THE
SEMANTICS
OF
SYNTACTIC COMPLEXITY

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FOREWORD

There is no logical reason that human languages should exhibit syntactic complexity. Any content expressed by a complex syntactic construction can be accomplished equally well by a combination of simple ones. Yet, all languages will exhibit syntactic complexity in some fashion. They may differ in where that complexity is invoked. What some may do with simple expressions, another will do in a complex way.

These claims (and they are empirical hypotheses that may be contradicted by some language) imply a number of questions. (My answers to the ‘yes’-‘no’ ones are in parentheses.) How and where will a language use syntactic complexity? Where will it not? Is there any relation among the manifestations of grammatical complexity within a language (yes)? Across languages, is it possible to compare grammatical complexity (yes)? Are there any patterns across languages (yes)? Are there any universals to complexity (yes)? Is there a typology of complexity (yes)? Is it possible to make a reason guess about why syntactic complexity would exist in language (yes)?

The following chapters attempt to answer these questions. One of the underlying assumptions of the inquiry is that the answers will not be found in the form of complexity, but in the meaning(s) which the form expresses. The strategy is to examine a range of languages searching for what may seem to be ‘complex’, to discover the meanings of the complexity, to search for patterns in the meanings, and finally to let the understanding of ‘complexity’ emerge from those patterns. The conclusions are to be constantly challenged (and refined) by data from languages not yet examined.

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Philip W. Davis
INTRODUCTION

The following constructions are frequently recognized in the literature as exemplifying syntactic complexity —

Coördinate sentences, e.g.

(1) Martin ate toast for breakfast, but I had an English muffin.

Dependent sentences with several subtypes:

Temporal sentences.

(2) Martin fiddled while his Porsche burned.

‘Adverbial’ sentences in general.

(3) Martin’s lazy because he has too much money.

(4) Martin’s a nice guy even though he’s lazy.

Subordinate sentences with several subtypes:

Cleft sentences.

(5) It was yesterday that his car burned.

Pseudo-cleft sentences.

(6) What happened yesterday was that Martin’s car went up in smoke.

Complement sentences.

(7) Martin denied that he lost his Porsche.

Comparative sentences.
(8) Martin has less common sense than Francine has.

Relative clauses - restrictive.

(9) The Porsche which belonged to Martin is the one over there.

Relative clauses - non-restrictive.

(10) This Porsche, which belonged to Martin, will never run again.

The above classification is limited to English and it is incomplete. We might assume that a ‘complex sentence’ is one that contains two ‘verbs’, as is the case in (1) - (10). But short preliminary investigation will show that the relation that holds between the verbal elements may also be present between an utterance that contains one ‘verb’ and any other context. Consider the simple example of the response in (11),

(11) Where he lives.

to either of the following:

(12) Where do I drop Marvin off?

(13) Bernice bought a house in Bellaire, where Marvin works.

Sentence (11) contains but one ‘verb’ — *lives* — yet it bears a complex relation to its environment of (12) and (13) similar to the complex relation between *where he lives* and its environment in

(14) We made a game of it and tried to guess where Marvin lives.

In surfacy terms, (11) is simple and sentence (14) is complex. An observation that seems to be relevant is that

Surface form is not a reliable index of ‘complexity’

Another problem with a surface, syntactic approach to complexity is that the end result seems to be a ‘list’ (e.g. [1] - [10]), somewhat overlapping when different languages are compared, but nevertheless uninstructive.
Some languages will use the same complex construction to express what in English is assigned to distinct constructions, and the list-approach of (1) - (10) has nothing to say about this. Notice that English closely affiliates Relative Clauses of the Restrictive and Non-Restrictive type, while other languages make different associations, e.g. Bella Coola (Salishan):

(15) "aľnap-is ti-ʔimlk-tx s-sx-s ti-nusʔùlX-tx
[know-he.him -man- S-bad-he -thief- ]
‘The man knows that the thief is bad’

(16) "aľnap-is ti-ʔimlk-tx ti-nusʔùlX ti-sx-tx
[know-he.him -man- -thief -bad- ]
‘The man knows the thief who is bad’

(17) "aľnap-is ti-ʔimlk-tx ti-nusʔùlX-tx s-sx-s
[know-he.him -man -thief- S-bad-he]’
‘The man knows the thief, who is bad’

Although English may differentiate the glosses of (15) and (17), the sentence of (18):

(18) "aľnap-is ti-ʔimlk-tx s-sx-s
[know-he.him -man- S-bad-he]
‘The man knows [it,] that he is bad’
‘The man knows him, who is bad’

has both a Complement Sentence gloss and a Non-Restrictive Relative gloss: ‘The man knows [it,] that he is bad’ and ‘The man knows him, who is bad’. The form $s$-$sx$-$s$ combines with (15), (17), and (18) in opposition to (16).

Farsi exhibits still a third organization, combining the form of the Restrictive Relative with ‘adverbial’ constructions as well as with Non-Restrictive Relative clauses:

Restrictive relatives.

(19) man asb-i-ra ke-be-tondī mi-rav-ad dust mi-dar-am
[I horse-a KE-to-fast Impf-go-it friend Impf-have it]
‘I like the/a horse that runs fast’
‘Adverbial’ constructions.

