1. Introduction

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1.1 Why this volume?

Herewith offering the reader *The Oxford Handbook of Historical Morphology*, we consider it worthwhile justifying the very existence of this book and the whole endeavour behind it. Indeed, why bother with yet another of the numerous specimens of the genre, which, having considerably proliferated during the last two decades, has become, in the opinion of some, notorious and superfluous? This particular volume, however, as we humbly hope, is at least in some respects more than just a new 'Somewhere's Handbook of Something'.

In fact, in a sequence with the *Oxford Handbook of Historical Phonology* (Honeybone and Salmons 2015) and in parallel with the *Cambridge Handbook of Historical Syntax* (Ledgeway and Roberts 2017), it is the first comprehensive and up-to-date compendium dedicated specifically to historical morphology in its various theoretical, methodological and empirical aspects. This focus on the intersection of diachrony and morphology is so far unique to our volume. Its coverage is much wider than that of several historically-oriented chapters in such encyclopedic editions on morphology as Booij et al. (2004: 1574–1765) and Müller et al. (2015: 1761–2116), let alone than that of single overview chapters or a few chapters on selected topics in Spencer and Zwicky (1998), Luraghi and Bubenik (2010), Lieber and Štekauer (2014), Baerman (2015), Hippisley and Stump (2016), Audring and Masini (2019), Ackema et al. (2023), or short sections in textbooks like Haspelmath (2002: 51–57)[1], or Booij (2005: 255–277). Likewise, handbooks and textbooks on historical linguistics and language change usually contain sections on morphology, e.g. McMahon (1994: 69–106), Crowley and Bowern (2010: 184–198), Anderson (2015) in Bowern and Evans (2015), Winters (2020: 119–141), Hock (2021: 279–368), Trask (1996[2023]), with the conspicuous exception of Campbell (1998) and Hale (2007), which have chapters on sound change and syntactic change, the former also on semantic change and lexical change, but not on morphological change *per se*. These sections mostly concentrate on such topics as e.g. comparative reconstruction, analogical change, or grammaticalization, and draw upon fairly circumscribed sets of examples usually coming from better-researched Indo-European languages. The manual of Crowley and Bowern (2010), though, deserves special mention for refreshingly drawing on abundant examples from languages of Southeast Asia and Oceania. The only manual specifically dedicated to change in morphology, in the narrow sense of inflectional morphology, is van Loon (2005), which, based on case studies of Indo-European languages, tries to pinpoint language-internal factors, concretely markedness, iconicity, and what is called 'synergy', that is, the syntagmatic or paradigmatic repetition of formatives, that influence the probability of morphological change or the maintenance of traditional forms.

In contrast to the publications mentioned above, instead of focusing on specific topics or by necessity only cursorily touching upon a broader range of issues, our volume offers up-to-date overviews and in-depth discussions of all important topics in diachronic morphological research, as well as an unprecedented series of surveys of morphological change in a range of language families and linguistic areas from all over the world, written by renowned experts in the field. We therefore hope that this volume will constitute a valuable and useful addition to the literature on morphological theory, historical linguistics, and

[1] Even this short section was removed in the subsequent editions of the textbook, see Haspelmath and Sims (2010).

diachronic morphological typology, and that its impact will last for a period longer than the seven years it took to materialise.

1.2 On the (in)dispensability of morphology

Justification is needed also for the very morphology as an autonomous empirical domain and field of inquiry in its own right, neither subdivided between syntax, phonology and lexicon, nor merged with syntax into a broader study of 'morphosyntax'. Indeed, while during the first hundred years of the existence of the term 'morphology' in linguistics (it was introduced in Schleicher 1859, who himself borrowed it from Goethe's 1790 studies in botany) the discipline enjoyed a privileged position, being often synonymous with 'grammar' as a whole, starting with the second half of the 20th century and in particular since the advent of generative grammar the focus of theoretical linguistics has shifted to syntax. This period has witnessed many attempts to deny morphology its status as a separate module of language and, concomitantly, as a discipline with its own theoretical concepts and methods, coming both from 'formalist' and 'functionalist' camps alike, even if for apparently different reasons. While the proponents of generative approaches arguing for the thesis that 'morphology is syntax below the level of the word' motivate it by theory-internal considerations of parsimony of representations and operations of the purported 'universal grammar' (see e.g. Bruening 2018), typologists (e.g. Haspelmath 2011; Tallman 2020) point out that the basic units of morphology, most notably the 'word' itself, lack cross-linguistically consistent definitions and draw from this the conclusion that the very division of linguistic units into 'morphological' and 'syntactic' is misguided. While acknowledging that these latter concerns are not unfounded and that conceptual foundations and basic terms of our discipline need not be taken for granted, in particular in the light of the growing body of cross-linguistic evidence, we still contend that one should not throw the baby out with the bathwater.

