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Linguistic Ecology and Language Contact

Edited by

Ralph Ludwig, Peter Mühlhäusler,
and Steve Pagel



Linguistic Ecology and Language Contact

Contributions from an international team of experts revisit and update the concept of linguistic ecology in order to critically examine current theoretical approaches to language contact. Language is understood as a part of complex socio-historical-cultural systems, and interaction between the different dimensions and levels of these systems is considered to be essential for specific language forms. This book presents a uniform, abstract model of linguistic ecology based on, among others, two concepts of Edmund Husserl's philosophy (parts and wholes, and foundation). It considers the individual speaker in the specific communication situation to be the essential heuristic basis of linguistic analysis. The chapters present and employ a new, transparent, and accessible contact linguistic vocabulary to aid reader comprehension, and explore a wide range of language contact situations in Europe, Africa, the Middle East, Latin America, Asia, and the Pacific. Fascinating reading for students and researchers across contact linguistics and cultural studies.

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Series Editor's Foreword

The series *Cambridge Approaches to Language Contact* (CALC) was set up to publish outstanding monographs on language contact, especially by authors who approach their specific subject matter from a diachronic or developmental perspective. Our goal is to integrate the ever-growing scholarship on language diversification (including the development of creoles, pidgins, and indigenized varieties of colonial European languages), bilingual language development, code-switching, and language endangerment. We hope to provide a select forum to scholars who contribute insightfully to understanding language evolution from an interdisciplinary perspective. We favor approaches that highlight the role of ecology and draw inspiration both from the authors' own fields of specialization and from related research areas in linguistics or other disciplines. Eclecticism is one of our mottoes, as we endeavor to comprehend the complexity of evolutionary processes associated with contact.

Exceptionally we publish anthologies that display a strong thematic unity, as in the case of the present volume: *Linguistic Ecology and Language Contact*, whose specific focus is ecological aspects of language contact. Its editors start it with an informative history of 'ecolinguistics' and 'ecology-of-language' approaches to various aspects of particular languages since the mid-twentieth century. Because the term *ecology* was borrowed directly from biology, where it has been in usage since the mid-nineteenth century, as the editors make so clear, they treat its application to linguistics as metaphorical. Thus they invite the reader, perhaps unwittingly but quite appropriately, to think over whether invocations of notion of *ecology* to account for linguistic behaviour should not be interpreted literally, in reference to the relevant environmental factors. Must the 'environment', the explanation typically associated with *ecology* (note its application in the word *environmentalist*!), be understood strictly in the sense of climate, vegetation, topography and other relevant geographic notions that bear on biological evolution? What then prompted linguist pioneers of the extrapolation of this notion, viz., Erving Goffman, Charles F. Voegelin, Florence M. Voegelin, Noel W. Schutz, and Einar I. Haugen, to consider applying it in linguistics? Aren't there any ways in which usage of

ecology in linguistics can inform its application in biology? I favor a broad interpretation of *ecology*, whose nature varies according to what it is invoked to explain, consistent with the interdisciplinary nature that the editors themselves advocate for ecological approaches to language (see below). But the reader will be the ultimate judge.

The different contributors to this volume articulate in their respective chapters various ecological factors that rolled the dice one way or another on the evolution of the structures of some languages they have investigated, the emergence of contact-induced ethnolinguistic practices in some colonial populations, or the unfolding of a conversation. In the latter case, attention is drawn to a fundamental aspect of contact: that which applies in our daily interactions with each other, even in a monolingual population. From the point of view of discourse, the exchange of ideas and points of views certainly involves contact, notwithstanding that of idiolects. And there is certainly an ecology that constrains how the conversation develops. The editors characterize the approach as 'ecological discourse analysis and interpretation'.

The reader is implicitly invited to think beyond traditional 'sociolinguistic' and/or 'ethnographic' factors in thinking 'ecological'. I have often underscored the impact of economic factors on linguistic practices and language vitality, which are part of the 'indirect external ecology', simply because their effects are mediated by the individuals that evolve in the relevant population or socioeconomic structures and react to them directly. However, is the term *ecology* simply an alternative that brings more breadth to non-structural factors that bear on the practice and evolution of languages but does not displace *sociolinguistics* and *ethnography*? I think so, but it's up to the reader to assess whether this volume leads to a different answer. One of the rather novel elements contributed by the editors is certainly the Husserlian part-whole and foundation perspective.

From the beginning, the reader is also invited to reflect on what practitioners of 'ecolinguistics' do that those of the 'ecology-of-language' approach do not, and vice versa, whether they all (can) claim the legacy of the practice of ecology in biology, and what has led them to diverge intellectually. Do 'ecolinguists' articulate the connection between language and the world, apparently that in which the social ecology is embedded, more adequately than those who practice the 'ecology of language'? Can one always tell the difference between these ecological paradigms in linguistics, or does the difference lie in what particular scholars are specifically interested in and focus on? The chapters in this book reveal that there is often a disconnect between the labels that individual scholars claim for their particular practices and the substance of what they do, showing that the difference may lie more in whether, for instance, one capitalizes on the moral consequences of the impact of particular ecological dynamics on the relevant languages, or on explaining

how those particular dynamics work. The contributions to this volume show the various ways in which the notion of LANGUAGE/LINGUISTIC ECOLOGY helps us better understand the manifold aspects of language contact, from the Levant to India, to Latin America, and to Black Africa, and from both diachronic and synchronic perspectives. Ecologically, or ecolinguistically, one can focus on synchronic or diachronic dynamics, on how various factors external to language influence the behaviours of speakers and what effects these adaptations of speakers exert on the structures, uses, and vitality of the relevant languages.

Then also arises the issue of the connection between the Sapir–Whorf hypothesis and ecolinguistics. This book includes two chapters by Peter Mühlhäusler, the promoter of the connection, on this topic. The reader may also want to follow the exchange between him and myself in the pages of the *Journal of Pidgin and Creole Languages* 30 (2015), if they are interested in my reservations about this aspect of ecolinguistics. At issue is, first, whether languages are tools for thought and influence the way that their speakers manage their geographic ecologies and, second, whether an ecolinguistic approach sheds (better) light on linguistic diversity and how. Can linguistic diversity hold a key to addressing, if not solving, some of the environmental problems the world faces today? The reader would be remiss to omit Mühlhäusler's chapters in the present book.

Though it is debatable whether all the contributions to this volume can be lumped in one category which the editors claim to be *ecological linguistics*, the latter are certainly correct in arguing that matters of the ecology of language cannot be reduced to 'socio-political, environmental and linguistic minority issues'. According to them, *ecological linguistics* also subsumes 'explicitly cognitive parameters such as speaker competence, language acquisition, and universal aspects of grammaticization'. They argue that 'corpora are considered to be the point of departure of any ecological linguistic analysis'. The question is whether corpora are all it takes to understand how languages behave and evolve; and these are considerations that should weigh heavily on the reader's mind if they want to make 'ecolinguistics', or 'the ecology of language', or 'ecological linguistics' more informative about various aspects of language. They must bear in mind that it is not so much the label that explains how things work as the substance of the explanations provided by the relevant scholars. And that is certainly not lacking from the present book.

