1. Introduction[1]

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1 Diachrony, synchrony, explanation, and universals

Certain grammatical patterns are found again and again in the languages of the world. Some of these patterns recur so frequently that they are given the label "universal". Explaining the source of such patterns is clearly an important goal of linguistics, but how to go about doing this is not obvious. Problems range from the terminological (what sort of patterns should we consider *universal*?) to the methodological (what kind of *explanation* will we accept as sufficient?) to the theoretical (what role does a universal grammar have in shaping recurrent patterns? what role do functional considerations play?). How one answers one of these questions will affect how one answers the others. Can probabilistic generalizations be considered universals? If so, then we need explanations predicting probabilistic patterns. Are we looking for proximate explanations (for example, "language A shows pattern X because it inherited it from its parent language") or ultimate ones (for example, "language A shows pattern X because only this pattern is permitted by Universal Grammar")? Will we assume there is no such thing as Universal Grammar? Then, of course, we cannot appeal to it for any sort of explanation. Will we assume there is such a thing? Then, what is its precise structure?[2]

The papers in this volume are concerned, in one way or another, with both the general problem of explaining recurrent grammatical patterns and the more particular problem of trying to understand what the relationship is between these patterns and language change. Since languages are simultaneously products of history and entities existing at particular times, it seems clear that both diachrony and synchrony have a role to play in explaining the existence of

"universals", but where the division of labor lies between the two is contentious. The papers here have been assembled to exemplify a range of approaches to this problem from researchers associated with different subfields of linguistics—e.g., phonology, morphology, syntax—and different approaches to linguistic analysis—e.g., formal, functional, historical. This is not to say the papers themselves (let alone the linguists) fit nicely into these categories. In fact, as we will see, many papers invoke multiple modes of analysis in dealing with the problems they take on.

In this introduction, I will exemplify different approaches to the problem of understanding the relationship between language universals and language change, using the heuristic categories *structural*, *historical*, and *external*.[3] These categories should not be taken as applying to specific researchers or theoretical approaches but rather to modes of analysis as applied to particular problems, and the labels are intended to be partly opaque to avoid any automatic association of these modes of analysis with a given theoretical stance. Section 4 summarizes structural approaches, section 5 summarizes historical approaches, and section 6 summarizes external approaches. Before moving on to those topics, however, first, in section 2, I will briefly comment on the term *universal* and, in section 3, I will comment on the term *explanation*—as used here.
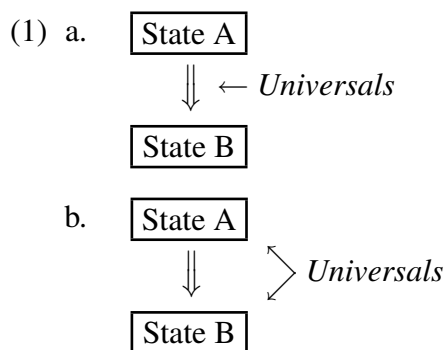
2   On the sense of *universal* used here

Just what is a *universal*?[4] Kiparsky's paper makes the interesting distinction between a *typological generalization* and a true universal—the former may represent widely recurrent patterns but fall short of his definition of a universal, which he defines as having to be, among other things, exceptionless. Under such a conception, some classic Greenbergian generalizations would, in fact, be classified as typological generalizations rather than universals—for example, Greenberg's cross-categorial word-order generalizations, discussed in Whitman's contribution.[5]

Bybee's paper, like Kiparsky's, also offers discussion on what sort of patterns ought to be

eligible to be considered universals. For her, the true universals are a small set of mechanisms of change. These mechanisms conspire to produce synchronic "universal" patterns—but these patterns themselves are not universal in nature.

While both Bybee and Kiparsky argue that the notion of universal needs to be clearly distinguished from cross-linguistic generalization, the similarities between their approaches largely end there. For Kiparsky, pathways of change that conspire to create common grammatical patterns across languages may be diagnostic of a universal—but they are not themselves universals. True universals, in Kiparsky's view, should be included within a model of the structure synchronic grammar, a stark contrast to Bybee's position that all true universals are diachronic in nature.