While it is true that the morphology-syntax division is not universal, neither in the stronger sense (there being languages without or almost without morphology) nor in the weaker sense (different languages draw the line between words and syntactic phrases non-uniformly), it is at the same time undeniable that many, indeed most, languages of the world possess sets of structurally complex syntagmatic units whose internal composition is different from that of larger syntactic units of the same language and which enter into systematic form-meaning relations with each other. These syntagmatic units, however they are meaningfully defined on (cross-linguistically generalisable) language-internal grounds, are nothing other than the traditional 'words', and the form-meaning relations between them are the familiar paradigmatic relations of inflectional and derivational kind. Our contention is that the above refers to empirical facts and not just to outlived misconceptions of morphologists afraid of losing their jobs, and that the burden of proof of the contrary lies with the proponents of the various reductionist approaches. Moreover, from the perspective of our volume, the very fuzziness and variability of the borderline between morphology and other components of grammar should be considered an inherent property of language and a necessary consequence of its synchronic variation and diachronic change, rather than a mere effect of terminological and conceptual inadequacies of the current state of linguistics (consider, for that matter, the notion of 'morphocentricity' discussed by Joseph and Janda 1988: 202–208, who claim that "morphology indeed remains as a central constant of grammar", p. 204).

Having said that morphology is non-universal (even though some kind of compounding, which is closest to syntactic combination of independent words, is perhaps found in all languages[2]), we have to admit that it is in some sense secondary with respect to lexicon and

[2] Never say no. Stonham (1998: 385) observes that the highly polysynthetic language Nuu-chah-nulth a.k.a. Nootka (glottocode: nuuc1236; Wakashan, North America) "disallows the possibility of more than one

syntax, the two truly indispensable components of any open semiotic system (cf. e.g. Schönefeld 2001: 5; see also Carstairs-McCarthy 2010: Ch. 2). Compare Lüdtke's (1980: 276) lapidary statement "There is no absolute necessity for morphology to exist in a given [language]". Perhaps the strongest support for the view of dispensability of morphology comes from situations of massive second-language learning by adults, in particular of pidginization, where morphology is often literally dispensed with and can either become dramatically reduced or even entirely disappear, see e.g. McWhorter (2011, 2016). At the same time, under the circumstances of normal transmission and uninterrupted child language acquisition languages tend to accrue morphology (see e.g. Trudgill 2009, 2011: 62–115, Meinhardt et al. 2022), which is perhaps again best evidenced by creoles, which, misleading orthographic conventions and some linguists' misconceptions set aside, develop robust morphological patterns in limited time, through grammaticalisation or borrowing (see e.g. Siegel 2004 and Bakker, this volume).

These two facts taken together suggest that while morphology can be a burden to language in adverse sociolinguistic circumstances, such as adult second-language acquisition (see e.g. Berdicevskis and Semenuks 2022 for overview and experimental evidence), there is at the same time some crucial advantage in having a morphology, otherwise it would not rise from the ashes so stubbornly even after its disappearance. The causes of this phoenix-like behaviour of morphology are partly different for its two traditional branches, word formation and inflection (again, setting aside all the controversies regarding the validity of this distinction, on which see most recently Haspelmath 2024). Word-formation serves different purposes, first and foremost that of creating names for concepts, but also discourse functions, as in nominalization, and pragmatic functions, as in evaluative morphology. To the extent that words created through word formation are useful beyond the concrete speech situation that gave rise to them, these are stored in long-term memory, where formally and semantically related units over time form patterns that can be used in creating new names, or in decoding them. At the same time, such patterns facilitate memorization and retrieval. A plausible hypothesis as to inflectional morphology has been formulated in Kihm (2014: 67):

> An essential area in need of enrichment, then, is morphology, that is the formal means for fast and concise expression of the various specifications that make utterances less ambiguous, to the benefit of both the speaker, who is then able to formulate her thoughts more precisely, and the hearer who is less exposed to misunderstandings.

Thus one of the functions of morphology is to enhance encoding and processing of information, reducing potential ambiguity by means of an increase in useful redundancy (see e.g. Lupyan and Dale 2010; Tal and Arnon 2022). This immediately raises the following question: Why does in many languages the elaboration of morphology go so clearly beyond the 'necessary minimum' required by communicative efficiency? What is the motivation, if any, of inflectional classes, suppletive stem alternations, Semitic non-concatenative exponence or Athabaskan opaque affixal templates,[3] as well as numerous other phenomena often subsumed under the somewhat misleading heading of 'morphological complexity' (see

root occurring within a single word", which entails that "compounding is impossible in the language". The same is usually assumed with respect to another highly polysynthetic language family of North America, i.e. Eskimo-Aleut, see e.g. Miyaoka (2012: 85). Note, however, that the apparent lack of compounding in these languages is compensated by exuberant affixation, some of which may be hypothesised to historically derive from compounding and incorporation (Mithun 2009). Perhaps a more accurate formulation is the one from Joseph and Janda (1988: 204): "we know of no language that lacks both affixation and compounding".