However, one must also distinguish between the inaccurate explanations provided by individual analysts and the potential that a particular approach holds for providing adequate explanations, for instance, because it makes it possible for the practitioners to ask the right questions and suggests adequate research avenues for answering them. Thus one must consider more carefully the implications of the editors' claim that they 'consider language, primarily

language usage, as *part of a whole* (*Teilganzen*, according to Husserl) in a complex socio-historical-cultural system, which additionally is dependent on cognitive-neural cross-linking'. According to them, this volume offers a third, holistic kind of ecological approach to language (contact), which must be interdisciplinary and pluralistic, because no discipline alone can explain everything about it. Undoubtedly, ECOLOGY cannot subsume all explanations about every aspect of language; the message I got is that it enables linguists to address the actuation question in perhaps a more satisfactory way. The causation of change can be indirect, lying for instance in colonization, which imposes a new socio-economic structure, which in turn affects various ethnographic conditions that influence speakers' behaviours. The approach also makes it possible to deal with the non-structural aspect of complexity regarding the cultural embeddedness of language, which guides human behaviour. The editors submit that ECOLOGY must also be understood as complex and structured in a hierarchical fashion, within which history plays a very critical role, as its effects filter through several layers of ecological conditioning to the interacting individuals. These assertions contain a novel element on which the reader is well invited to ponder against the backdrop of the body of empirical data that the book provides.

The editors and other contributors to the book militate for giving up some old terminology they consider 'misleading', proposing terms such as *linguistic ecology* instead of *language ecology*, *copying* instead of *borrowing*, *code alternation* instead of *code-mixing/switching*, and *covert copy* instead of *calque*. Along with this preoccupation arises the question of what is a 'natural phenomenon' in linguistics and how does one capture it in their investigation. Is there such a thing as 'ecological data'? The reader is invited to assess this. Some chapters focus on the urban environment as a contact ecology, where individuals from different parts of a country bring different rural traditions that face the competition of others. They are modified by the emergent urban cultures, which they also help reshape, though the claim of an urban culture itself can be questioned, because of its peculiar population structure, which may prevent the emergence of homogeneous language practices shared by all. Population structure also accounts for the conditions under which a language of an elite minority can survive in an exogenous territory, such as French in the Levant, and for how long. It likewise accounts for how the Spaniards' naming practices of the seventeenth century spread, albeit with modification, in their insular colonies of the Caribbean and undoubtedly their other colonies. The dynamics of cultural competition are particularly noteworthy, as they are influenced by colonial politics. This is a thought-provoking collection of essays that we the editors of CALC are happy to share with our readers.

Salikoko S. Mufwene, University of Chicago

Acknowledgements

The impetus for this book dates back a few years already. As our contact person at Cambridge University Press, Helen Barton, recently put it, in polite but nevertheless growing impatience: ‘This book has a long history’. It goes back to discussions on linguistic ecology and language contact between Ralph Ludwig, Steve Pagel, and Peter Mühlhäusler in 2009, when the latter visited Halle again, and a few other guests were invited.

The book concept originated in a rather complex environment, in which the binational (DFG and ANR) research project ‘CIEL-F’ (Corpus International Écologique de la Langue Française) also played a firm role. The road was long enough to present and discuss our ideas on various occasions. Without naming all of them, we thank our many discussion partners for their attention and suggestions.

Our manuscript quickly took shape, and from the first moment on we had found a discussion partner who showed us that amity and relentless criticism are not mutually exclusive: Salikoko S. Mufwene. Sali’s impact on us and our book is perhaps comparable to that of the thinker-printer-publishers of the French sixteenth century, such as Geoffroy Tory or Robert and Henri Estienne. We owe him constancy, tenacity, tireless questioning, and concurrent support.

Commitment on the part of the editors for such a long period of time must be endured. Without substantive support from our wives, our undertaking would have been impossible to realize. We are indebted to Florence Bruneau-Ludwig, Jacky Mühlhäusler, and Franziska Schramm.

This book would also not have been completed without continuous support in the editing process, which came in particular from Susanne Vollmer.

Perhaps because we are forgetful, or because they are simply too many, we have named only a few friends and colleagues here. For this we want to apologize.

Part I

Introduction and Theoretical Frame

1 Linguistic Ecology and Language Contact: Conceptual Evolution, Interrelatedness, and Parameters

Ralph Ludwig, Peter Mühlhäusler, and Steve Pagel

1.1 Linguistic Ecology: an Outline

1.1.1 From οἶκος to Ecology

As is the case with most abstract concepts, the concept of *ecology* is essentially rooted in a metaphor, linking the respective referent to a concrete and, in this case, rather modern object. The word *ecology* is a composition of the Greek lexemes *οἶκος* ‘house’, ‘household’, or ‘home’, and *λόγος*, which covers a series of meanings, the most common ones being ‘word’, ‘speech’, ‘discourse’, ‘reason’, and ‘principle of order’. The suffixed form of the latter, *-λογία*, is best translated as ‘the study of’. Literally, therefore, *ecology* is ‘the study of (the governing principles of) the household’. We note the shared morpheme *eco-* in both *economy* and *ecology* as well as the ongoing debate on whether these are opposing principles (as argued by Weinrich 1990) or whether both areas of study are concerned with the optimal use of limited means. The far greater number of parameters introduced by ecological studies distinguishes them from an economic interpretation.

The ecology metaphor, as we will see, was first used in biology in order to describe a radically new way of understanding nature, where organisms interact with one another and their environment. When it was adapted to the concept of *language*, it was seemingly just another metaphor that linguistics had copied from the natural sciences in order to find a fitting approach to its exceptionally abstract subject. And, just like other metaphorical concepts, the ecology metaphor (in which languages are interconnected with all kinds of production of meaning) will have to prove its value in the course of time. Still, other metaphorical concepts are in use and are, in part, expedient conceptions, such as the organism metaphor (languages are living things which come to life, compete, age, and die), the instrument metaphor (languages are instruments, tools, means of communication), or the system metaphor (languages are more or less closed bodies of interconnected and interdependent data, each constituting a system of its own). As the

ecological approach in linguistics allows a considerably larger range of parameters underlying language structure and use, it is potentially more powerful than system-oriented approaches, which are poorer in parameters – assuming it is possible to make the numerous additional parameters do explanatory work.

Metaphors, as well as metonyms, are vital for all living languages because, to begin with, they provide a linguistic solution to the problem of communicating about immaterial and imagined referents and about processes occurring beyond the immediate experiences of the speaker. Metaphors also privilege certain perceptions and actions and, when employed heuristically, enable their users to overcome cognitive constraints. These insights range among the most important ones the study of language has achieved in the last century (e. g. Ortony 1979; Lakoff and Johnson 1980; Rorty 1989; Goatly 1996/2001) and they can certainly be called ecological, as they are based on the assumption that there are far-reaching interconnections between a language, the society that speaks it, and the physical environment in which this society evolves. Furthermore, the theoretical implications are enormous: in different languages metaphors may be rooted in different concepts (Mühlhäusler 1995b), thought by the speaking community to be the best fitting, and different languages may thus provide their speakers with different approaches to the world, which, in turn, may result in different ways of dealing with this world. Conversely, languages that spread to remote parts of the world, particularly during colonial expansions, may contain metaphors that are, at first, inappropriate for managing their new ecologies¹ and must adapt to them.