The opposition between Bybee's and Kiparsky's proposals, of course, speaks right to the heart of the theme of a volume whose focus is on the relationship between universals and change. A useful way to schematize the difference between their approaches is given in (1), which makes use of Greenberg's state-process model of language typology (Greenberg 1978a, Greenberg 1995). This model conceptualizes languages as being in particular synchronic typological states (indicated with boxes), as empirically warranted, and shifting between these states via diachronic processes (indicated with double arrows). Given such a model, Bybee's view of universals can be schematized as in (1a), and Kiparsky's as in (1b).

(1) a. $\boxed{\text{State A}}$
                 $\Downarrow$ ← *Universals*
          $\boxed{\text{State B}}$

     b. $\boxed{\text{State A}}$
                 $\Downarrow$ $>$ *Universals*
          $\boxed{\text{State B}}$

In general, the other papers in this volume do not take on approaches falling cleanly into either of the schemas in (1). Nevertheless, they provide a convenient way to think about and categorize certain approaches to universals.

While Bybee and Kiparsky are quite explicit about what they consider to be universals, the other authors are less so, and the "universal" patterns they choose to account for are quite varied in nature. Some of the papers focus on grammatical patterns which would probably be considered universals, at least in an informal sense, by most linguists. For example, Whitman examines some Greenbergian word order generalizations which appear to be exceptionless and would, therefore, be good candidates for the label universal. However, many of the papers veer quite far from the domain of such classical universals. Harris' contribution is the clearest such case. Her focus is not universal patterns but, rather, the opposite—typologically rare patterns. Of course, any truly complete theory of universal (or even just frequent) patterns in grammar will necessarily also be a theory of rare patterns—making Harris' paper quite relevant here, even if it does not tackle a specific "universal".

The common thread among the chapters is not so much that they attempt to account for any particular universal per se. Instead, it is that they are concerned with grammatical patterns which seem to require "universal" explanations—that is, explanations not grounded in the facts of a particular language but which appeal to general principles affecting all languages.

Thus, the motivation behind Kiparsky's examination of how to separate a true universal from a typological generalization, for example, is not simply a call for terminological precision. Rather, he is concerned with identifying what kinds of cross-linguistic patterns should be treated as encoded—in one way or another—in the structure of synchronic grammar (his "true universals") and what kind of patterns can instead be modeled as the result of convergent

historical change across languages (his "typological generalizations"). Both types of patterns require explanations applicable to large classes of languages. Nevertheless, the kinds of explanation given to them may need to be quite distinct.

Similarly, Harris is concerned with typologically unusual structures since the fact that they are attested at all means we need to devise a model of grammar which simultaneously predicts they are possible while also explaining why we see them so infrequently—a task which requires a considerably more nuanced approach than simply proposing a model where such a structure is excluded entirely.

Surveying the other papers with respect to what kind of "universal" they examine, the two chapters focused on phonology, by Blevins and Bybee, attempt to explain phonological patterns which, if not universal, are certainly prevalent in the world's languages. Specifically, Blevins examines the typology of epenthetic consonants, taking note of common and uncommon kinds of consonant epenthesis, and Bybee looks at the principle of Structure Preservation from a diachronic-functional perspective. Each further argues that the methodological approaches they adopt can be usefully extended to account for a wide range of other phonological patterns.

Albright and Garrett differ from the other contributions by being primarily focused on diachronic universals—specifically, constraints on analogical change. Though they each deal with quite similar data, they adopt strikingly different, though not necessarily contradictory, methodologies. In this volume, these two papers, therefore, most clearly illustrate how a given set of universal patterns can be open to multiple analytical techniques.

Haspelmath's chapter looks at morphosyntactic constructions which, though they may be manifested in very different ways from language to language, tend to show the same asymmetries in coding—for example, a second-person singular imperative form (e.g., *sing!*) typically has a

shorter overall form than a third-person singular "imperative" (e.g., *let her sing!*). While it may be difficult to formulate such patterns in the form of a classical implicational universal, the fact that they recur again and again shows they are clearly in need of a universal explanation.

Kuteva and Heine's contribution is focused on the interaction of language contact with grammaticalization, which allows them to refine our understanding of the many cross-linguistic generalizations uncovered by research on how grammatical morphemes develop. In the introduction to their paper, they also bring up a broader issue that theories of grammaticalization treat the existence of grammatical exceptions, found in all languages, as the "rule", in the sense that such exceptions can often be explained in terms of how the relevant forms came into existence. This sort of "universal"—i.e., the fact that grammars will generally contain subpatterns which run counter to more regular patterns in a language—is a very different sort of cross-linguistic generalization than the type discussed by Kiparsky, but is still clearly in need of a general explanation.