[3] On these phenomena, see the chapters by Francesco Gardani, Matthew Juge, Eleanor Coghill and Marianne Mithun respectively in this volume.

Aronoff 2015 and Herce, this volume)? The following quotation from Kihm (2014: 68) reminds us that 'efficient communication' is but one and not necessarily the most important function of language[4]:

> On the other hand, there is no doubt that many morphological processes serve no obvious communicative or expressive function, especially when the system is a complex one: **oxes* would have drawn ploughs as well. Then, however, another, maybe more important function of (complex) morphology takes over, namely the ethological function: complex morphology makes learning the language by any other means than natural acquisition a difficult task; therefore, it contributes to the group's identity and seclusion with respect to neighbouring groups, effectively although not to the point that all exchanges are barred.

Regardless of the validity of the hypothesis that the development of complex morphology is (at least partly) motivated by its enhancing the language users' sense of group identity[5], it is beyond any doubt that one and perhaps the most reasonable answer to the question 'Why does morphology exist?' sounds as 'Because it keeps developing in language change through processes of morphologisation from both syntax and phonology' (see Joseph and Janda 1988 as well as Popova, this volume, and Lahiri and Plank, this volume), whatever the reasons for this propensity to develop may be (as well as the reasons why the opposite processes of demorphologisation, even if undeniably attested, are rather exceptional, see e.g. Norde 2009 and Narrog, this volume). Likewise, any particular morphological phenomenon as found in a given language or language family, or attested across languages of a certain area, or even typologically common, can and should be explained through the history of its emergence and, where relevant, retention and spread. This particularly concerns the morphological idiosyncrasies like those listed above, all of which clearly belong to what Dahl (2004) called 'mature phenomena' presupposing a non-trivial history and requiring extended periods of time to develop. Moreover, it is not improbable that much of morphology, especially that of the more intricate kind, is not directly motivated by any 'function' whatsoever but is merely a product of 'invisible hand' evolutionary processes (Keller 1994, 1997).[6] Therefore, perhaps more than any other domain of linguistics, the study of morphology has a strong and indispensable diachronic component.

1.3 Why (and how) study morphological change?

Investigation of morphological change, both in the specific sense of understanding how particular morphological phenomena of individual languages emerged, developed or disappeared[7] in the course of history, and in the general sense of determining the mechanisms and pathways of change that, at least potentially, operate across languages and historical

[4] For instance, Keller (1994: 81–84, 92–103) argues that influencing others in order to gain social success is a more plausible candidate for the primary function of language and communication in general.

[5] This might depend on the conventions of particular cultures as well as on the degree to which language users are at all conscious of the particularities of their grammar, see e.g. Matras (2009: 218–221; 2015), where this is discussed from the perspective of language contact.

[6] Consider, however, Joseph and Janda's (1988: 205) suggestion that there is "a strong and constant tendency on the part of the speakers to particularize formerly more general morphological processes as markers of more specific lexical and grammatical categories", which diachronically results in a greater degree of idiosyncrasy in morphological systems, unless counterbalanced by generalising processes such as analogical leveling (see Fertig, this volume).

[7] Much more attention has been devoted in linguistics to the innovation of morphological patterns than to their demise, but cf. Kranich and Breban (2021), Sims-Williams and Baerman (2021), Bauer (2023), Eckardt (2025) on preterite loss in southern German dialects, Rainer (loss and gain, this volume).

periods, has two major objectives. The first objective is, again, more specific and pertains to the historical study of grammars of individual languages, argumentation of phylogenetic relationships or more reliable reconstruction of proto-languages (on morphological reconstruction, see Fox 1995; Hill, this volume). Since the very beginning of historical linguistics it has commonly been assumed that shared morphology is particularly useful in establishing the genealogical relatedness among languages (Robbeets, this volume).[8] The second objective relates to the purposes of study of language in general, i.e. to the explanatory potential of diachronic considerations in linguistic theory and language typology. Below we focus more on this second issue.

First of all, it is necessary to acknowledge that the very question of 'explanation' in linguistics is not uncontroversial. Is it possible to go beyond mere description? The answer depends on the requirements one thinks an explanation must meet to merit its name and what the *explanandum* is taken to be, a concrete instance of morphological change or recurrent trends. Good (2008: 6) distinguishes *absolute*, *probabilistic* and *permissive* explanations. Absolute explanations "would make [...] exceptionless predictions", while probabilistic explanations "predict when a phenomenon may be likely or unlikely but cannot predict exactly when it will occur". Permissive explanations are still weaker than the former two types and "simply state the conditions under which a given phenomenon might be found", without answering the question why some languages but not others choose a particular path (cf. also Keller 1994: 70–72 on the "very restricted prognostic value" of the "invisible-hand explanations" he advocated for language change). While absolute explanations have been advanced in linguistics, in particular by the proponents of generative grammar, the general consensus among historical linguists is that only probabilistic and permissive explanations are viable, at least at the current stage of our knowledge.

