

PAUL RASTALL

# **BOTTOM-UP LINGUISTICS**

Perspectives and Explorations

With a Postscript on Language and Reality

**MASARYK  
UNIVERSITY  
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BRNO 2019

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ISBN 978-80-210-9434-5

ISBN 978-80-210-9433-8 (hardback)

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# PREFACE

This work presents 'bottom-up' linguistics. Bottom-up linguistics rejects any substantive *a priori* framework for the description of languages or for the understanding of language. While analytical methods and concepts for linguistic description are required, and must be justified, there is no assumption that explanatory constructs correspond in any direct way with cognitive or any other external reality, or that there is any necessary or fixed form of language. Constructs are means for understanding verbal phenomena, not hypostatisations. Any analytical methods inevitably presuppose some general views about language, but they are not substantive claims in a bottom-up approach; nor are they exclusive. They are kept to a minimum, and are restricted to broad categories, such as 'sign' or 'phoneme', and relations such as 'grammatical dependency' or 'phonological constructional relation', within which there is plenty of room for variation. That is the approach is European functionalism (such as that of Martinet) and, in particular, the Axiomatic Functionalism of Mulder. Because a bottom-up approach is explicitly 'integrationist', it sees language as a dynamic process simultaneously from multiple perspectives and in its role in everyday life. Language and other forms of semeiosis combine in meaning-making.

In particular, a bottom-up approach raises the issue of the relation between language and our construction of reality. While that question goes beyond the scope of this work, some ideas on that issue are presented. A bottom-up approach follows Saussure in seeing linguistic form and meaning as the same thing from different points of view. Thus, meaning and hence our sense of verbally created reality are formed by the mass of verbal units and their associations. Linguistic resources are verbal models which stand in relations of resemblance and comparison with our models of external (perceived) reality and our memories, and which contribute to our worlds of attitudes and values.

A bottom-up approach to linguistic analysis starts with the hypothesised analytical units (e.g. signs or phonemes) and relations of verbal communication (such as combination and mutual exclusion), and aims to present them in their multi-dimensional complexity. This involves taking simultaneous multiple perspectives on language and on the process of communication. As noted above, the approach involves the explicit rejection of 'top-down' approaches with *a priori* frameworks with allegedly substantive universals. Such approaches commonly focus on structural features of language, and other aspects of language are either not integrated or are difficult to integrate into an overall picture. Generalisations in a bottom-up approach arise from the comparison of multiple individual units and relations. Allowance is made for linguistic differences and 'anomalies'. There are no presuppositions about the structure of languages. Generalised statements have a descriptive-explanatory function only. They are built up from small-scale units and patterns, and each refers to some aspect of verbal behaviour, which must be integrated with other aspects. Bottom-up linguistics is thus opposed to the abstraction of structural 'essences', or 'underlying forms', and their presentation as hypostatised realities. It is concerned with the simultaneous diversity of verbal reality.

A bottom-up approach (there could be more than one) is close in spirit to the integrationist views of, for example, Roy Harris or Edda Weigand. The approach adopted here presents the general principles, and has its origins in the European functionalist tradition of Nikolai S. Trubetzkoy, André Martinet, Jan Mulder, Georges Mounin, Mortéza Mahmoudian, Henriette Walter, Colette Feuillard, and many others, and acknowledges indebtedness to linguists such as W. Freeman Twaddell and Raymond Firth (for his polysystemic view of language). The view of language as a mass of associations in multiple dimensions has clear similarities with some of the ideas in Saussure's *Course in General Linguistics*, but goes well beyond it in investigating further perspectives. Those include the adaptation of linguistic means to communicational needs and the patterns involved, realisational issues, the process of verbal signalling, and the verbal contribution to mental models of reality.

The work falls into three sections with a postscript on language and reality. The first section presents the reasons for the rejection of 'top-down' approaches and for the adoption of a 'bottom-up' approach with an explanation of its ontological and epistemological positions. Here the emphasis is on theoretical perspectives. Language is seen as a mass of associations in multiple dimensions in which clusters of entities with similar associations can be classified and cross-classified and in which frequent patterns can emerge as 'memes.' Section two is concerned with explorations using a bottom-up approach, and presents a number of analyses showing how a bottom-up approach can work- and its advantages. The third section addresses further theoretical issues- questions of the process of meaning transfer and some ideas on the mechanism of the verbal updating of mental models. Further examples are offered. A postscript addresses some of the issues over the relation of language and reality from a bottom-up perspective.

Some of the ideas of bottom-up linguistics have previously appeared in *La Linguistique, Language under Discussion, Linguistica Online*, and some early practical analyses have appeared in *English Today*.