Metaphors do not only determine and constrain human perceptions; they can also be employed heuristically to explore the unknown. In the absence of immaculate perception, any research that extends the boundaries of necessary knowledge relies on metaphors (Harré 1961; Paprotte and Dirven 1985). In the history of linguistics there have been numerous heuristic metaphors, including the family tree of language genetic relationships, the conduit metaphor of communication (Reddy 1979), the stratum metaphor of language mixing, linguistic drift, and the pervasive reification/objectification metaphor, which converts dynamic processes into a static object called *language*. It has been said that metaphors never reveal the full truth but selectively highlight small aspects of it. At times they may conceal key

¹ We use the term *ecology* in two different meanings. The first is in accordance with the etymology of Greek *logos/-logia*, as the ‘study of’ or a certain perspective of research (e.g. *the ecological parameters*). The second designates the object (ecology) that can be grasped through the ecological perspective (e.g. *the Levant ecology*). Mufwene and Vigouroux (2012) use *ecology* in a similar fashion. See also Lechevrel (2010: 46ff.) who identifies and discusses five different ways of designating ecological approaches in linguistics.

properties of the subject matter, such as when the reification metaphor of language conceals the dynamic, open-ended nature of human communication. It becomes clear that metaphors have their serious pitfalls, and linguists cannot be too cautious when dealing with them. The ecology metaphor, we would like to argue, is by contrast capable of highlighting the dynamics, interrelatedness, and situatedness of human communication and therefore promises to capture its essential properties.

In order to achieve an accurate understanding of the ecology metaphor, it is, therefore, helpful to have a closer look at the semantics of the Greek word *oikos* and especially the aspects that distinguish it from that of modern houses and households. The latter can be described as corresponding (concretely) to the concepts of *nuclear family*, *couple* or even the *individual*, i.e. private spheres of the rather unmarked social entities of modern western civilization, settled in an otherwise (e.g. socially, economically and politically) heavily interconnected and interdependent society. Modern houses and households are by no means self-sufficient. On a social level they depend on family (nuclear as well as extended) and circles of friends. Economically they are highly dependent on production facilities, markets, and money, and politically they are bound to external decisions such as laws and taxes. The *oikos* of ancient Greece, in contrast, was not only a key social entity but also a key economic and, to a more limited extent, a key political entity. It comprised the extended family, all kinds of property including land, livestock, and personnel; and life in it was ruled, for the most part, by decisions made and supervised by the host. Socially and politically, but especially economically speaking, the *oikos* was thus largely self-sufficient. In order to be so, the individuals living in it were tightly interconnected in terms of social rank and profession and highly interdependent in both a social and economic way. We must grasp this dimension when aiming for a thorough understanding of the origin and meaning of the ecology metaphor and its application to other fields such as linguistics.

The first ecological approaches to nature date back at least to scientists of the eighteenth and nineteenth centuries, such as Carl von Linné, the founder of modern botanical and zoological taxonomy, Alexander von Humboldt, and of course Charles Darwin. The term *ecology*, however, was first used and defined in 1866 by the German zoologist Ernst Haeckel, himself a great admirer of Darwin's theory (Stauffer 1957). Haeckel places the Darwinian key concepts *economy of nature* and *struggle for life* in a new science called *Oecologie* (Birch and Cobb 1981: 29):

Unter Oecologie verstehen wir die gesamte Wissenschaft von den Beziehungen des Organismus zur umgebenden Außenwelt, wohin wir im weiteren Sinne alle 'Existenz-Bedingungen' rechnen können. Diese sind teils organischer, teils anorganischer

Natur; sowohl diese als jene sind ... von der grössten Bedeutung für die Form der Organismen, weil sie dieselbe zwingen, sich ihnen anzupassen.² Zu den anorganischen Existenz-Bedingungen, welchen sich jeder Organismus anpassen muss, gehören zunächst die physikalischen und chemischen Eigenschaften seines Wohnortes, das Klima (Licht, Wärme, Feuchtigkeits- und Electricitäts-Verhältnisse der Atmosphäre), die anorganischen Nahrungsmittel, Beschaffenheit des Wassers und des Bodens etc.

Als organische Existenz-Bedingungen betrachten wir die sämtlichen Verhältnisse des Organismus zu allen übrigen Organismen, mit denen er in Berührung kommt, und von denen die meisten entweder zu seinem Nutzen oder zu seinem Schaden beitragen. Jeder Organismus hat unter den übrigen Freunde und Feinde, solche, welche seine Existenz begünstigen und solche, welche sie beeinträchtigen. (Haeckel 1866: 236)

[By ecology, we mean the whole science of the relations of the organism to the environment including, in the broad sense, all the 'conditions of existence'. These are partly organic, partly inorganic in nature; both ... are of the greatest significance for the form of organisms, for they force them to become adapted. Among the inorganic conditions of existence to which every organism must adapt itself belong, first of all, the physical and chemical properties of its habitat, the climate (light, warmth, atmospheric conditions of humidity and electricity), the inorganic nutrients, nature of the water and of the soil, etc.

As organic conditions of existence we consider the entire relations of the organism to all other organisms with which it comes into contact, and of which most contribute either to its advantage or its harm. Each organism has among the other organisms its friends and its enemies, those which favor its existence and those which harm it. (translation by Stauffer 1957: 140–141)]

Ecology in the modern sense of the word developed as a natural science in its own right in the first half of the twentieth century. One of the typical modern definitions is essentially similar to Haeckel's one and a half century ago:

Ecology is the scientific study of the distribution and abundance of organisms and the interactions that determine distribution and abundance. (Begon, Townsend and Harper 2006: xi)

The first application of the ecology metaphor in a theoretical linguistic context is usually attributed to Haugen and his 1972 paper 'The ecology of language'. Prior uses of the term *ecology* by Goffman (1964) and Voegelin, Voegelin and Schutz (1967) didn't refer to the same general level but focused on immediate communicational encounters in the first and, as Haugen himself recognizes (1972: 327ff.), on bi- and multilingual societies in the latter case. Haugen defines the ecology of language as 'the study of interactions between any given language and its environment' (1972: 325). In contrast to other authors before (and after) him dealing with ecological linguistic features, such as the relationship between language, thought and reality, his definition of *environment* does not cover 'the referential world to which

² The adaptation of languages to wider ecological conditions has become a recurring theme in present-day ecological linguistics (see Mühlhäusler 1996b, 2003).

language provides an index' (1972: 325). In fact, Haugen considers the 'true environment of a language' primarily as the society using the language, although he also contemplates a series of multilingual, social and psychological societal facets.³ At the end of his paper, Haugen provides a preliminary list of ten questions which, in his opinion, could shed light on the ecology of a given language. They regard, for instance, the typological classification of a language, the nature of its users, the latter's attitudes towards the language, concurrent languages, internal variation, domains of use, and written traditions. These questions have not lost any of their relevance, especially when it comes to the study of language contact phenomena, which is why they will, in part, play a role in the contributions to this volume too. For the most part, these questions touch issues we could also call sociolinguistic – and most of them probably are. But the sociolinguistic question, as will be pointed out later, is just one element among others in an ecological linguistic approach. In Haugen's concept of the study of a language's ecology, the scope of these questions already goes well beyond sociolinguistics. This is the case, for example, for the notion that phenomena such as language contact and bilingualism appear to be natural elements of most (if not all) linguistic ecologies, and not exceptional matters, as they had been treated by mainstream linguistics of the time. When Haugen himself addresses some of these contact-related processes in his paper (such as diglossia, bilingualism, creolization, and borrowing), he does not give an entirely new or coherent perspective but opens fascinating paths to an integral conception of language(s) and speaker(s).

