



# From language shift to language revitalization and sustainability

A complexity approach  
to linguistic ecology

Albert Bastardas-Boada

# Table of contents

Foreword.....	15
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## PART I LANGUAGE ECOLOGY. SOCIOLINGUISTIC ENVIRONMENT, CONTACTS AND DYNAMICS

Introduction .....	29
1. Towards a socio-cognitive ecology of language contact .....	35
1.1. Science today: the updating of paradigms .....	35
1.2. Sociocultural sciences .....	41
1.3. Diversity and language contacts.....	45
1.3.1. Diversity .....	45
1.3.2. Language systems as sociopolitical facts .....	49
1.3.3. An ecodynamic landscape for language contact .....	51
2. The multidimensional environment of language varieties.....	55
2.1. The brain/mind complex.....	55
2.1.1. Basic concepts.....	55
2.1.2. The cognitive representation of reality .....	57
2.1.3. The control of behaviour.....	59
2.1.4. The sociocultural formation of minds.....	61
2.1.5. The development of competences.....	64
2.2. The interactional level.....	69
2.2.1. The social interaction of minds.....	69
2.2.2. Speaking as social interaction .....	72
2.3. Social groups.....	75
2.3.1. The group phenomenon.....	75
2.3.2. Intergroup relations .....	78
2.3.3. Groups and macrosocial order .....	82
2.4. Political power.....	87

2.4.1. The modern state .....	87
2.4.2. The social intervention of the state.....	89
2.4.3. The political organization of multilingualism .....	92
2.5. Interrelations, permanence and change .....	95
2.5.1. Ecosystem equilibrium .....	95
2.5.2. Permanence and subconsciousness .....	97
2.5.3. Generational change and succession.....	100
2.5.4. Linguistic systems.....	101
3. Ecodynamics of language contact.....	105
3.1. The political regulation of language standardization .....	105
3.1.1. Introduction.....	105
3.1.2. Dynamics of the process .....	109
3.1.2.1. The selection of basic varieties .....	109
3.1.2.2. Codification .....	111
3.1.2.3. The spread of competence and use .....	114
3.1.2.4. Functional elaboration.....	119
3.1.2.5. Acceptance and assessment .....	121
3.2. Sociolinguistic effects of contact by political decision.....	122
3.2.1. General consequences.....	122
3.2.2. Mutual adaptation.....	125
3.2.3. Diglossic distribution.....	128
3.2.4. Language shift .....	131
3.2.4.1. General characterization .....	131
3.2.4.2. Social and intergenerational dynamics.....	134
3.3. Migratory processes .....	141
3.3.1. Contact through migration .....	142
3.3.2. The adaptation of the first generation .....	148
3.3.3. Second generation .....	153
3.3.4. Third generation .....	162
3.3.5. The migrations of linguistically dominant groups.....	163
3.4. Language revitalization and normalization processes .....	171
3.4.1. Reversing language shift.....	171
3.4.2. Cases and factors .....	175
4. A complex ecosystem. The Catalan case.....	189
4.1. The Catalan case .....	189
4.1.1. Introduction.....	189
4.1.2. The modern evolution of the language situation .....	190

4.1.3. Language policy, functions and population .....	197
4.1.4. The Spanish language in Catalonia.....	202
4.1.5. Other Catalan cases .....	204
4.1.6. Looking towards the future.....	206
4.1.7. A model of language organization.....	211
4.2. The supracontexts affecting the normalization of Catalan.....	217
4.2.1. Spain, a unilingual or multilingual state?.....	217
4.2.2. Language normalization, the European Union and globalization .....	225
References .....	227