Thus, Joseph (1998: 366 = 2021: 76) ends his discussion of explanation of morphological change on a cautious note:

> It may well be that for morphological change, a general theory, that is, a predictive theory, is not even possible, and all that can be done is the cataloguing of tendencies, which, however valid they may be, do not in any sense constitute inviolable predictions about what types of changes will necessarily occur in a given situation. In that sense, accounts of morphological change are generally retrospective only, looking back over a change that has occurred and attempting to make sense of it.

Hüning (2019: 491) concurs: "The best we can do is: tell a plausible story that explains how a certain change *might* have happened." This author obviously had in mind as *explanandum* a single morphological change, while Joseph's text is ambiguous on this: in the second half he too clearly refers to a concrete morphological change, while the first half seems to aim at a more abstract level. If the *explanandum* is a concrete instance of morphological change, predictiveness is of course an unattainable goal for the simple reason that any innovation is the result of a choice made by speakers, who in principle are free to innovate or not, and in which way they decide to go beyond existing patterns (see the discussion of the so-called "actuation problem" in Walkden 2017). Even the necessary second step for a language change to come to completion, that is, the diffusion of the innovation in the speech community, depends on a whole series of decisions made by individual speakers, who again are free to adopt an innovation or to let it decay, as Coseriu (1974 [1958]) pointed out long ago. According to Coseriu, explanation of language change is 'finalist', which means

[8] But cf. Epps (2025), who shows that in the Naduhup language family of Amazonia vocabulary is more conservative than inflection; also Epps et al. (this volume).

that one must explain how the utterance can be justified by the speakers' intention and the linguistic means available to them at the moment of speaking.[9] This implies that a predictive explanation of a concrete morphological change is impossible (cf. also Anttila 1992: 18 and Sornicola 2011: 47).[10] Hüning (2019: 491) is misguided, however, when he thinks that the same applies to the requirement of falsifiability. Historical accounts of single morphological changes should, of course, make as many falsifiable claims as possible, just like any theory or hypothesis, and to the extent that they have empirical content such accounts are falsifiable.

Falsifiability should even be demanded from a fundamental assumption underlying in one way or other all diachronic explanations in linguistics, that is, the hypothesis of uniformitarianism (see e.g. Walkden 2019; Bowern 2026 for recent discussions). In general terms, this is the (often implicit) assumption that the linguistic past was essentially similar to the linguistic present, which warrants extrapolations from the present to the past and vice versa. For some aspects of language this assumption is certainly plausible. So, we should not expect our language capacity to have been fundamentally different some 10.000 years ago (the maximum time depth we can reach under favourable circumstances with present-day methods of historical reconstruction). On the other hand, the organization of societies, or tribes, for that matter, has changed in important respects during this same time span (on this, see e.g. Bergs 2012: 88–99 and references therein), and continues to differ widely between New York and remote parts of Amazonia even nowadays (see e.g. Trudgill 2011). Such differences cannot fail to shape habits of communication and, more importantly for historical linguistics, to determine the pathways and speed of the diffusion of innovations in the speech community (see e.g. Trudgill 2020). Diachronic linguists therefore should be asked to make their specific assumptions about uniformity as explicit as possible and, where no direct information is available, to stick to plausible ones.[11]

Some scholars hold that diachrony is the only way to explain morphological patterns, in particular those that for some reason seem aberrant. Mithun (on affix order, this volume), for example, makes sense of the bewildering complexity of the verb template of some Amerindian languages by showing that it is the accidental result of incremental changes over the centuries. New generations, through grammaticalization, added new layers of morphology on top of the inherited patterns, yielding a structure that seems to defy logic from a purely synchronic perspective. Affix order at least partly reflects the chronology of grammaticalization, rather than any synchronically operative principle like semantic scope (Rice 2011) or relevance (Bybee 1985). For some scholars of the end of the 19th century, most famously Hermann Paul (see e.g. Auer and Murray 2015), this kind of diachronic explanation was the only one available in linguistics. Aronoff (2015: 286), in a similar vein, stresses that "[a]ll linguistic morphological systems and all languages are contingent and accidental from an evolutionary perspective." His endeavour is not to explain some specific pattern but to characterize the nature of morphological evolution in general.

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[9] Cf. Coseriu (1983: 63): "the linguistic question is not *why* but *to what end* and *how*." See, however, Keller's critique of this view as one-sided: "Coseriu's postulate of the thesis of finality is based on the right premises: that language is 'not a natural object […] but a cultural object' [...] It is also based, however, on the false, dogmatic assumption that cultural objects created by people should necessarily be explained in a finalistic way" (Keller 1994: 76).

[10] Andersen (1980: 1), however, expresses an opposing view: "There can be no quarrel that historical linguistics is a nomothetic discipline, and that its ultimate aim is to understand language change by uncovering lawlike connections between language states and the innovations they give rise to, to formulate generalizations which to the greatest possible extent explain linguistic innovations as necessary consequences of given linguistic facts."