1.1.2 *Streams of Development*

Following Haugen, in the 1980s and 1990s a group of linguists from rather different fields developed and refined what we would today call *ecolinguistics*. Fill (1998/2001: 43) distinguishes two – ultimately complementary – directions of this discipline that emerged from the primarily sociolinguistic impetus of Haugen.⁴ A first approach interprets Haugen in a closer sense: *ecology* is primarily understood as a metaphor and is transferred to languages and their speaking communities, since it does more justice to the complexity of the

³ It should be noted that Haugen, while proposing a dynamic metaphor of language ecology nevertheless subscribes to the static reification metaphor of a *given language*. He also supports the idea of the separation of languages and their environment rather than exploring the notion that the boundary between language and non-language is ultimately arbitrary. As an attempt to do justice to the latter notion, ecolinguists such as, e.g., Trampe (1990, 1991) and Fill, Penz and Trampe (2002) speak of the *Mitwelt* ('world with') of language rather than of its *Umwelt* ('world around').

⁴ A clear-cut summary of the development of ecological approaches in linguistics is given in Mufwene and Vigouroux (2012). For a detailed and critical survey of ecological approaches in the social sciences and particularly linguistics, see Lechevrel (2010).

situation than other metaphors do (e.g. the computing or the organism metaphor). The notion of *ecology* has a rather methodological meaning here and lacks the evolutionary correlation it has in biology. In a second approach, ecology is interpreted as including the referential world in a more biological (and thus evolutionary) sense. This approach points out that language is inescapably linked with and part of the world. It explores the role of language in environmental and social problems such as climate change, the extinction of species (and here one can include the linguistic variety: languages/language diversity), classism and sexism, and furthermore reflects on possibilities of (linguistic) intervention.

This is a useful, but of course also a simplifying distinction. Some more complex models include aspects of both currents, such as the one proposed by Salikoko Mufwene (2001, 2008), discussed below. All ecological linguistic approaches also owe a considerable portion of their insights to scientific roots other than Haugen, especially the so-called *linguistic relativism/constructivism* or *Sapir–Whorf theory complex*, which comprises two logically independent hypotheses:

- languages encode different cultural and cognitive categories and can vary in an indefinite number of ways; and
- languages shape their speakers' world-view and other non-linguistic behaviour.⁵

Both hypotheses can be called ecological as they regard languages, their speakers' environment, and their speakers' world-view as being substantially interconnected. This conception of language is strongly tied to the names of Franz Boas, Edward Sapir, and Benjamin Lee Whorf who, at the beginning of the twentieth century and by studying Native American languages and comparing them to what Whorf called SAE (Standard Average European) languages, arrived at conclusions such as the following:

Human beings do not live in the objective world alone, nor alone in the world of social activity as ordinarily understood, but are very much at the mercy of the particular language which has become the medium of expression for their society. It is quite an illusion to imagine that one adjusts to reality essentially without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection. The fact of the matter is that the 'real world' is to a large extent

⁵ It is useful to distinguish between a stronger and a weaker form of this hypothesis. The stronger version claims that language determines thought and behaviour, and is rejected by most linguists today. A weaker version assumes that language exerts some influence on cognitive and other non-linguistic behaviour, and is widely, though not universally, accepted. In recent years, the Amazonian language Pirahã has become a challenging case with regard to this hypothesis (for a discussion see Everett 2005, 2008, 2009; Frank, Everett, Fedorenko and Gibson 2008; Nevins, Pesetsky and Rodrigues 2009a, 2009b).

unconsciously built up on the language habits of the group . . . We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation. (Sapir 1929: 209ff.)

We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds – and this means largely by the linguistic systems in our minds. (Whorf 1940/1956: 213)

We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated . . . The relativity of all conceptual systems, ours included, and their dependence upon language stand revealed. (Whorf 1940/1956: 214)

Some ecolinguists, especially those engaged in a critique of Western languages and in ecocritical discourse analysis do indeed make reference to Sapir and Whorf (e.g. Chawla 2001). However, as Mühlhäusler (2000a: 90) points out, these names are often introduced as a means of demonstrating the legitimate roots of ecolinguistics rather than as a serious effort to develop the theories of linguistic relativity and determinism.

It is also necessary to point to the fact that Sapir and Whorf have important precursors in Wilhelm von Humboldt and especially in Johann Gottfried Herder.⁶ In his ‘Fragments on recent German literature’ (1767), Herder considers language not only a tool or instrument for human beings to express their thoughts, but also the content and even the form of human cognition (Herder 2005: 102) – an idea of far-reaching consequences:

If it is true that we cannot think without thoughts, and learn to think through words, then language sets limits and outline for the whole of human cognition.

We think in language, whether we are explaining what is present or seeking what is not yet present. In the first case we transform perceptible sounds into intelligible words and intelligible words into clear concepts. Hence a matter can be dissected for as long as there are words for its component concepts, and an idea can be explained for as long as new connections of words set it in a clearer light. (Herder 2002: 49)

⁶ It is important to note, however, that these ideas have a long history in Western philosophy. It spans, to name only a few examples, from Plato’s ‘Allegory of the cave’ in the *Politeia* to the epistemological investigations of George Berkeley (‘A treatise concerning the principles of human knowledge’, where the essence of ideas is said to be their being perceived [§3] and the nature of human knowledge is reduced to ideas and spirits, but not matter [§86]) to the structuralism of Ferdinand de Saussure (according to whom linguistic signs constitute an autonomous system in which the relation between these signs determines their meaning; therefore: ‘La langue est un système dont tous les termes sont solidaires et où la valeur de l’un ne résulte que de la présence simultanée des autres,’ Saussure 1915/1986: 159). See also Toulmin (1972) who gives a functional interpretation of the dichotomy *relativism* vs. *universalism/absolutism* in Western thought (see section 1.2.2).