## PART II

1. Biological and linguistic diversity. Transdisciplinary explorations for a socioecology of languages.....	243
1.1. Introduction.....	243
1.1.1. A warning .....	243
1.1.2. Differences and coincidences between objects .....	244
1.1.3. A general view of the conceptualization.....	245
1.2. The formation of diversity .....	250
1.3. Continuity .....	252
1.4. Change.....	254
1.5. Extinction .....	255
1.6. Preservation and recovery .....	257
1.7. Linguoecology: theories, ethics and politics.....	262
1.8. To conclude .....	266
References .....	267
2. World language policy in the era of globalization. Diversity and intercommunication from the perspective of 'complexity' .....	269
2.1. Introduction.....	269
2.2. Diversity and intercommunication: addressing language contact using the 'complexity' perspective .....	273
2.3. Language contact, equilibrium and shift .....	276
2.4. New principles for a new historical era.....	280
2.5. Immediate priorities for the general maintenance of linguistic diversity.....	283
2.6. Synthesis and conclusion: some principles and values for peace and linguistic justice throughout the planet.....	286

3. Linguistic sustainability for a multilingual humanity .....	289
3.1. From 'sustainability' to 'linguistic sustainability' .....	289
3.2. The imbalance and maintenance of sociolinguistic ecosystems.....	296
3.3. What should a sustainable multilingualism be like?.....	301
3.4. Conclusion.....	309
References .....	311
4. Language and identity contacts in the 21 <sup>st</sup> century .....	313
4.1. Introduction.....	313
4.2. Majorities and minorities .....	315
4.3. 'Identity' versus 'language' .....	318
4.4. Language-and-identity in the global era .....	320
4.5. Economic and political unions .....	323
4.6. Some ideas on which to base the organization of a multilingual world .....	327
References .....	335
5. Complexics as a meta-transdisciplinary field.....	337
5.1. 'Complexics': a terminological and theoretical proposal.....	337
5.2. The construction of a new theoretical vision.....	339
5.3. New methodologies for new approaches .....	341
5.4. Integrating theory and methodology.....	344
References .....	346
Subject index.....	351

# Foreword

*Language is alive like a great tree  
that has roots in the subsoil of social life  
and the lives of brains,  
and its foliage extends into the noosphere.<sup>1</sup>*

EDGAR MORIN

*Nothing is as provocative for theory  
as practical problems and efforts.*

JOSHUA A. FISHMAN

## 1.

This book comprises the English translation, with minor updates, of a volume I published in Catalan in 1996 under the title *Ecologia de les llengües. Medi, contactes i dinàmica Sociolingüística* (“Language ecology. Sociolinguistic environment, contacts and dynamics”), plus some articles and excerpts written later. The aim, then as now, has been to attain a deeper understanding of the sociolinguistic phenomena that arise out of contact between languages, especially inspired by the Catalan-speaking area. Despite the time that has passed, I believe that most of the works’ contents, fundamentally the theoretical elements, are today not only still valid, but also timely. My esteemed professor William F. Mackey, who is sadly no longer with us, always encouraged me to publish the book in English so that it could reach a wider audience. Today, his wish is fulfilled, and as you can see, I dedicate the book to his memory.

The book was originally conceived from an ecological and holistic viewpoint, which we prefer nowadays to call a *complexity* or *complexical* approach, and this perspective, which I think has continued to gain adherents with the

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1 Free translation from the French: “ La langue vit comme un grand arbre dont les racines sont aux tréfonds de la vie sociale et des vies cérébrales, et dont les frondaisons s’épanouissent dans la noosphère ” (*La Méthode. 4. Les idées. Leur habitat, leur vie, leurs moeurs, leur organisation*).

advent of a new century, is now seeing extraordinary developments. In addition, the number of phenomena related to language contact, be they the result of political or economic (dis)integrations or migrations or for technological reasons, has not stopped growing. So, I hope that the reader will find inspiration in the text, even though most of the bibliographical references date back to the time of the original book's writing in Catalan. Similarly, while the content referring specifically to the Catalan case was the most pertinent at the time of writing, it would likely be different if the book had been written now, given the changes that have occurred in Catalan society in the meantime. Nevertheless, many of the structural phenomena that were then occurring are still present today and there remains, therefore, a need to understand and address them.

My hope is that the reader will think that it is fitting for this work to appear now in English, despite the passage of time since its initial publication in Catalan. I believe the fundamental ideas that it contains can help us to gain a better understanding of processes of language contact—especially those involving minoritization and revitalization or normalization—and be useful for human communities aspiring to reverse language shift.