[11] Consider, in this connection, an instructive discussion of Roger Lass' uniformitarianism-based arguments against the conception that morphology unidirectionally develops from lexical material by Walkden (2019: 6–7), who shows that such arguments actually result from a misunderstanding.

Keller (1982, 1989, 1994), following research in social sciences and biology as well as work by Helmut Lüdtke (e.g. Lüdtke 1986), views language change as an 'invisible-hand' evolutionary process, i.e. a cumulative product of actions of individual language users who (deliberate change set aside) neither intend such a result nor are conscious of the possibility that their use of language eventually leads to change. As Keller argues, this theory overcomes the limitations of both 'causalist' and 'finalist' conceptions of language change:

> The results of final, or as I prefer to say, intentional actions accumulate under certain conditions and bring about structures which do not lie within the sphere of final individual actions. The accumulation is a causal phenomenon. Thus, both the 'finalists' and the 'causalists' have a share of the truth. Their error lies in the exclusivity of their claims, as both fail to notice the interaction of final and causal processes (Keller 1994: 77).

Keller's approach, as we understand it, aims at explaining particular processes of change as well as the most general fact of language being subject to change at all (Keller 1994: 91–103), rather than diachronic-typological trends, although see, for example, Haspelmath (1999) on the application of the invisible-hand theory to directionality of grammaticalisation. Croft (2000: 60–62), however, criticises the invisible-hand theory as unable to explain the apparent directionality of propagation of innovations and concludes that "drift via an invisible hand process is a relatively minor propagation mechanism" (p. 62). Still, evolutionary explanations of the gradual accretion of morphology through 'neutral drift' in situations of uninterrupted language transmission and low level of contact appear to be compatible with the invisible-hand theory (see e.g. Meinhardt et al. 2022, who, however, do not cite Keller).

Most accounts of morphological change that their proponents intend to be explanatory in some sense of the word are not concerned with single change events in particular languages but with recurrent phenomena.

One strand of research that has gained momentum over the last decades takes as its *explanandum* striking asymmetries in the distribution of linguistic phenomena in the languages of the world, as evidenced most prominently in large typological databases such as *World Atlas of Language Structures* (Dryer and Haspelmath 2013) or *Grambank* (Skirgård et al. 2023). Some morphological patterns indeed turn out to be ubiquitous, others exceedingly rare, which calls for explanation. Opinions concerning the causes of such asymmetries, however, vary widely. A paradigm example is the so-called suffixing preference, i.e. the overall more frequent cross-linguistic occurrence of suffixes than prefixes (Dryer 2013; it was probably Sapir 1921: 70 who stated this first), for which different explanations have been proposed, see Harris and Xu (2006: 510–513) for an overview. Some authors (e.g. Cutler et al. 1985; Hawkins and Cutler 1988) suggested that prefixes incur a higher processing cost than suffixes and therefore are dispreferred. Others, like Hall (1988), Bybee et al. (1990), and, more recently, Himmelmann (2014), argue that the explanations of asymmetries in affixation are rather to be sought in the diachronic sources of grammatical material and processes that lead from free to bound grammatical markers. On the source-based explanations in morphological typology more generally, see Cristofaro (this volume).

The diachronic approach to explanation was the dominant one among the Neogrammarians and has witnessed a revival since the end of the 20th century, after a long interlude focusing on synchrony due to the dominance of structuralism and later generative grammar (cf. Bybee 1988; Anderson 2016). Diachronic explanations, of course, need to be based on solid diachronic evidence and must not be inferred lightly from synchronic data (Rainer 2011; Cristofaro 2012).

Janda (1984: 87), for example, attributed the rarity of morphological metathesis rules to the fact that "the possible sources potentially reanalyzable as such processes are themselves rare". Unfortunately, the prerequisite contained in this proposal that phonological metathesis rules are rare, turns out to be incorrect (Anderson 2005: 6-12), but the basic idea of resorting to diachrony for explanation nevertheless remains a fruitful one. Anderson (2005: 12-14) himself, for example, argues that the rarity of multiple exponence need not be ascribed to an innate or functional constraint, since "the predominance of one-to-one marking has its explanation in the paths of historical change (along which markers typically originate in the progressive reduction of full words)" (p. 14); specifically on multiple exponence and its origins, see Harris (2017). Another convincing case in point is Harris' (2008) explanation of the rarity of certain morphological and morphosyntactic patterns as a consequence of the low probability of occurrence of specific sequences of changes through which such patterns emerge: "structures that develop in a single step, other things being equal, will be common among languages of the world, while those that require a large number of steps will be rare" (Harris 2008: 57). This view is reminiscent of Dahl (2004) notion of 'maturity' mentioned above. Harris illustrates this point with the example of different types of affixes: since circumfixes have been shown to arise from pre-existing prefixes and suffixes, the development of the former involves at least one step more than that of the latter, which accounts for the lower frequency of circumfixes. From this perspective, morphological and, more generally, grammatical patterns need not be difficult to learn, pose processing challenges or be at odds with some aspects of the human language capacity to be rare.