Proceeding from the general to the more particular, Herder asks: What does it mean for the ‘nature’ of a ‘national language’ (*Nationalsprache*) if it is a tool of the organs of its people, a content of their ‘world of thoughts’ (*Gedankenwelt*), and a form of their kind (2002: 102–103)? The answer is clear for Herder and fits in with a central thought expressed in his treatise ‘The origin of language’ (1772), according to which human language has no divine origin:⁷

[E]ach nation speaks in accordance with its thought and thinks in accordance with its speech. However different was the viewpoint from which the nation took cognizance of a matter, the nation named the matter. And since this was never the viewpoint of the Creator ... but was instead an external, one-sided viewpoint, this viewpoint got imported into the language at the same time too. (2002: 50)

For Herder, language is a ‘huge area’ (*Umfang*) of thoughts that have become visible, a limitless land of terms, coined by the centuries (2005: 94). Although the intimate relation between language and nation stated by Herder – and later Humboldt – was a prominent topic in the German national movement, their notion of *nation* should not be interpreted too narrowly here. It was a rather cosmopolitan conception, emphasizing the diversity of human history, thoughts, and speech, but by no means favouring one nation or language in principle over another. Its meaning is probably closer to that of the modern term *society* than that of the modern *nation*. Furthermore, Herder’s conception of *language* was all but static: he speaks of a ‘language becoming’ (*werdende Sprache*) that varies through all the educational levels of its speakers and changes through all its days of being created (2005: 103).

It was for Wilhelm von Humboldt to take up and cultivate many of Herder’s ideas. For Humboldt, language constitutes an ‘organic whole’ (*organisches Ganzes*) and is not as much a ‘product’ (*Werk*, Greek *εργον*) as it is a ‘practice’ or an ‘action’ (*Tätigkeit*, Greek *ενέργεια*, cf. Herder’s *werdende Sprache*). Expanding Herder’s thoughts concerning the heterogeneity of languages among nations and classes, Humboldt points to the relation between language and the individuals speaking it:⁸

⁷ It may be of some interest here that Edward Sapir (1907) wrote an essay on Herder’s treatise.

⁸ In his essay ‘On the different methods of translating’ (1813), Friedrich Schleiermacher ties in with both Herder’s and Humboldt’s ideas: ‘Every human being is, on the one hand, in the power of the language he speaks; he and his whole thinking are a product of it. He cannot, with complete certainty, think anything that lies outside the limits of language. The form of his concepts, the way and means of connecting them, is outlined for him through the language in which he is born and educated; intellect and imagination are bound by it. On the other hand, however, every freethinking and intellectually spontaneous human being also forms the language himself. For how else, but through these influences, would it have come to be and to grow from its first raw state to its more perfect formation in scholarship and art?’ (Schleiermacher 1813/1992: 38).

Nicht bloß, daß die Sprache selbst ein organisches Ganzes ist, so hängt sie auch mit der Individualität derer, die sie sprechen, so genau zusammen, daß dieser Zusammenhang schlechterdings nicht vernachlässigt werden darf. (Humboldt 1795/1830: 201)

[Not only that language is itself an organic whole, [but] this way it is connected with the individuality of those speaking it so closely, that this relation must not, by all means, be neglected. (our translation)]

In our own conception of linguistic ecology, which will be laid out in the next part of this chapter, we speak of several reference levels of ecology (e.g. speaker, speaker group, and speech community) and tie in with these ideas of Herder and Humboldt.

In an often-quoted passage from his essay ‘On the comparative study of language and its relation to the different periods of language development’ (1820), Humboldt underlines what Herder had stated before him: ‘The differences between [languages] are not those of sounds and signs but ultimately of interpretations of the world’ (1820/1997: 18). Moreover, ‘[i]t is here that the reason for, and the ultimate purpose of all investigations into language are to be found’ (ibid.). For our conception of ecology we consider another passage of some importance, because it contains a clearer methodological formulation. In his introduction to ‘On the Kavi language in the island of Java’ (1836), Humboldt shows that the mutual interdependence of thought and language is more than just a metaphor for him: one element should be perfectly deducible from the other:

The *mental individuality* of a people and the *shape of its language* are so intimately fused with one another, that if one were given, the other would have to be completely derivable from it. For *intellectuality* and *language* allow and further only forms that are mutually congenial to one another. Language is, as it were, the outer appearance of the spirit of a people; the language is their spirit and the spirit their language; we can never think of them sufficiently as identical. (1836/1999: 46)

As Pagel (2018) shows in an extensive historical and scientific-theoretical work on the roots of contact linguistics, the scientific study of language contact phenomena begins in the last third of the nineteenth century. Here, an early offshoot of ‘ecological’ ideas can be found in William Whitney’s essay ‘On mixture in language’ (1881). Whitney is concerned with the question of whether ‘true’ language mixture – defined as grammatical mixture on more or less equal grounds – is theoretically possible. He also provides a simple but effective systematization of phenomena of contact-induced language change (see Pagel 2015) and emphasizes that contact-induced change is rather unpredictable because the parameters influencing it are manifold:

[W]herever two tongues come in contact, each is liable to borrow something from the other; and more or less, according to wholly indeterminable circumstances: the measure and nature of the intercourse, the resources of the respective tongues, their degree of facilitating kinship or structural accordance, and so forth. (Whitney 1881: 10)

The first detailed examinations of language contact phenomena explicitly under the ecological perspective were conducted in William Mackey's papers 'Towards an ecology of language contact' and 'The ecology of language-shift', dating from 1979 and 1980, respectively. In the latter, Mackey begins with a tempting comparison to evolution-based ecologies in biology, which, however, has its pitfalls:

Languages too must exist in environments and these can be friendly, hostile or indifferent to the life of each of the languages. A language may expand, as more and more people use it, or it may die for lack of speakers. Just as competition for limited bio-resources creates conflict in nature, so also with languages. If a smaller fish gets in contact with a big fish, it is the smaller which is more likely to disappear. (Mackey 1980/2001: 35)

However, as Mackey continues to explain, this sort of reasoning

places us in danger of falling into the fallacy akin to that of the nineteenth century comparatists who began regarding and dealing with language as if it were an organism, after having promulgated, on the model of the physical sciences, language laws, some of which admitted of no exceptions. Language is not an organism. Nor is it a thing. It does not obey the laws of physics or those of biology. It's rather a form of behavior – not animal, but human, traditional behavior – not racial but cultural, in that it has to be learned as a trait or skill identified with a group of people. It's not what the people are but what they do. (ibid.)

The analogies between linguistic and natural ecologies are without doubt limited. Nevertheless, the idea of parallels between nature and culture in this respect has fascinated both linguists and natural scientists, particularly in the wake of Darwin's evolutionary theory at the end of the nineteenth century (for details, see Pagel 2018). Darwin himself dedicated an impressive section of his book *The descent of man* (1871) to language. Here, he points to a number of similarities between linguistic and biological evolution:

The formation of different languages and of distinct species, and the proofs that both have been developed through a gradual process, are curiously parallel. But we can trace the formation of many words further back than that of species, for we can perceive how they actually arose from the imitation of various sounds. We find in distinct languages striking homologies due to community of descent, and analogies due to a similar process of formation. The manner in which certain letters or sounds change when others change is very like correlated growth. We have in both cases the reduplication of parts, the effects of long-continued use, and so forth. The frequent presence of rudiments, both in languages and in species, is still more remarkable. The letter *m* in the word *am*, means *I*; so that in the expression *I am*, a superfluous and useless rudiment has been retained. In the spelling also of words, letters often remain as the rudiments of ancient forms of pronunciation. Languages, like organic beings, can be classed in groups under groups; and they can be classed either naturally according to descent, or artificially by other characters. Dominant languages and dialects spread widely, and

lead to the gradual extinction of other tongues. A language, like a species, when once extinct, never... reappears. The same language never has two birth-places. Distinct languages may be crossed or blended together. We see variability in every tongue, and new words are continually cropping up; but as there is a limit to the powers of the memory, single words, like whole languages, gradually become extinct... The survival or preservation of certain favoured words in the struggle for existence is natural selection. (Darwin 1901: 137–139)