As mentioned above, Whitman's paper focuses on the by-now classic Greenbergian word order universals. In a similar spirit to Kiparsky's contribution, he revisits them with the goal of determining which patterns can be best understood as resulting from convergent patterns of change and which should be considered as resulting directly from the structure of grammar. Finally, Hopper's paper starts from the premise that, if a certain construction is frequently grammaticalized across unrelated languages, discourse patterns which are the source of the construction should be observable even in languages lacking the construction. In particular, he connects *take* serial verb constructions found in West African languages and Chinese (paraphrasable along the lines of *I take knife cut meat* to mean *I cut the meat with a knife*) to the *take… and* constructions of English (as in, for example, *take this design for the house and enlarge*

the bedrooms). He, thus, attempts to show that a pattern which is understood to be part of the "grammar" of many languages may actually exist in other languages in less conspicuous forms—making it, in fact, more universal in nature than might otherwise be supposed.

One theme that emerges, then, from the papers is that "explaining universals" may entail accounting for patterns which would not be considered "universals" in the classic typological sense. That is, if we consider a prototypical synchronic typological universal to take a form like, "If a language has property X, it also has/tends to have property Y" and a prototypical diachronic universal to take a form like, "A language of type A can change directly to a language of type B" (see Greenberg (1995)), then many of the papers in this volume do not take "universals" as their central concern at all. Nevertheless, even if they are not concerned with universals in such a narrow sense, the fact that they are all concerned with patterns requiring general explanations clearly makes them concerned with universals in a broader sense.

3   *Explaining* universals

What does it mean to *explain* a universal?[6] The explanations offered in this volume are quite varied in nature, both in terms of the strength of the explanation offered and in terms of the causal factors taken as underpinning their explanations. This latter dimension of variation will be the focus of subsequent sections. Here, I will briefly discuss the former.

One kind of explanation we could give for a cross-linguistic pattern would be an *absolute* explanation, which would make (hopefully correct) exceptionless predictions. That is, an explanation which results in a statement like, "This predicts that all languages that have property B will also have property C." Such explanations can be opposed to *probabilistic* explanations which predict when a phenomenon may be likely or unlikely but cannot predict exactly when it will occur. An even weaker type of prediction would simply state the conditions under which a

given phenomenon might be found but would have nothing to say about the likelihood of the phenomenon actually appearing under those conditions—an explanation making only this kind of prediction can be labeled *permissive*.

All things being equal, absolute explanations are to be preferred over other kinds, since they make stronger predictions. But, of course, all things are not always equal and our understanding of certain observed patterns at a given time may only permit probabilistic or permissive explanations, and we see all three classes of explanations in the chapters of this volume.

Kiparsky's contribution most clearly exemplifies an absolute explanation for universal patterns (an explanation, however, which is limited only to phenomena meeting his criteria for "true" universals). Specifically, he appeals to a universal grammar constraining the shape of possible human language grammars to explain certain phenomena. A critical factor allowing his explanation to be absolute is that he considers the inclusion of an observable pattern into universal grammar to be contingent upon it meeting a number of criteria, including its being exceptionless. One can of course question the extent to which a universal-grammar based explanation is "complete" (as Bybee does in her contribution), but this is independent from whether or not the explanation purports to be absolute.

Harris' contribution is quite explicitly a probabilistic one. Her account of typologically unusual structures is not designed to predict exactly when they will or will not occur. Rather, she gives an explanation as to why they should be uncommon in general. Her claim is that such structures are rare because they require a convergence historical circumstances that is probabilistically unlikely. Importantly, the sort of problem Harris is interested may, in fact, best be explained probabilistically, and not absolutely. It is clearly possible to give a non-probabilistic

account for the existence of a particular unusual structure in a particular language (in fact, Harris does this for two cases in her paper). However, the best general account for the fact that there are grammatical patterns which are attested, but quite rare, may simply be one that has probability at its core—rarity could result from an accidental interaction of independently motivated principles in a given model of grammar and, therefore, be inherently unamenable to an absolute explanation.

