological Studies in Language.) Amsterdam: John Benjamins.
- Givón, T. (1988). The pragmatics of word order: predictability, importance and attention. In Hammond, M., Moravcsik, E. & Wirth, J. (eds.), *Studies in syntactic typology*. Amsterdam: John Benjamins. 243–284.
- Givón, T. (1995). *Functionalism and grammar*. Amsterdam: John Benjamins.
- Greenberg, J. H. (1963). Some universals of language with special reference to the order of meaningful elements. In Greenberg, J. (ed.), *Universals of language*. Cambridge, MA: MIT Press. 73–113.
- Grossman, R. E., San, L. J. & Vance, T. J. (eds.) (1975). *Papers from the Parasession on Functionalism*. Chicago: Chicago Linguistic Society.
- Haiman, J. (1980). The iconicity of grammar: isomorphism and motivation. *Language* **56**. 515–540.
- Haiman, J. (1983). Iconic and economic motivation. *Language* **59**. 781–819.
- Haiman, J. (ed.) (1985). *Iconicity in syntax*. Typological Studies in Language. Amsterdam: John Benjamins.
- Haiman, J. & Thompson, S. A. (eds.) (1988). *Clause combining in grammar and discourse*. Typological Studies in Language. Amsterdam: John Benjamins.
- Hajičová, E. (1993). *Issues of sentence structure and discourse patterns*. Prague: Charles University.
- Hajičová, E. (1994). Topic/focus and related research. In Luelsdorff, P. A. (ed.), *The Prague School of structural and functional linguistics: a short introduction*. Amsterdam: John Benjamins. 245–275.
- Hajičová, E. & Panevová, J. (1984). Valency (case) frames of verbs. In Sgall, P. (ed.), *Contributions to functional syntax, semantics, and language comprehension*. Prague: Academia.
- Hajičová, E., Partee, B. H. & Sgall, P. (1998). *Topic-focus articulation, tripartite structures, and semantic content*. Dordrecht: Kluwer.
- Hajičová, E. & Sgall, P. (1975). Topic and focus in transformational grammar. *Papers in Linguistics* **8**. 3–58.
- Hajičová, E., Skoumalová, H. & Sgall, P. (1995). An automatic procedure for topic-focus identification. *Computational Linguistics* **21**. 81–94.
- Halliday, M. A. K. (1966). Some notes on 'deep grammar'. *Journal of Linguistics* **2**. 55–67.
- Hawkins, J. A. (1994). *A performance theory of order and constituency*. Cambridge: Cambridge University Press.
- Heine, B., Claudi, U. & Hünnemeyer, F. (1991). *Grammaticalization: a conceptual framework*. Chicago: University of Chicago Press.
- Hooper, J. & Thompson, S. A. (1973). On the applicability of root transformations. *Linguistic Inquiry* **4**. 465–498.
- Hopper, P. J. (1987). Emergent grammar. In *Proceedings of the 13th Annual Meeting of the Berkeley Linguistics Society*. Berkeley: Berkeley Linguistics Society. 139–157.
- Hopper, P. J. (1988). Emergent grammar and the apriori grammar postulate. In Tannen, D. (ed.), *Linguistics in context: connecting observation and understanding*. Norwood, NJ: Ablex. 117–134.
- Hopper, P. J. & Thompson, S. A. (1980). Transitivity in grammar and discourse. *Language* **56**. 251–299.

- Hopper, P. J. & Thompson, S. A. (1984). The discourse basis for lexical categories in universal grammar. *Language* 60. 703–752.
- Jackendoff, R. (1972). *Semantic interpretation in generative grammar*. Cambridge, MA: MIT Press.
- Jakobson, R. (1929/1971). Remarques sur l'évolution phonologique du russe comparée à celle des autres langues slaves. In Jakobson, R. (ed.), *Selected writings*. The Hague: Mouton. 6–116.
- Jakobson, R. (1957/1971). Typological studies and their contribution to historical comparative linguistics. In Jakobson, R. (ed.), *Selected writings*. The Hague: Mouton. 523–532.
- Jakobson, R. (1963). Implications of language universals for linguistics. In Greenberg, J. (ed.), *Universals of language*. Cambridge, MA: MIT Press. 263–278.
- Kaplan, R. M. & Bresnan, J. W. (1982). Lexical-functional grammar: a formal system for grammatical representation. In Bresnan, J. W. (ed.), *The mental representation of grammatical relations*. Cambridge, MA: MIT Press. 173–281.
- Karcevskij, S. (1931/1964). Sur la phonologie de la phrase. In Vachek, J. (ed.), *A Prague School reader in linguistics*. Bloomington: Indiana University Press. 206–251.
- Koktová, E. (1996). *Wh*-extraction and the topic-focus articulation of the sentence. In Partee, B. H. & Sgall P. (eds.), *Discourse and meaning: papers in honor of Eva Hajičová*. Amsterdam: John Benjamins. 256–271.