Labov (2001: 6–10) deals with these considerations of Darwin and provides examples for each of the similarities stated. The whole parallelism, however, seems to depend on the argument of natural selection Darwin refers to in the last sentences. Yet

the general consensus of 20th-century linguists gives no support to this contention, and finds no evidence for natural selection or progress in linguistic evolution. (Labov 2001: 9)⁹

The same analogy is found in a number of ecolinguistic publications of the 1990s, that draw attention to the increasing loss of linguistic diversity, which in turn is considered just as harmful to the human environment as the loss of biodiversity (e.g. Mühlhäusler 1996a). The chain of argumentation here is as follows: (1) the development of either diversity, biological or linguistic, takes time; (2) over the course of time, information about the environment of a biological or linguistic entity is being encoded in its inherited domains (genes, structure); (3) every chunk of information was selected from a number of competing alternatives because it fitted best to the respective environment; (4) therefore the totality of these entities represents invaluable knowledge about human environment; and (5) each entity lost is a derogation of this knowledge. In other words, linguistic diversity, too, ‘reflects thousands of years of human accommodation to complex environmental conditions’ (Mühlhäusler 1996a: 270). As we have seen, this sort of reasoning goes back at least to the mentioned writings of Herder – lacking there, of course, an ecological terminology.¹⁰

⁹ Mufwene (p.c., November 2013) disagrees with Labov on this matter, arguing that Labov probably misunderstands what *selection* means and how it works: there’s great evidence for *selection* in linguistic behaviour, starting with accommodations speakers make to each other. See the discussion in Mufwene (2008, especially chs. 6 and 7).

¹⁰ E.g. Herder (2005: 95, our translation): ‘Every nation has a peculiar storehouse of these thoughts that have become signs, this is their national language. A stock, to which they have added for centuries’.

A late twentieth-century equivalent can be found e.g. in Dixon (1999: 144): ‘Each language encapsulates the world-view of its speakers – how they think, what they value, what they believe in, how they classify the world around them, how they order their lives. Once a language dies, a part of human culture is lost forever.’

An important implication of such reasoning is that language diversity could be the key to understanding and solving the environmental problems humans face today, just as biodiversity is thought to be the key to biological ecosystems and their being well. The analogy could even be extended to a proper interdependence between biodiversity and linguistic diversity, as has been argued in a number of studies on biocultural diversity (e.g. Mühlhäusler 1995a; Maffi 2001). Human knowledge about the different human environments disappears along with linguistic diversity, which causes the very biodiversity of these environments to be in danger of disappearing too. This can already be illustrated on the level of vocabulary: if an autochthonous language has a word for a particular element of its environment, and this word disappears as a result of the dominance of another imported language, which has no word for this element, then the speakers will not and cannot recognize the relevance of the element for their environment, and the element will probably not be treated with the necessary care or consequence.¹¹ Particular forms of language contact that involve the expansion of the language of a powerful and/or highly prestigious speaker group create this kind of situation all the time. If a globally expanding language like English, which classifies a great deal of flora under hyperonyms such as *grass* or *weed* (see also the German *Unkraut*), drives smaller local languages to extinction, the local flora will be classified essentially in the English fashion, regardless of the *local* significance of its elements. By doing so, it could be argued, these elements might be driven to extinction, too.

The metaphorical and the biological meaning of the term *ecology* merge in the work of Peter Mühlhäusler and other linguists who draw attention to the importance of linguistic diversity. This merger also reveals a highly practical aspect of ecolinguistics: it can constitute a call for and an attempt to sustain smaller linguistic ecologies ('mobile' or 'static') which are in danger of being driven out or absorbed by the ecologies of so-called world, national, or regional languages. This call seems to be readily accepted by most ecolinguists studying the facets of linguistic diversity.

In the early 1990s, another branch of ecolinguistics came into being. It is often attributed to Michael Halliday who, building on the works of his teacher John R. Firth, developed systemic functional linguistics. In this approach, language is considered a system of interrelated networks of choices – choices that speakers have to make when communicating. The specific structure of

¹¹ Of course, the reverse is also true: the new speakers of the imported language will introduce concepts and words to this language that are specific to its new ecology and haven't existed in this language prior to the contact. This process is part of the so-called *indigenization* of an imported language.

these networks is thought to reflect the functions the language and its particular systems have to serve. In other words, these networks of choices

are presumed to have taken the form they have, in all languages, in order that speakers and hearers can make use of their language to meet their requirements as determined by the general human situation and by their own particular culture. (Robins 1997: 245)

In a paper, which became seminal for the language-critical branch of ecolinguistics, Halliday (1990/2001) points to the relation between language(s) and environmental problems. He chooses the most widespread of the so-called SAE languages, English, as his object of study and shows (following the Sapir–Whorfian paradigm) how English grammar provides the very conditions of westerners' destructive behaviour towards nature. His examples comprise the encoding of natural resources such as *water*, *air*, and *oil* as mass nouns, which suggests the inexhaustibility of these resources, and the strict separation of non-human life forms from human life forms, for instance, in the pronoun system (*he/she* vs. *it*), reflecting and at the same time sustaining the western claim for human dominance over other life forms.

This 'ecocriticism' (of language system and discourse) has received many interesting contributions in the 1990s, such as that of Andrew Goatly. Goatly (1996/2001) illustrates how SAE language structure lags behind the modern western scientific understanding of the ecological conditions of the world we live in. One argument in point is the division in language between an 'agent', an 'experiencer', and a 'recipient' – according to Goatly, this fragmentation of the universe reflects the view of traditional Newtonian science and contradicts the insights of, for example, the quantum theory.¹²

The practical aspect of these findings – the fact that speakers and/or linguists must change language in order to change the destructive western approach to nature, and by doing so solve modern environmental and social problems, seems to be obvious. Nevertheless, it has not been expressed very often. Most ecolinguists deny the idea (or even the possibility) of manipulating language and creating a more functional *newspeak*, to use a term from George Orwell's negative utopia *Nineteen Eighty-Four*. This is especially true for those ecolinguists who are concerned with the deep structure of language. Goatly (1996/2001), for one, seems convinced that SAE languages will adapt to the insights of modern science by themselves (i.e. by their speakers) in the course of time. Others, however, who criticize the rather superficial linguistic

¹² Here, one could raise the objection that, unlike the Newtonian world, the quantum world is not part of the reality humans perceive. It is therefore unlikely that this physical reality, which is observable only at the smallest scales, will be or has to be reflected in human language. In a way, this view is expressed in a famous statement of the physicist Richard Feynman, according to whom 'nobody understands quantum mechanics' (1967: 129).

revelations of anthropocentrism or sexism (i.e. revelations in the vocabulary or more peripheral structural categories), more often tend to express a prescriptive attitude (e.g. Berman 1994/2001).