## Acknowledgements

I wish to thank Dr. Aleš Bičan of Masaryk University for reading draft extracts of this work, commenting on them, and making useful suggestions for improvement. I am also grateful to Dr. Jana Chamonikolasová and Dr. Jana Pelclová who acted as very helpful intermediaries with the Masaryk University Press as well as to the staff of the Press for their efforts in producing the book. I have, of course, benefited from the work of many scholars who have gone before me, especially the late Professor Jan Mulder of St. Andrews University and my first teacher of linguistics, Professor Roy Harris of Oxford University. I am solely responsible for the content of the work and for any errors in it.

## **Section I**

Bottom-up Linguistics: multiple perspectives on individual units, anomalies, and the emergence of linguistic patterns

**In Summary:** This study draws attention to the drawbacks of 'top-down' approaches to linguistic analysis and advocates a 'bottom-up' approach. That is, it criticises preconceived macro-level structures and the establishment of all-embracing substantive general constructs, and proposes building up macro-level descriptive constructs from micro-level analysis. It emphasises the need to recognise extensive anomalies in linguistic structures and to allow for diversity in linguistic systems. Numerous phonological and grammatical examples are provided. It further emphasises the wide range of perspectives on linguistic units and constructions, and the need to integrate different perspectives on the same entities in order to account for diverse parameters of information. This involves the development of ways to analyse the processing of speech signals from multiple, simultaneous points of view- formal, semantic, and 'aesthetic' (concerned with value systems, social and associative). It thus rejects the idea of top-down, linear verbal processing from so-called 'deep' to 'surface' structures. 'Bottom-up' linguistics rejects linear processing in favour of multiple parallel processing as more realistic and more consistent with modern views of cognition. Bottom-up approaches draw a clear distinction between the *presentation* of linguistic analyses for the purposes of description and explanation and the *representation* of language, i.e. how we conceive of it. In particular, bottom-up linguistics opposes the view that abstracted structures can be represented as hypostatised realities or 'essences' of language. In the second section of the work, there are detailed bottom-up analyses of various morphological constructions, the syntax of quantifying expressions, the semantics of 'verbs of general meaning', and other applications in phonology, as well as multi-dimensional analyses of verbal products. The third section addresses further theoretical perspectives with examples, and a Postscript addresses some issues in the relation of language to reality.

# 1. Theoretical Issues

## 1.1 The key propositions of bottom-up linguistics

A bottom-up view of language and linguistic analysis:

1. works from individual linguistic units and their multiple associations towards generalisations about the patterns of association and combination of similar units.
2. seeks to identify the parameters of verbal communication and their manifestation in the associations of linguistic units.
3. sees each unit (of whatever complexity) as a node in a complex of associations in different dimensions simultaneously.
4. sees each unit as 'functional' in each parameter of communication, i.e. separately contributing to communication.
5. recognises variety and anomaly in linguistic patterning in all dimensions of analysis.
6. sees 'language' (in the sense of sets of individual speech acts) as purposive adaptations of verbal resources to circumstances to achieve communication, but in a wider perspective sees language as a component in the construction of a virtual reality of understanding and social orientation. This includes the combination and contrast of verbal acts (written or spoken) either as consecutive text or as interactive dialogue. 'Communication' is seen as a totality which can be viewed either from the point of view of transfer of information or from the point of view of meaning-making, or both- the viewpoints must ultimately be integrated. (Verbal communication is seen as a (major) component in 'multi-modal' communication; a focus on language involves a somewhat artificial abstraction of verbal communication from other modes of non-verbal communication (visual, tactile, etc.) as a practical necessity.)
7. sees language not as a function of linear top-down processing but as an interaction of multiple, simultaneous, parallel connections linking a situational and verbal context to verbal means of expression. This process involves multiple possible utterances at each point in discourse. Any actual utterance is the product of a filtering process involving criteria of appropriateness at each point in utterance formation.

The notion of 'association' is a primitive term. It covers any relation connecting two or more verbal entities of whatever sort and in whatever way. Associations can be, for example, oppositional, constructional, set-theoretical (through class membership), semantic (including connotational), aesthetic/value-based, phonological. Numerous examples are provided throughout the text.

It should be noted that a bottom-up view of language and linguistic analysis is concerned with *modelling* communication, and that linguistic units and patterns of association are constructs for understanding observed verbal behaviour. They are not hypostatised. This bottom-up modelling is therefore about:

1. the identification of linguistic units and their associative relations of all types as explanatory constructs;
2. the linkage of communicational context with verbal means;
3. the identification of the parameters of communication and the associations of individual linguistic units of all types;
4. the processes of selection and construction of individual utterances and complex discourse in communicational contexts;
5. the criteria for the selection of individual utterances from sets of possible utterances in given contexts, including a wide variety of value-based considerations (textual, discursual, aesthetic, social);
6. the role of language in the construction of our sense of macro-level reality.

Those topics are addressed from a theoretical point of view in Sections 1 and 3 with some worked examples, while detailed practical examples are offered in Section 2. The relation of language to reality is considered in the Postscript.