## 2.

In the field of linguistic ecology, the past twenty years have certainly witnessed new contributions that do not figure in the body of the text, but deserve to be given recognition now. For example, if we think of languages as cultural 'species' that live in ecosystems that have a crucial influence on how they evolve, we can find an interesting line of study. While remaining cognizant of the differing properties of biological and linguistic entities, this strategy has been used by a number of authors with heuristic aims and to help push forward with the theorization of complex sociolinguistic phenomena (see Mufwene & Vigouroux, 2012; Bastardas-Boada, 2017b). For instance, Mufwene (2001), drawing inspiration from population genetics, used the analogy of a parasitic, Lamarckian species to indicate that languages depend on their speakers, just as a parasite depends on its carrier, and he stressed the importance of the environment in relation to the changes that the species may undergo. From this perspective, he applied a competition-and-selection model of language forms to understand the evolution of contacts between different languages (Mufwene, 2008). In this way, the context is what gives competitive advantage to some languages and takes it away from others. The context causes a 'natural selection' of languages, like biological evolution. Similarly, though not drawing

inspiration from the parasite analogy but rather from an analogy of species in general, I also suggested a research programme in linguistic ecology to address the formation of language diversity, or speciation, and to examine language continuity, change and extinction, as well as language preservation or recovery (Bastardas-Boada, 2002, and in this book). Like Pennycook (2004) and Edwards (2008), however, I cautioned against paying excessive heed to analogies between biological and linguistic species and, therefore, I underscored the need not to apply the metaphor uncritically.

However, the temporal—and, frequently, spatial—coincidence between the crises of biodiversity and of language diversity (Maffi, 2001) further encouraged the metaphoric borrowing of approaches and concepts from biology in linguistics, particularly in the case of endangered language varieties. Concern to preserve the diversity of language systems created by humans has given rise to a need for an in-depth understanding of the mechanisms that lead to language shift and, ultimately, to the total abandonment of minoritised languages (Junyent, 1989). An awareness of the severity of the crisis has led to the development of what might be called a ‘linguistic environmentalism’, that clearly encourages activism and the constitution of a ‘political’ ecolinguistics able to propose changes in the socio-economic and cultural organization of human societies. From this perspective, the equality of the rights of languages is advocated, as well as the need to fight for their preservation and give support for a relation of non-subordination and non-hierarchy among different human language groups (Junyent, 1998; Skutnabb-Kangas & Phillipson, 2008).

Drawing on the perspectives more inspired by systems thinking and complexity and yet obviously not ignoring advances in bio-ecology itself, authors like Mackey (1979) clearly argued that biological facts differ from facts at the sociocultural level: “The study of a society [...] is not analogous to the study of the physical world [...] [n]or is analogous to the study of life” (p. 455).<sup>2</sup> This is probably what led authors like Haarmann (1986), Mackey (1980, 1994) and myself (1996 and in this book, 2017a) to conceive of an ecology of language contact grounded in a psycho-sociologico-political approach that is multidimensional and dynamic and can give an account of the intertwinings and interdependencies of levels and factors that influence and/or co-determine the language forms and varieties involved. This interdisciplinary collaboration was also followed by Mühlhäusler (1996), who was equally supportive of a

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2 In the beginning of the field, Haugen also sketched out a programme of research, always situating the ecology of languages within the framework of a general sociology (1971).



general, holistic approach as the only way of being able to grasp the phenomena arising in the evolution of situations of language contact. Calvet (1999) sets out a useful ‘gravitational’ image for the world’s ecosystemic organization of languages, which are also clustered into constellations (De Swaan, 2001). Terborg (2006) and Terborg and García Landa (2013) have also directly postulated a sociocultural ecology of languages, which draws on the ‘pressures’ that speakers feel in their environment to use one language variety or another. This approach, like the constitution of a general (bio)ecology, steers clear of fragmentation and specialization by taking the opposite road, integrating elements from vastly different sociocultural disciplines that are nevertheless useful and necessary to understand human sociolinguistic ecosystems and their whole-part interrelations. In the end, the different ecological perspectives to language contact lead to contributions that are not so very different, but rather cast light upon one another, and a variety of authors do move back and forth between the approaches.<sup>3</sup>