(20) man asb-Ø-ra ke-be-tondi mi-rav-ad dust mi-dar-am
[I horse-the- KE-to-fast Impf-go-it friend Impf-have it]
‘I like the horse when it runs fast’
‘I like the horse because it runs fast’
‘I like the horse even though it runs fast’

Non-Restrictive relative.

(21) šoma ke sigar mi-keš-id
[you KE cigarette Impf-pull-you]
‘You, who smoke cigarettes, [ought not to]’

(22) man asb-Ø-ra ke syah-e ne-bin-am
[I horse-the- KE black-it Neg-see-I]
‘I don’t see any black horse [i.e., the one I was told about]’
‘I don’t see the horse, which is black’

Complement sentences, e.g. (23), are similar in shape to (19) - (22):

(23) mi-dan-am ke mard-i asb-ra mi-Χar-ad
[Impf-know-I KE man-a horse- Impf-buy-he]
‘I know that some man will buy the horse’

with the difference that they seem [?] to follow the main clause, and not to be interposed within it.

Such patterns raise questions of the following kind. What do Relative Clauses and Adverbials share semantically that would prompt a language to employ the same form to express their content? Or equivalently, what is the meaning of a ke-clause in Farsi? Like Farsi, Bella Coola can employ grammar common to Complement Sentences and Non-Restrictive Relative Clauses (i.e., clauses preceded by s-) to effect an ‘Adverbial’ clause:

(24) cay-ak-m-is-kw-č ašt-Χw
[finish-hand-M-she.it-Quotative-Perf Prep-then
s-uqΧ-im-tu-č S-call-Passive-Confirmative-Perfective]
‘When she finished then she was called again by her’
But Bella Coola also has a third form (unlike the Non-Restrictive Relatives-
Complement Sentences-‘Adverbial’ Sentences grammar and also unlike the
grammar of Restrictive Relative Clauses) to express ‘Adverbial’ content:

\[(25) \quad \text{sx-} \emptyset \quad \text{ti-nus} \text{"ulZ-tx} \quad \text{ka-} \text{"a}\text{-i-s}\]
\[
\text{[bad-he} \quad \text{-thief-} \quad \text{KA-be.here-he]}\]

‘The thief is bad when he is here’

At one extreme, Farsi somehow associates Restrictive Relative Clauses, Non-
Restrictive Relative Clauses, and ‘Adverbial’ clauses, and then all these together
seem associated with Complement Sentences (by \text{ke}). Bella Coola associates
Non-Restrictive Relative Clauses, Complement Sentences, with some
‘Adverbial’ Clause expressions, but isolates them from Restrictive Relative
Clauses and other ‘Adverbial’ clauses. Cf. Figure 1. English seems to associate
Restrictive and Non-Restrictive Relative Clauses and to keep them apart from
Complement Sentences (although \text{that}, \text{which}, and \text{what} are suspicious) and
from ‘Adverbial’ Clauses. Is there any reason for these associations across
languages? Is there any limit to their association? Or, for ex-

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Figure 1: 

\textit{Some associations of grammatically complex expressions.}

ample, can a language join, formally and semantically, Restrictive Relative
Clauses with Complement Sentences to the exclusion of the other types? If not,
why not?

Even such preliminary observations as these raise interesting questions.
First, is complexity present in every language? If so, why? Complexity is not a
logical requirement of human language since any content expressed by a single
complex expression can be factored into an two expressions by two simple
expressions. Second, is complexity patterned in any way? For example, how
many distinct kinds of complexity may exist within a single language?¹ Are there similarities across languages? If languages have different kinds of complexities (as illustrated in Figure 1), is there any relation among the languages, i.e., in the possible conflations of types?² For example, might a language combine the grammar of adverbial if/when-clauses with that of restrictive relative clauses, but exclude from that unified grammar the expression of non-restrictive relative clauses?

Such questions as these are the interesting and productive ones, and their answers require that ‘complexity’ be understood semantically/functionally, not formally. And that is the focus of the seminar. We will begin by considering how to manage the semantics of complexity and by showing how complexity functions in the description of Bella Coola (VSO) and fragments of other languages: Farsi (SOV), Warlpiri (‘free’), Japanese (SOV), Navajo (VSO), and Mandarin (SVO). As we do this we will consider what others have said about the issues. We will then evaluate one framework proposed by Foley and Van Valin (1984), and broaden our horizons with the papers in Shopen (1985), in Haiman & Thompson (1988), and elsewhere.

The goal of the inquiry is two-fold. **First**, I want to determine to what extent order can be brought to the topic of complex expressions and whether the description of this area of language can escape the disintegrating itemization of a formalizing syntax. **Second**, I want to include as broad a range of language variety as possible, so that any proposal we make does not appear to succeed because of a skewed selection of languages to which it is applied.

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¹ The answer is similar to the answer to “How many roles may a language have?” It is indeterminate, but it is more than one. And like to answer with respect to roles, their organization is not willy-nilly.

² “Yes”. If one wants, it is possible to create a ‘typology’ of complexity.
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