In the 'bottom-up' approach, verbal products are seen as macro-level realities- entities as they appear to us in everyday experience. They are concerned with our wider macro-level experience- experience of perceptions, attitudes, memories, desires, etc. as they appear to us. These realities are taken to be the products of physical processes, cognitive processing, and mental states, which are unconscious and clearly precede any rational awareness of verbal or non-verbal 'reality'. We are dealing with language and reality as they appear to us after that unconscious processing. This is taken to be a *reflection* of the factors in the production of language and its relation to non-linguistic reality. Bottom-up linguistics seeks to give an account of those factors and their interactions.

This approach involves a clear rejection of many common presuppositions about language and linguistics, and is founded on an extensive critique of the fundamental notions of linguistics in numerous previous publications (see bibliography, Rastall, 1998, 2006a, 2006b, 2011, 2015, 2016, 2017, 2018). 'Bottom-up' linguistics presupposes the critical analysis of the concepts of communication, structure, function, and rejecting the dogmas of universalism, linear processing ('operationalism'), the centrality of a grammar 'component', the attribution of linguistic models to speakers, and hypostatisation of linguistic entities. The bottom-up critique shares the dissatisfaction with mainstream linguistics of such scholars as Harris (1982) and Everett (2014). Clearly, the rejection of many common views requires the development of a positive alternative. That is the main purpose of this work. It is broadly sympathetic to the 'European' functionalist linguists working in a range of similar traditions, such as that in France led by André Martinet and his followers around the world, the Danish glossematic approach, the work of Dutch and German linguists, or the rich heritage of thinking in the broadly 'Prague School'/ East European direction with its many modern developments. Those linguists have in common that they have always paid attention to the variety of verbal means in any speech community as well as to the diversity of points of view on linguistic phenomena (and especially sociolinguistic perspectives). Their work is unfortunately not well known in the hegemonic Anglophone academic community, but is found in, for example, the journal, *La linguistique* or in many Czech publications. Bottom-up linguistics offers a distinct, and

integrationist, approach which recognises verbal diversity and rejects the idea that ‘structure’ orders phenomena- rather structure emerges from overlapping similarities and contrasts in form, function, and associations.

## 1.2 Introductory remarks

Most problems and issues in linguistics are in essence *metaphysical*. That is, they are questions of the definition of concepts, their mutual relations, and their connection to the real world. Our linguistic concepts in turn involve the selection of perspectives on verbal interaction. Thus, linguistic analysis is as much about the theory we adopt for an analysis as it is about our observations of verbal phenomena/interactions or the linguistic descriptions that result from applying theory in the analysis of phenomena. That theory must also include a clear *ontological* framework in which constructs of different orders of abstractness are connected to real-world entities and events. That issue is extensively discussed in Mulder (1989 and 1993a) as well as Mulder and Rastall (2005). Much of that discussion is concerned with the question of ‘ontological commitment’ or the view one takes of the ontological status of *constructs* and classes. The view taken here is that analytical units and relations (phonemes, syntactic structures, social or aesthetic values simultaneous with utterances, etc.) are explanatory constructs set up from theoretically determined points of view. Constructs are class concepts. There is no direct, demonstrable correspondence with real-world entities, but they are useful for understanding our macro-level experience of language. Our constructs are heavily ‘theory-laden’, but not purely ‘instrumentalist’ (see below for further discussion). Their function is to provide a way of understanding verbal communication as we observe it, but different theoretical concepts of the phoneme or sign, for example, can be put forward, and they will lead to different views of the same phenomena.

Specific verbal constructs (units and relations) are ways of accounting for particular sets of associations. For example, phoneme constructs, such as /p/ in English are generalisations from the associations of allophones (themselves constructs) with similar, non-different properties in differentiation and combinatory relations. Similarly, signs are explanatory constructs accounting for classes of allomorphs with similar, non-different properties. Thus, *am, is, are*, etc. are grouped together in a set which we can call ‘be’. It should be clear that there is a difference between the convenience of presentation of linguistic analyses and the representation of the mass of verbal associations in many dimensions. A phoneme or sign construct is a convenient way of referring to classes of entities which are broadly similar. While *am, is, are* can be grouped together as semantically similar but in complementary distribution<sup>1</sup> in the ways that some other allomorphs are, it should be clear that each has its own phonological associations, and that each is differentiated in other dimensions from the ‘short forms’ - *m, -s, -re* within the set ‘be’. All linguistic units are inherently relational. They are the nodes in relations of differentiation and construction (paradigmatic and syntagmatic dimensions).

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1 There are complications involving the *coherence* of the allomorphs, *is* and *are*, with the subject, when it can be considered as singular or plural- *the government is/are...*, or number is not distinguished in the noun *the sheep is/are...* As we will see below, those are examples of the many intersecting considerations in an integrationist approach.