This latter idea, that the language faculty, or more specifically 'Universal Grammar', might constrain the possible paths language change can take enjoys some popularity among generative linguists. Kiparsky (2015: 79), for example, makes a case for a 'bias-driven' model which adopts "the Jakobsonian conception of change as an evolutionary process governed by the same principles that constrain language itself" (on Jakobson's 1962 [1958] views, cf. Fox 1995: 250-251). Here synchrony is not viewed as the accidental outcome of diachrony, rather synchrony, in the form of innate aspects of the language capacity, is believed to condition diachrony to a certain extent.

Scholars with functionalist leanings are skeptical about the existence of such innate constraints. They prefer to explain typological asymmetries or frequent patterns of change "through functional and cognitive biases in language use (which might also be innate but are not domain-specific)" (Haspelmath 2016). Beyond this general characterization endorsed by all functionalists, concrete proposals on the market differ.

For instance, Haspelmath (2019) favours what he calls 'functional-adaptive' constraints, which are conceived of as "'pull forces' that attract the variable development into a certain preferred state" (p. 8, fn. 6). Such constraints do not depend on understanding the precise pathways of change (see, however, Bybee 1988: 355–357 for an early critique of this view). The phenomenon of 'multi-convergence', that is, that the same outcome is arrived at along multiple pathways, is said to support this approach: "The evidence for the functional motivation does not come from the manner in which the change happened, but from the fit between the motivation and the observed outcomes" (Haspelmath 2019: 15). Ample illustration for multi-convergence can be found in Rainer (derivational categories, this volume).[12]

[12] Multiconvergence must be distinguished from what Van de Velde et al. (2015) call 'homoplasy', that is, the confluence of several source constructions in one semantically *and formally* homogeneous construction *in the same language*. A case in point, mentioned on pp. 10-11, are English *a-* adjectives, whose prefix has developed out of three source constructions (the preposition *on* in *asleep*, the preposition *of* in *akin*, the prefix *us- in *awake*).

Other functionalists have a more psycholinguistic outlook, placing their focus on frequency of use (e.g. Bybee 2007; Bybee and Hopper eds. 2001; Haspelmath 2021; Hartmann and Berg, this volume), processing (e.g. Bybee and Beckner 2015; Clahsen 2016; Pirelli et al. eds. 2020), still others on communicative efficiency (e.g. Hawkins 2014; Levshina 2023; Luschützky, this volume) or on semiotic optimality, like in Natural Morphology (Dressler 1986; Dziubalska-Kołaczyk et al. 2026). What all these functionalist explanations of morphological change and its outcomes have in common is that they look for an *explanans* outside language, either in the necessities of communication or in general cognition. Still, as has already been hinted above in the quotation from Kihm (2014), communicative efficiency cannot be the single, nor perhaps even the most important, factor affecting morphological change. Besides, as Joan Bybee put it (Bybee 1988: 357),

> In order for these factors to qualify as explanations, a causal connection between the factor and the grammatical phenomenon must be demonstrated: that is, it must be shown that the factor appealed to as explanation actually contributes to the creation of the particular grammatical convention.

Convincingly arguing for such causal connections has proven to be particularly hard, and, despite much advance in psycholinguistic and experimental research, the situation does not appear to have dramatically improved since Bybee (1988).

Another strand of research intends to narrow down the range of possible changes by postulating a limited set of 'mechanisms' that lead from one diachronic stage to the next in morphology. According to this approach, any change is conceivable provided it conforms to one of the mechanisms or a series of such mechanisms. All morphologists are familiar with labels such as analogy, reanalysis, grammaticalisation, morphologisation, borrowing, stem extension, leveling, renewal, semantic shift, resegmentation, backformation, contamination, blending, exaptation, to name just some widely used terms that easily come to mind.[13] It is obvious that these terms, some of which have been chosen as starting points for extensive discussion in the present handbook (see Hilpert on semantic shift, Thomason on borrowing, Paster on output-oriented phenomena, Fertig on analogy, Gaeta on reanalysis, Narrog on grammaticalization, Lahiri and Plank on morphologisation from phonology and Popova on morphologisation from syntax), are not all situated on the same level. Much argument has been devoted to establishing which of these notions are basic and which ones are derivable from more fundamental notions. In particular, the status of grammaticalization as a primitive or as byproduct of several of the mechanisms mentioned above has been a much-debated issue (cf. Anderson 2015: 279-282). A restrictive position in this strand of research is represented by Deutscher's (2001) suggestion to do with only three basic mechanisms, "reanalysis, extension, and borrowing" (p. 41), mirroring the three basic mechanisms postulated for syntactic change in Harris and Campbell (1995).