Following in the footsteps of bio-ecology, Bastardas (2007 and this book) proposed adopting the concept of ‘sustainability’ within the field of sociolinguistics in order to respond to the escalating rise in language contact, pushed strongly by the spread of English and other major languages in the context of globalization. The goal was to rethink the linguistic organization of humanity—and, therefore, to make language continuity possible—in a frame marked by a clear increase in human polyglotism. How to make compatible the maintenance and development of most of human language communities and the individual plurilingualism that can enable their inter-communication—this is the big question. From this approach, a *sustainable* linguistic contact will be that which does not produce linguistic exposure or linguistic use in allochthonous language at a speed and/or pressure so high as to make impossible the stable continuity of the autochthonous languages of human groups.

### 3.

The complexity approach of the subtitle refers to the perspective that I strove to apply in the book when I first wrote it in 1996. At the time, the label ‘complexity’ was not yet in wide use internationally and it seemed more fitting to go with ‘ecology’, which already had a tradition of applying systems theory to

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3 Cf. Fill & Mühlhäusler, 2001.

the understanding of biological and environmental phenomena.<sup>4</sup> Today, the term ‘complexity’ is used much more widely and I think, therefore, that it can better characterise the approach that inspired this book.<sup>5</sup>

However, it should be noted that, in 1996, complexity perspectives *per se* referred fundamentally to ideas with a philosophical grounding that did not yet have a very concrete methodological basis. By contrast, the ‘complexity sciences’ have now been developed to an extraordinary extent, particularly thanks to the impetus given by many physicists, mathematicians and computational scientists who are using computer tools to offer us new opportunities for investigation *in silico* in order to better grasp phenomena.<sup>6</sup>

The 1996 complexity approach did not yet take these new developments into account, but it did seek to apply a multi-dimensional, integrated and dynamic perspective to the understanding of sociolinguistic facts that was appropriate for a complex vision of reality. As the reader will see, I drew my principal inspiration at the time from authors such as Norbert Elias, Edgar Morin, Ramon Margalef and Fritjof Capra, who were then already postulating this type of vision. It must be said that I think their perspective remains fully valid today and, moreover, will likely become prevalent in the research of the twenty-first century.<sup>7</sup> The approach that is applied here, therefore, belongs rather to ‘general complexity’ than to ‘restricted complexity’—using the words of Ed-

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4 Levin (2010) believes that there is indeed a clear continuity between the ecological approach and that of complexity: “Ecology views biological systems as wholes, not as independent parts, while seeking to elucidate how the wholes emerge from and affect the parts. Increasingly, such a holistic perspective, rechristened at places like the Santa Fe Institute as ‘the theory of complex adaptive systems’, has informed understanding and improved management of economic and financial systems, social systems, complex materials, and even physiology and medicine. Essentially, that means little more than taking an ecological approach to such systems”.

5 “There is complexity when the various components that make up a whole (be they economic, political, sociological, psychological, affective or mythological) are inseparable and there is an interwoven fabric that is interdependent, interactive and inter-retroactive between the parts and the whole, the whole and the parts” (Morin, 1999: 14).