Kuteva and Heine's contribution is framed by work done in grammaticalization (see, for example, Heine et al. (1991), Hopper and Traugott (1993)) which, often, offers only permissive explanations for phenomena—that is, it focuses on possible grammaticalization paths without, in general, accounting for what factors will cause one language, but not another, to instantiate those paths. In their chapter in this volume, they build on their work integrating contact-induced language change with work on grammaticalization (Heine and Kuteva 2005), allowing them to move towards more probabilistic explanations of certain instances of grammaticalization. This can be seen in, for example, their discussion of "double determination" in Swedish, a label describing a situation where definiteness can be marked by two distinct elements within a noun phrase. They account for the pattern both by examining independently-exemplified grammaticalization pathways and the areal patternings of definite marking in Scandinavian languages, thereby allowing them to explain why this grammaticalization pattern is found in some dialects but not others.

Most of the papers in this volume offer probabilistic explanations, as opposed to absolute or permissive ones because they are attempting to explain generalizations which are themselves probabilistic. This is true, for example, of Blevins' account of common and uncommon epenthesis phenomena, Haspelmath's discussion of coding asymmetries, Hopper's discussion of *take* "serial verb" constructions, and (some of) Whitman's discussion of word order correlations.

Bybee's paper is similar in this regard in its account for Structure Preservation, a principle once

proposed as describing an absolute generalization but which is now known to have exceptions.

Two of the other papers in this volume, Albright's and Garrett's, look at directionality of

analogical change, which is amenable to being characterized in terms of absolute

generalizations—and, therefore, to being given absolute explanations. (Of course, predicting

whether or not a given possible analogical change actually will or will not occur would seem to be

more problematic in this regard.) Garrett argues that paradigm-leveling is *always* the result of

imposition of one paradigmatic pattern on another. This constitutes a "low-level" absolute

explanation for possible directions of analogical change. Albright looks at similar data and offers

a different absolute explanation for the directions of analogical change, based on the idea that

analogical change will extend a base which more reliably predicts an entire paradigm over a base

which is less reliable. While Albright's approach makes use of statistical information in

determining reliability, it uses this information to, in fact, make absolute, not probabilistic,

predictions about possible directions of analogical change.

In addition to the question of how powerful an explanation is, there is another dimension

of explanation worth briefly discussing here: whether a given explanation is in terms of a

proximate cause or an ultimate one. The nature of this distinction comes through clearly in the

current selection of papers in Bybee's contribution. While the details of her account of Structure

Preservation are given in terms of a specific scenario for the development of word-level contrasts

(a proximate explanation), this account is situated within a broader framework which seeks to

explain how language use, in general, gives rise to language structure. Furthermore, the general

usage-based principles Bybee gives could themselves be grounded in more general

neuro-cognitive principles. This would, at least from the perspective of the linguist, allow for an

ultimate explanation by giving a non-linguistic explanation for proposed linguistic principles.

Haspelmath's paper offers a comparable example, giving both a proximate and an ultimate account for morphosyntactic coding asymmetries. On one level, they are explained as arising through differential patterns of change—that is, their proximate cause is taken to be historical in nature. However, these patterns of change are themselves explained as a result of the fact that human beings generally act purposefully and rationally—an ultimate cause which plays out in language through diachronic mechanisms, along the lines of the Invisible Hand model developed by Keller (1994). Hopper's paper, too, offers both a proximate and ultimate explanation for the phenomenon he focuses on, insofar as his account of the development of a specific English construction is grounded in general rhetorical principles.

Deciding whether a given explanation in this volume may be a proximate one or an ultimate one is not always straightforward and can hinge upon, among other things, one's theoretical inclinations. A generativist may consider an explanation invoking the "structure" of (universal) grammar to be an ultimate one, while a functionalist may see such an explanation as merely a convenient stopping point en route to a "deeper" explanation.

In addition to these non-linguistic parameters of "explanation", there is also, of course, the issue of what linguistic principles invoked to explain a given phenomenon. The set of such allowed principles, of course, has been a topic of great interest in the generative era, debated by both generativists and non-generativists. The collection of papers in Hawkins (1988a), for example, offers a diversity of view points in this area, with Hawkins (1988b) providing a useful summary of work done to that point. The next sections of this introduction will include discussion of approaches to the explanation of language universals which are of specific relevance to the theme of the present volume: those focusing on the relationship between universals and change.

Three heuristic categories of linguistic explanations will be discussed, *structural*, *historical*, and *external*, each of which is taken up in turn.