It was, among other things, this 'eco-purist' attitude that earned ecolinguistics some criticism in the late 1990s and beyond, criticism that was surely justified for certain contributions, but not for the approach as a whole. Christopher Hutton and Douglas Kibbee, however, expressed rather substantial criticism of this approach. Hutton (2001) understands linguistics as ideology and the notion of *world-view* as a matter of policy. He investigates the theoretical tensions between *cultural relativism* and *universalism*, the first (underlying e.g. the ecological approach to language and language rights advocacy) often being understood as 'politically liberal' and 'progressive' and the second as 'scientifically sanctioned' and 'objective'. The description and preservation of different linguistic world-views, Hutton argues, requires the existence of an objective meta-language. The same is true for discourse-critical linguistics:

[D]istortion and manipulation can only be identified by reference to some form of objectivity. But distortion and manipulation are also pejorative terms for 'world view'. (2001: 277)

The important question asked by Hutton is this: 'How do we distinguish legitimate differences in world-view between cultures from pathological or manipulative forms of discourse?' (ibid.). The distinction proves to be difficult, as both cultural relativism and universalism are Western ideologies:

Linguistic theories that claim to represent the relativity of world views and to draw political conclusions from that claim can at best be described as pseudo-relativistic, caught in the paradox of an attempt to represent and defend cultural difference through the universalistic meta-language of linguistics. But what of linguistics as a universal objective descriptive meta-language, a claim implicit in the term 'General Linguistics'? Attempts to ground political and moral analyses of metaphor in the objectivity (however defined) of cognitive linguistics are vulnerable to the criticism that the objectivity appealed to is a convenient construct and that the ideological conclusions are under-determined by the linguistic analysis. (2001: 294–295)

With regard to the preservation of a 'natural' linguistic diversity, the matter appears to be particularly paradox,

[f]or the process of labeling alone brings artificial distinctions to that natural continuum. Yet, without that labeling one cannot speak of saving 'languages', since the concept of discrete language is an artificial product of modernity. (2001: 294)

But apart from the fact that all science must deal with this paradox (as science itself is an artificial product), one could argue in this case that speaking of *languages* is not the same as speaking of *discrete languages*. Speakers, too,

label their languages, notwithstanding that others (including linguists) may label the same language differently (see Mühlhäusler [Chapter 12](#) in this volume). We can, if not avoid this paradox, certainly ease it by accepting a more open and dynamic conception of *language* and *language system*, as will be done in our framework (see [section 1.2](#)).

Kibbee (2003) also compares two competing ideologies concerning language, called here the ‘free-market approach’ and the ‘ecolinguistic approach’. He argues that both are ultimately based on the deterministic version of the Sapir–Whorf theory and as such are both biased, if in opposite directions. The agents of the ‘free-market’ ideology emphasize the superiority of standard national and the so-called ‘world languages’ as, for instance, bearers of democratic ideals, while those of the ‘ecolinguistic approach’ stress the inferiority of these national or global languages as expressions of capitalism, imperialism, homogenization of cultures, and so on. Kibbee resolutely rejects far-reaching analogies between linguistic and biological ecologies, particularly

the equivalence of language to species, and the notion that the loss of a language is equivalent to the loss of a natural species . . . A language is a behavior, not a physical characteristic. If two languages are in contact, then they influence each other. If a dog lives in the same house as a bird it does not grow wings, nor does the bird sprout paws. If two languages are in contact, they create a new language. Thus, the genealogical tree produced to illustrate the descent of the human species works very poorly to illustrate the relationships between languages. A very grave danger on the part of geostrategists from both camps – the free-market language capitalists and the ecolinguists – is that they perceive influences between languages as a degradation of those languages. (Kibbee 2003: 51)

Referring to language contact, Kibbee repeats in part what Mackey already stated in 1980. However, his argument goes deeper and addresses questions that have not been posed sufficiently: Where do analogies between a linguistic and a biological species, between linguistic diversity and biodiversity end? If the two are equated, would we not have to interpret any language contact as an interruption of a vital and grown linguistic ecology? What does it mean for a linguistic ecology to ‘grow’? Does contact-induced change involve a degradation of the language or variety in which it occurs? How does such a perception influence our understanding of the evolution of languages and linguistic diversity? What consequences does it have for the fundamental tools of linguistics, such as the family tree model of genetic relationship? On what grounds could we manipulate or prevent further linguistic evolution, knowing there has always been evolution?

Salikoko Mufwene addresses some of these questions, for example in his books of 2001 and 2008. Departing from a creolist’s perspective, he outlines a general theory of language evolution and, thus, language change. By analogy,

Mufwene compares language with species, not with organisms (as has been done already in the 19th century by Whitney, see Pagel 2018: 329), and particularly with parasitic species, more specifically viruses, in biology. Further analogies are drawn between idiolects and individuals, and between structural features and genes. He argues that competition and selection are also decisive mechanisms in language evolution, while it is ecology that ‘rolls the dice’ and determines which species, idiolect, or structural feature, in their respective contexts, is ‘more fit than others’ (2001: 21). Mufwene also resorts to biology to adopt the distinction between internal and external ecology (2001: 22, ch. 6): while internal ecology concerns, above all, structural features and cognitive parameters (e.g. the coexistence of variants and the influence of systemic economy on feature selection), external ecology refers to the sociolinguistic framing and includes contact between different linguistic systems (which may have structural consequences but needs sociolinguistic explanation). Mufwene’s contribution to the ecological approach to the study of language is significant but not shared by all ecological linguists (see Mühlhäusler’s 2005 review of Mufwene 2001). His position is best described as an intermediate between the two currents in the approach to linguistic ecology we have outlined in this section. On the one hand, his careful analysis of language-internal and -external parameters, his focus on their interrelation, and the search for an adequate metaphorical picture of the evolution of languages situates him close to the first, i.e. the primarily metaphorical, methodologically motivated interpretation of ecology in language, which we also favour. On the other hand, the question as to the precise relation between biological and linguistic species and their evolution, between genes and structural features, or in short: the scope of metaphors copied from biology is crucial in his writings, so that his position also touches the second current, in which ecology is interpreted as including the referential world in a more biological, evolutionary sense.¹³

It becomes clear that, despite critics, ecological approaches to language have not been abandoned. Numerous anthologies, textbooks, and articles on the subject were published in the first decade and a half of the third millennium (e.g. Fill 2000; Fill, Penz, and Trampe 2002; Mühlhäusler 2003; Garner 2004; Fill and Penz 2007; Lechevrel 2010; Vandenbussche, Jahr, and Trudgill 2013; Eliasson 2015). In contact linguistics, too, there has been an increasing interest in an ecological paradigm, as is illustrated not only in the cited works of Mufwene but also in, e.g., Calvet (2006), Ansaldo (2009), Clements (2009), Pagel (2010, 2015, 2018), and Vandenbussche, Jahr, and Trudgill (2013). In fact, ecological approaches to language appear to be on their way to a

¹³ See e.g. Mufwene (2014: 13), where human languages are said to have ‘emerged as communicative technologies responding to various ecological pressures experienced by the hominine species during its protracted evolution’. Similar thoughts have been expressed, again, already by Whitney in the late 19th century (Pagel 2018: 340–41).

scientific comeback, and it is apparently the metaphorical – or Haugenian – interpretation of ecology that is again becoming the centre of attention. The parameters of the linguistic ecology paradigm will have to be thought through again and some will have to be reinterpreted and reassembled. The next section and the other contributions in this volume are a first attempt in this direction.