- Koktová, E. (1999). *Word-order based grammar*. Berlin: Mouton de Gruyter.
- Králiková, K. (1984). Passive voice in the generative description of Czech. In Sgall, P. (ed.), *Contributions to functional syntax, semantics, and language comprehension*. Amsterdam: John Benjamins. 259–274.
- Kruijff-Korbayová, I. (1998). *The dynamic potential of topic and focus: a Praguian approach to discourse representation theory*, Ph.D. dissertation, Charles University.
- Kuno, S. (1969). Theme, contrast, and exhaustive listing – *wa* and *ga* in Japanese. *Bulletin of the Institute for Research in Language Teaching* 289. 19–32.
- Kuno, S. (1972a). Functional sentence perspective. *Linguistic Inquiry* 3. 269–320.
- Kuno, S. (1972b). Pronominalization, reflexivization, and direct discourse. *Linguistic Inquiry* 3. 161–196.
- Kuno, S. (1973a). Constraints on internal clauses and sentential subjects. *Linguistic Inquiry* 4. 363–385.
- Kuno, S. (1973b). *The structure of the Japanese language*. Cambridge, MA: MIT Press.
- Kuno, S. (1974). The position of relative clauses and conjunctions. *Linguistic Inquiry* 5. 117–136.
- Kuno, S. (1980). Functional syntax. In Moravcsik, E. A. & Wirth, J. R. (eds.), *Syntax and semantics*, vol. 13: *Current approaches to syntax*. New York: Academic Press. 117–136.
- Kuno, S. (1987). *Functional syntax: anaphora, discourse, and empathy*. Chicago: University of Chicago Press.
- Kuno, S. & Takami, K. (1993). *Grammar and discourse principles: functional syntax and GB theory*. Chicago: University of Chicago Press.
- Lakoff, G. (1971). On generative semantics. In Steinberg, D. & Jakobovits, L. (eds.), *Semantics: an interdisciplinary reader in philosophy, linguistics, and psychology*. Cambridge: Cambridge University Press. 232–296.
- Langacker, R. W. (1974). Movement rules in functional perspective. *Language* 50. 630–664.
- Li, C. N. (ed.) (1975). *Word order and word order change*. Austin: University of Texas Press.
- Li, C. N. (ed.) (1976). *Subject and topic*. New York: Academic Press.
- Li, C. N. (ed.) (1977). *Mechanisms of syntactic change*. Austin: University of Texas Press.
- Mathesius, V. (1927/1983). Functional linguistics. In Vachek, J. (ed.), *Praguiana: some basic and less-known aspects of the Prague linguistics school*. Amsterdam: John Benjamins. 121–142.
- Mathesius, V. (1936/1964). On some problems of the systematic analysis of grammar. In Vachek, J. (ed.), *A Prague School reader in linguistics*. Bloomington: Indiana University Press. 306–319.
- Mathesius, V. (1961/1975). *A functional analysis of present day English on a general linguistic basis*. The Hague: Mouton.
- Mithun, M. (1984). The evolution of noun incorporation. *Language* 60. 847–893.
- Newmeyer, F. J. (1986). *Linguistic theory in America* (2nd edition). New York: Academic Press.
- Newmeyer, F. J. (1998). *Language form and language function*. Cambridge, MA: MIT Press.
- Nichols, J. (1984). Functional theories of grammar. *Annual Review of Anthropology* 13. 97–117.

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- Noonan, M. (1998). Non-structuralist syntax. In Darnell, M., Moravcsik, E., Newmeyer, F. J., Noonan, M. & Wheatley, K. (eds.), *Functionalism and formalism in linguistics*. Amsterdam: John Benjamins. 11–30.
- Panevová, J. (1974–1975). On verbal frames in functional generative description. *Prague Bulletin of Mathematical Linguistics* 22; 23. 3–40; 17–52.
- Panevová, J. (1977). Verbal frames revisited. *Prague Bulletin of Mathematical Linguistics* 28. 55–71.
- Panevová, J. & P. Sgall (1996). Although her life with us has not been easy... In Partee, B. H. & Sgall, P. (eds.), *Discourse and meaning: papers in honor of Eva Hajičová*. Amsterdam: John Benjamins. 3–13.
- Partee, B. H. (1996). Eva Hajičová – an appreciation. In Partee, B. H. & Sgall, P. (eds.), *Discourse and meaning: papers in honor of Eva Hajičová*. Amsterdam: John Benjamins. 407–413.
- Partee, B. H. & Sgall, P. (eds.) (1996). *Discourse and meaning: papers in honor of Eva Hajičová*. Amsterdam: John Benjamins.
- Peregrin, J. (1996). Topic and focus in a formal framework. In Partee, B. H. & Sgall, P. (eds.), *Discourse and meaning: papers in honor of Eva Hajičová*. Amsterdam: John Benjamins. 235–254.
- Petkevič, V. (1987). A new dependency based specification of underlying representations of sentences. *Theoretical Linguistics* 19. 143–171.