Some scholars even try to do away with 'mechanisms' altogether. Anderson (2015), for example, following Andersen (1973), holds the general cognitive principles of induction, abduction and deduction to be the most basic ingredients of all language change. Bybee and Beckner (2015: 506-507) claim that "changes that have been called 'analogical' […] fall under the umbrella of changes in categorization". Walkden (2021) similarly makes a case for a 'minimal theory of change' by doing away with reanalysis as a mechanism and reinterpreting it as an event in which "the hearer assigns a parse to the input that does not match the structure assigned by the speaker" (p. 19). Assigning a parse can be viewed as

[13] An extensive catalogue concentrating on inflection can be found in Joseph (2021 [1998]), one dedicated to word formation in Rainer (2015). A detailed typology of changes in morphology is also provided by Andersen (1980), couched in a rather idiosyncratic terminology which did not prosper.

similarity-based categorization. In this same spirit, backformation is reduced to similarity-based categorization and abduction in Rainer (2025). Much research remains to be done in this area to arrive at a consensual reconstruction of the logical relations that hold between these omnipresent notions of diachronic morphology, and to pin down their ultimate cognitive foundation.

Despite the controversies regarding mechanisms of diachronic change, one issue on which a relatively broad consensus seems to exist among diachronic linguists, is that the locus of change is the individual, as already claimed by Paul (1920 [1880]) and other linguists of the 19th century (cf. also Keller 1994: 80: "the explanation must always be based in individual actions"). Of course, to become part of the language as a social institution and not just of a speaker's idiolect, the innovation needs to be adopted by the rest of the speech community, or at least by part of it (see e.g. Croft 2000 on innovation vs. propagation, Labov 2001 on innovation vs. diffusion). Positions that downplay the role of the individual in language change, like the 'diachronic Platonism' of Lass (1997), have met with little resonance and harsh criticism (Croft 2000: 4, *passim*; Walkden 2021: 16-17, among others). Importantly, while both cognitive or functional-adaptive and social factors have been argued to play a role in the propagation of change (Croft 2000: Ch. 7; Bisang 2011: 248–249), the latter are commonly believed to be more important.

An issue that continues to be discussed more controversially is the role of language acquisition in language change (cf. Diessel 2012 for an overview). The idea that language change is driven primarily by the imperfect acquisition of adult grammar by children was already put forward at the end of the 19th century and has been adhered to in more recent times especially by generative linguists (Anderson 2015: 266; Kiparsky 2015: 72), particularly with respect to syntax (Meisel et al. 2013). For linguists like Hermann Paul this idea may have derived plausibility from the common observation that all children at a certain age tend to regularize irregularly inflected forms, which is also a well-known trend in language change (half of the ca. 300 irregular verbs of Old English are regular by now). On the other hand, children do not replicate processes of grammaticalization, which are the main source of new inflections, and often show opposite preferences as compared to adults concerning phonological processes (cf. Drachman 1978).

Furthermore, it has been shown that young and adult speakers continue regularizing inflections occasionally, while children's early regularizations rarely survive into adulthood (Bybee and Slobin 1982). In word-formation, the decisive contribution to innovation by adult speakers is evident anyway. Small children create neologisms to fill gaps in their limited vocabulary, which are delightfully acknowledged by caregivers, but their creations hardly ever become a stable part of the vocabulary of the speech community. In any language, the bulk of vocabulary growth, both at the level of items and new patterns, is due to adult speakers; moreover, in societies with prestigious literacy, Western and non-Western, modern and ancient alike, educated speakers and written modality often play an important and even leading role. This is particularly obvious in contact-induced change in word formation such as the integration of neoclassical and other foreign patterns in European languages, or Chinese-based compounds in Japanese, Korean and other languages of East Asia. As pointed out in Nerlich (1990: 129-142), the gap between infinite expressive needs and limited linguistic means was already identified as a driving force in language change by linguists of the 19th century like Michel Bréal and William D. Whitney. In a similar vein, Coseriu (1974 [1958]: 62) states that speakers, in adapting the language to their expressive needs, often transcend it. According to Croft (2000) too, adult-speakers are the main agents of change, through altered replication in language use. Bergs' (2019) and Goldberg's (2019) notion of 'creativity' seems to be just another variation on this theme (see also Koefoed and van Marle 2004: 1576; Bybee and Beckner 2015: 503; Hüning 2019: 483). For the sake of completeness, we should add that

Coseriu and the other scholars mentioned acknowledge that not only speakers but equally hearers contribute to language change by 'creative' misinterpretation (see e.g. Croft 2000: Ch. 5 and Gaeta, this volume, on reanalysis).

Many of the issues raised in this section reach beyond morphology and can only be tackled fruitfully from a broader perspective. It has become apparent, furthermore, that the discussion of these issues is still in a state of flux, which is all but surprising since it involves some of the most fundamental aspects of linguistics and even the philosophy of science, such as the nature of explanation. Morphological change undoubtedly has an important role to play in this debate. No account of language change, or of language *tout court*, is complete if it cannot explain why morphological systems, often quite baroque, keep developing in language after language and are retained for millennia unless affected by dramatic sociolinguistic events.