The current interest in ecological approaches also indicates, however, that the distinction between two currents in ecological linguistics made by Fill (1998/2001: 43) falls short if applied to the present. We can distinguish at least two influential contemporary applications of the ecology metaphor to linguistics, associated with the names of Salikoko Mufwene on the one hand, and the term *ecolinguistics* on the other, leading to two different historical sources. Mufwene's interest lies mainly in the evolution of language and language change vis-à-vis the evolution of man. He understands the ecology of language as showing analogies to the ecology of biological species, and language evolution and change as crucial elements in the evolution of a particular species: human-kind. Thus, for Mufwene ecology serves as a model to capture and explain *historical* processes. Linguists working under the theoretical framework often called *ecolinguistics* such as Peter Mühlhäusler, on the other hand, focus on the interdependence between linguistic and environmental (i.e. social, cultural, biological, and other) ecosystems. Here, the non-linguistic world is integrated in *synchronic* linguistic questions (such as the question of why and how preserve languages with few speakers) and the *social responsibility* of the linguist is being emphasized. While Mufwene's approach is essentially theoretical, ecolinguistics can be understood, in principle, as an applied science (but see Mühlhäusler [Chapter 12](#) in this volume). Historically, the first approach echoes many facets of Whitney's language theory (e.g. 1867, 1875), and the second seems to be rather in a Herderian tradition (see Pagel 2018 for details).

In this volume we wish to develop a third way that differs from the two mentioned. In our theoretical consolidation of the linguistic ecology paradigm we take a primarily *synchronic* perspective, but suggest that historical links and integrations (or *foundations*, as we say), among other dimensions, must be included in the analysis of linguistic data. At the heart of our approach is a model of linguistic ecology in which we combine Haugen's initial thoughts with two key concepts of the philosophy of Edmund Husserl. This model is construed in the most abstract and open fashion and allows for an ecological epistemology with respect to a maximum of linguistic questions and problems. Our model leads to certain postulates in which we call, for example, for data selection in terms of 'natural' empirical data, for a focus on language contact as contact between speakers, for interdisciplinary analysis, and for methodological flexibility. The strong discourse–corpus orientation of our framework can be deduced directly from our synchronic perspective and includes also a call for the reconsideration of the instruments of ecological discourse analysis and interpretation.

1.2 Linguistic Ecology and Language Contact: a Theoretical Consolidation

1.2.1 Linguistic Ecology as a Multidimensional System of Foundations

After this outline of the bifurcated evolution of and currents and positions in the ecological linguistic debate, we shall try to summarize the ideas of our own approach.

We prefer the term *ecological linguistics* over *ecolinguistics*. The latter term has been applied to a group of scientific studies particularly from the 1980s and 1990s, many (but not all) of which were motivated primarily by political, environmental, and social, but not always properly linguistic questions.¹⁴ Although we do not (and cannot) exclude questions of this kind, we want to stress that the ecology paradigm is not restricted to socio-political, environmental, and linguistic minority issues. The core of our framework will hence be linguistic in a narrow sense, and corpora are considered to be the point of departure of any ecological linguistic analysis. The pretension of our framework in turn is holistic, as it covers the dimensions of *speakers, space, time, and language systems*. These dimensions again are carefully linked to societal contexts such as the speech situation, attitudes, and competences among others.

As the title of this volume indicates, we prefer *linguistic ecology* over *language ecology* because we take into account all linguistic phenomena from macroscopic linguistic areas like the Francophony to the individual speaker and speech situation, including a level like *individual language*, but not being restricted to it – which a term like *language ecology* could suggest. Our notion of *linguistic ecology* encompasses the whole perceptible spectrum of animate and inanimate aspects around speaker and speech, the entire scale from rule-governed actions and their being perceived by the society to the concrete material contexts that provide potential to action. In a sense we tie in with the distinction made in biology and ecology of interactions between different animate and inanimate spheres (e.g. organisms with themselves, other organisms, and their inanimate environment).¹⁵ Thereby we do not, however, imply an analogy between languages and biological species or organisms. We also do not support premises of the kind ‘linguistic evolution equals biological evolution’ (or that of mathematical or logical systems). Our framework is construed in the most abstract fashion in order to allow for different readings. We focus on the interactions between

¹⁴ See the discussion on the distinction of these two terms and the respective approaches in Mufwene and Vigouroux (2012: 112ff.).

¹⁵ Human cultural history shows, however, that a clear distinction of the entities of reality into animate and inanimate can be problematic and ultimately depends on philosophical dispositions.

different ecological levels, but leave open (and must leave open, for reasons that will be explained below) how these are defined in a specific case.

Our interpretation of *ecology* is in the tradition of the metaphorical understanding of this term and is, thus, connected with many of Haugen's original ideas. Haugen's (1972) main concern was to perceive language as interactive language usage in its various functional connections. From the very start, he considered multilingualism and language contact to be among the psychological and social realities of this interaction:

Language exists only in the minds of its users, and it only functions in relating these users to one another and to nature, i.e. their social and natural environment. Part of its ecology is therefore psychological: its interaction with other languages in the minds of bi- and multilingual speakers. Another part of its ecology is sociological: its interaction with the society in which it functions as a medium of communication. (Haugen 1972: 325)

Haugen names several factors here. By 'social environment' we can most likely understand the partners of communication in a particular situation; and 'interaction with the society' refers to the relevant social group or the general social context – a superordinate, abstract dimension. The 'natural environment' is the concrete, special context of the speech situation. Furthermore, the competence of each speaker and the processing of language in the speech situation is a psychological dimension. Finally, individual languages (or rather varieties) are entities that interact and come into contact with other languages (varieties). In this way, Haugen enumerates various parameters on different levels of abstraction, showing certain degrees of dependence.

One important consequence of this conception of multiple parameters is that linguistics has to proceed in a multidisciplinary way:

Language ecology would be a natural extension of this kind of study and has long been pursued under such names as psycholinguistics, ethnolinguistics, linguistic anthropology, sociolinguistics, and the sociology of language. (Haugen 1972: 327)

The theoretical elements hinted at in Haugen's interpretation – multiple parameters, different levels of abstraction of the parameters and modes of mutual dependence of language and these parameters – are crucial for the following theoretical suggestions.

Mackey (1980/2001), too, emphasizes that taking an ecological position on language means above all examining interdependencies: 'Ecology is essentially the study of interdependence within a system' (ibid.: 67). We will take up this last aspect and generalize it, resorting to Husserl's concepts of *foundation* (*Fundierung*) and of *wholes and parts* (*Ganze und Teile*). Both concepts, the most important aspects of which will be resumed below, already had an important impact in the early phase of structuralism in modern linguistics, specifically in the opus of Roman Jakobson. The latter uses the concept of