- Petkevič, V. (1995). A new formal specification of underlying structures. *Theoretical Linguistics* 21. 7–61.
- Piřha, P. (1986). Four (simple) remarks on coordination. In Mey, J. L. (ed.), *Language and discourse: test and protest. A Festschrift for Petr Sgall*. Amsterdam: John Benjamins. 163–169.
- Plátek, M., Sgall, J. & Sgall, P. (1984). A dependency base for a linguistic description. In Sgall, P. (ed.), *Contributions to functional syntax, semantics, and language comprehension*. Amsterdam: John Benjamins. 63–97.
- Prince, E. F. (1988). Discourse analysis: a part of the study of linguistic competence. In Newmeyer, F. J. (ed.), *Linguistics: the Cambridge survey*. Cambridge: Cambridge University Press. 164–182.
- Prince, E. F. (1991). On ‘Functional explanation in linguistics and the origin of language’. *Language and Communication* 11. 79–82.
- Reinhart, T. (1982). Pragmatics and linguistics: an analysis of sentence topics. *Philosophica* 27. 53–94.
- Reinhart, T. (1983). *Anaphora and semantic interpretation*. Chicago: University of Chicago Press.
- Rochemont, M. S. (1986). *Focus in generative grammar*. Amsterdam: John Benjamins.
- Sasse, H.-J. (1987). The thematic/categorical distinction revisited. *Linguistics* 25. 511–580.
- Sgall, P. (1967). Functional sentence perspective in a generative description. *Prague Studies in Mathematical Linguistics* 2. 203–225.
- Sgall, P. (1980). A dependency based specification of topic and focus II: Formal account. *SMIL/Journal of Linguistic Calculus* 1. 110–140.
- Sgall, P. (1987a). The position of Czech linguistics in theme-focus research. In Steele, R. & Threadgold, T. (eds.), *Language topics*. Amsterdam: John Benjamins. 47–55.
- Sgall, P. (1987b). Prague functionalism and topic vs. focus. In Dirven, R. & Fried, V. (eds.), *Functionalism in linguistics*. Amsterdam: John Benjamins. 169–189.
- Sgall, P. (1994). Meaning, reference, and discourse patterns. In Luelsdorff, P. A. (ed.), *The Prague School of structural and functional linguistics: a short introduction*. Amsterdam: John Benjamins. 277–309.
- Sgall, P. (1995). Prague School typology. In Shibatani, M. & Bynon, T. (eds.), *Approaches to language typology*. Oxford: Clarendon Press. 49–84.
- Sgall, P., Hajičová, E. & Benesová, E. (1973). *Topic, focus, and generative semantics*. Kronberg: Scriptor.
- Sgall, P., Hajičová, E. & Panevová, J. (1986). *The meaning of the sentence in its semantic and pragmatic aspects*. Reidel: Dordrecht.
- Skalička, V. (1979). *Typologische Studien*. Braunschweig: P. Hartmann.
- Skalička, V. & P. Sgall (1994). Praguian typology of languages. In Luelsdorff, P. (ed.), *The Prague School of structural and functional linguistics*. Amsterdam: John Benjamins. 333–357.

FREDERICK J. NEWMAYER

- Tesnière, L. (1959). *Eléments de syntaxe structurale*. Paris: C. Klincksieck.
- Thompson, S. A. (1978). Modern English from a typological point of view: some implications of the function of word order. *Linguistische Berichte* 54. 19–35.
- Tomasello, M. (ed.) (1998). *The new psychology of language: cognitive and functional approaches to language structure*. Mahwah, NJ: Lawrence Erlbaum.
- Tomlin, R. (ed.) (1987). *Coherence and grounding in discourse*. Amsterdam: John Benjamins.
- Traugott, E. C. & Heine, B. (eds.) (1991a). *Approaches to grammaticalization*, vol. 1: *Focus on theoretical and methodological issues*. (Typological Studies in Language.) Amsterdam: John Benjamins.
- Traugott, E. C. & Heine, B. (eds.) (1991b). *Approaches to grammaticalization*, vol. 2: *Focus on types of grammatical markers*. (Typological Studies in Language.) Amsterdam: John Benjamins.
- Van Valin, R. D. (ed.) (1993). *Advances in role and reference grammar*. Amsterdam: John Benjamins.
- Wegener, P. (1885). *Untersuchungen über die Grundfragen des Sprachlebens*. Halle: Max Niemeyer.
- Weil, H. (1844/1887). *The order of words in the ancient languages compared with that of the modern languages*. Boston: Ginn. [Reprinted in 1978 in the series Amsterdam Classics in Linguistics, 14. Amsterdam: John Benjamins.]
- Yokoyama, O. T. (1986). *Discourse and word order*. Amsterdam: John Benjamins.
- Yokoyama, O. T. & E. Klenin (eds.) (1996). *Selected essays of Catherine V. Chvany*. Columbus, OH: Slavica.
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