6 Several authors have been constructing this perspective: Morin, 1977, 1982, 1986, 1991, 1992, 1999, 2005; Wagensberg, 1994; Gell-Mann, 1994; Heylighen *et al.*, 2007; Roggero, 2008; Gershenson, 2008; Castellani & Hafferty, 2009; Jörg, 2011; Malaina, 2012; Wells, 2013; Ruiz Ballesteros & Solana, 2013; and Byrne & Callaghan (2014), for example. Other thinkers have also contributed even though they have used other names or tags, like, among others, ‘ecology’ (Margalef, 1991; Allen & Hoekstra, 2014), ‘systemics’ (Von Bertalanffy, 1969) ‘emergentism’ (Holland, 1998), or ‘networks science’ (Newman, Barabási & Watz, 2006; Solé, 2009), and also ‘complex systems’ (Holland, 1995; Wolfram, 2002; Solé & Bascompte, 2006; San Miguel *et al.*, 2012; Díaz-Guilera, 2012). It has also been applied to linguistics by Larsen-Freeman (1997, 2015), The ‘Five Graces’ Group (2009), and Massip-Bonet *et al.* (2013, 2019), among others.

7 See, for example, Capra & Luisi, 2014.

gar Morin (2005)<sup>8</sup>—and it also follows the main ideas of Elias’ figurational sociology (1990).

The application of metaphors or theoretical images from ecology, complexity and figurational or processual sociology in understanding language and sociocommunication phenomena is of great use. By visualizing, for instance, the different levels of linguistic structure not as separate entities but rather as united and integrated within the same theoretical frame, by seeing their functional interdependencies, by situating them in a greater multidimensionality that includes what for a long time was considered ‘external’—the individual and his mind-brain, the sociocultural system, the physical world, etc.—and expanding in this way our classical view, we should be able to make important, if not essential, theoretical and practical advances.

#### 4.

To the same end, I have included five more texts in part II to represent later contributions that develop the book’s initial ideas from 1996. Since I wanted to maintain the texts here in their original published version, the reader might find that some of the thoughts are also expressed in the first part of the book. I wish to apologize to those of you who might find a few fragments of this second part somehow redundant. The first chapter seeks to explore heuristically the comparison between studies addressing biological diversity and linguistic diversity. It traces the major lines of research of an ecology of languages in contact whose inspiration has come from biological ecology, while taking into account, obviously, the differences between the two objects of study. The second text addresses the linguistic organization of the planet within the context of the process of globalization. The aim is to find principles that would permit the peaceful coexistence of human groups, general intercommunication and yet also the maintenance and development of the many languages in existence. It draws on the complexity or “complexical” perspective, seeking to avoid sterile dichotomising while pushing for a polyglotism that would have an adequate distribution of functions to permit both the continuation of human diversity and intercomprehension.

The next two texts continue in the same vein, drawing inspiration from metaphors or analogies taken from biological diversity and exploring the rela-

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8 See also Bastardas-Boada, 2019.

tionships between language and identities in the new century. The first one puts forward ideas for the linguistic organization of humankind drawing on the paradigm of sustainability, taking the perspective of thinking “and/both” rather than “either/or”. The second one offers excerpts from the online book *Language and Identity Policies in the ‘Glocal’ Age* in order to explore issues concerning the relationships between majority and minority languages and the organization of supranational political and economic bodies. The text concludes by proposing four key elements for language and identity policies: recognition, communicability, sustainability and integration. I believe that these dimensions, if adequately developed and combined, can help to achieve a more dignified and just linguistic organization for humankind, enhancing the coexistence of diversity in the present century.

Below is a synthesis of my proposal for building a complexical-figural approach to social science and to general sociolinguistics in particular (Bastardas, 2014a).

<b>Traditional perspective</b>	<b>Complexical-figural perspective</b>
conceptual reification	there is no science without an observer (centrality of brain/mind)
territory	maps (we see by means of concepts and words)
scientific truth	provisional theories
elements	elements-and-contexts, interweaving, figurations, interdependences, networks
objects	events and processes
steady-state	dynamic flux, change, evolution, development
classical logic	fuzzy logic
linear causality	circular, retroactive and nonlinear causality
either/or dichotomies	and/both; integration and complementarity
planned creation	self-organization and emergence
unidimensionality	inter-influential multidimensionality
‘explicate order’ (things are unfolded and each thing lies only in its own particular region of space)	‘implicate order’ (everything is folded into everything; a hologram: the parts contain information on the entire object)
fragmentation of disciplines	inter- and transdisciplinarity
structure, code	meaningful and emotional interaction

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