1.4 Structure of the volume

This handbook is divided into four parts, of which parts I–III can be called 'theoretical' and part IV 'empirical'. The theoretical parts are organized around central concepts of historical morphology, rather than approaches to, and theories of, morphological change. The authors of the chapters were invited to survey the whole research landscape; in that way almost all big questions that are debated in the field are touched upon somewhere. The contributions inevitably reflect the fact that many central questions continue to be unsettled; however, the progress attained so far is nevertheless impressive. We consider it neither practicable nor necessary to provide below detailed summaries of each individual chapter, and therefore limit ourselves to a very brief overview.

The shorter Part I "Methodological foundations", to which this Introduction perhaps also belongs, deals with the most basic issues in the historical study of morphology: principles and methods of historical-comparative reconstruction of morphology (by Eugen Hill) and synchronically vs. diachronically oriented explanations in morphological typology (by Sonia Cristofaro).

Part II "Driving factors" consists of ten chapters dealing with what has been considered the main forces, mechanisms and motivations of morphological change. These comprise iconicity and economy (by Hans Christian Luschützky), frequency (Lauren Fonteyn, Stefan Hartmann and Andreas Klein), motivation (Franz Rainer), processes of semantic change (Martin Hilpert), language contact (Sarah Grey Thomason), output-oriented pressures such as phonological well-formedness (Mary Paster), analogy (David Fertig), productivity and competition between rival patterns (Stefan Hartmann and Kristian Berg), paradigmatic relations (Matthew Juge), and reanalysis (Livio Gaeta).

Part III "Paths of development", by contrast, deals with prominent and cross-linguistically recurrent phenomena of morphological change. Needless to say, the selection of these phenomena is not all-encompassing and by necessity subjective, although we hope that the coverage reflects the most important trends in the current morphological research relatively well. The chapters of this part deal with grammaticalisation and degrammaticalisation (Heiko Narrog), increase and decrease in morphological complexity (Borja Herce), development of affix order (Marianne Mithun), morphologisation of phonological processes (Aditi Lahiri and Frans Plank) and of syntactic constructions (Gergana Popova), development of inflectional features and paradigms (Peter Arkadiev) and of derivational categories (Franz Rainer), rise and maintenance of idiosyncratic ('morphomic') patterns (Paul O'Neill), development of inflectional classes (Francesco Gardani).

Finally, Part IV comprises twenty-one chapters offering historical overviews of morphologies of selected language families and large linguistic areas from all over the world, which complement the theoretically oriented chapters of Parts I–III by a rich and variegated body of empirical data. The authors of these chapters were asked to describe what is known about the morphology of the respective languages and its development from historical sources (if available at all) and what can be inferred from reconstruction, to discuss recurrent or non-trivial grammaticalisation scenarios as well as cases of contact-induced change in morphology, both within and across the boundaries of the respective family or area. Finally, they were invited to offer diachronic case-studies on specific phenomena of particular typological or historical interest. In their total, these chapters reveal how cross-linguistically common as well as highly specific morphological phenomena emerge and develop in unrelated languages through both recurrent and unique pathways of change. They testify to an interplay of historical accidents (including the unique make-up of particular proto-languages as well as specific contact scenarios) with universal forces and mechanisms. The languages surveyed are: Indo-European (Martin Joachim Kümmel), Uralic (Johanna Laakso), Kartvelian (Kevin Tuite), Nakh-Dagestanian (Timur Maisak and Michael Daniel), Basque (Iván Igartua), Semitic (Eleanor Coghill), Transeurasian (Martine Robbeets), Sino-Tibetan (Guillaume Jacques), Dravidian (Sanford Steever), Mande (Maria Konoshenko), Bantu (Koen Bostoen), Nilotic (Gerrit Dimmendaal), Nubian (Angelika Jakobi), Austronesian (Mark Donohue), Papuan languages of New Guinea (Sebastian Fedden), Australian languages (Harold Koch), the languages of North America (Marianne Mithun), Mesoamerica (Lyle Campbell and Raina Heaton), and South America (Patience Epps, Nicholas Emlen and Rik van Gijn), as well as pidgins, creoles and mixed languages (Peter Bakker), and sign languages (Vadim Kimmelman and Matthew Zaslansky). This list can surely be justly criticised for being biased towards Eurasia and Africa with their large better-studied language families, as well as for some glaring gaps. Given limitations of space, we decided from the very beginning that large-scale overviews encompassing whole continents such as Australia or South America would be more representative and useful for the wide audience of our handbook than a few chapters covering only a small fraction of the bewildering range of the genealogical and structural diversity of these areas. The inclusion of ‘young languages’ such as, on the one hand, pidgins, creoles and mixed languages, and, on the other hand, sign languages of deaf communities, is justified, in addition to the inherent value of their data, by the fact that they have been figuring prominently in debates about morphology and language change; we hope that the authoritative contributions we were able to procure from experts in the field will serve to at least partly settle these controversies.

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