4 Structural approaches

Structural approaches to universals claim that a particular universal can be explained as the result of inherent, universal aspects of grammar. Just what would constitute the requisite "universal grammar" is, of course, a matter of debate, but how that debate may be resolved is an independent matter from the idea that universals can be fruitfully explained by appealing to the shape of an abstract universal linguistic structure. If one accepts this, then, as Kiparsky aptly puts it in his contribution to this volume, one must also accept that, "synchronic assumptions have diachronic consequences". This idea was schematically represented above in (1b), where universals were treated as being applicable to states of languages and not to the processes through which languages transition from one state to another.

The idea that synchronic structure may, in some sense, explain the nature of change is hardly new. Kiparsky points this out in his contribution citing, among other instances, Ferdinand de Saussure's explanation for the regularity of sound change. "Sound change, as we have seen…affects not words, but sounds (Saussure 1916/2005:143)." That is, sound change affects any signifier containing the relevant sound, regardless of what signs the signifier is part of. Saussure's view of sounds and concepts as being two independent facets of the structure of the synchronic sign, therefore, was the basis for his explanation for the regularity of sound change.

Methodologically, we can distinguish between two types of structural approaches to the relationship between diachrony and universals. The first type is well exemplified by King (1969), which is "generally aimed at developing a theory of change which could hook up to the existing synchronic theory, so as to correctly characterize the possible forms of linguistic change, and the

constraints to which they are subject (Kiparsky 1982:57)."[7] The second is more concerned with

using diachronic facts to help refine synchronic models of structure. Kiparsky (1982:57)

(originally published as Kiparsky (1978)) exemplifies this sort of work quite well, with statements

like, "[T]he present state of linguistics is such that the synchronic theory is often rather

indeterminate in exactly the respects that would be most relevant for historical linguistics. For this

reason much progress in historical linguistics depends on sharpening synchronic theory so that it

will provide the right basis for diachronic explanation." Such work, focusing on the interplay

between synchronic and diachronic data in developing structural models is clearly important in

the present context.

The collection of papers in Kiparsky (1982) brings together a number the arguments for a

structural approach to the relationship between universals and change in the realm of phonology.

In syntax, the work of Anthony Kroch and his associates is also noteworthy in this regard. In a

series of papers including Kroch (1989a, 1989b), Kroch and Taylor (2000), and Pintzuk (2002),

they argue that apparent variation in the syntax of English, over the course of its history, is best

understood as grammar competition—that is, speakers are exhibiting a type of bidialectalism,

wherein they simultaneously use different (but obviously very similar) grammars in ways which

results in the attested variation.[8] This is a clear instance of historical facts being marshaled to

refine synchronic models of grammar, along the lines envisioned by Kiparsky in the quote above.

In this case, they "complicate" synchronic model by providing evidence that multiple grammars

can be instantiated in a single individual. A comparable case of historical evidence being used to

refine models of the syntactic structure of grammar can be found in the Transparency Principle of

Lightfoot (1979), a proposed synchronic constraint invoked to account for aspects of syntactic

change.

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Structural approaches to universals and change in the generative tradition often put a strong emphasis on the connection between acquisition and universals and change. Albright's contribution to the present work is a clear example of this approach. He uses a particular, well-defined model of acquisition to account for the direction of analogical change in paradigms and situates the locus of change within the acquisition process. Something similar can be seen in Lightfoot (1991) which develops a model of the acquisition of syntax consistent with the Principles and Parameters approach and which is also consistent with observed patterns of historical change. Such work need not necessarily make distinct predictions from models of historical change which are agnostic as to who the agents of change are. But, where it can often crucially differ is the emphasis it places on how a change from one grammatical structure to another across (idealized) generations may be triggered by the linguistic forms a language learner happens to be exposed to.[9]

The contribution in the present volume most readily associated with the structural approach to universals and change is that of Kiparsky. His chapter is, at least partially, a response to historically-oriented approaches (to be discussed in section 5) which have argued against the general validity structural approaches. He suggests that apparent conflicts between these approaches, perhaps, does not reside in how to interpret the linguistic facts but, rather, how to understand the term *universal*. Accordingly, he offers an operationalized definition of the term and then examines whether various putative "universals" are true universals or simply typological generalizations. While he takes the former to result from structural properties of grammar, he believes that the latter may, in some cases, be best explained as epiphenomena of recurrent patterns of historical change. This is clearly an interesting result, in the present context, since it points the way to a research program in which structural and historical analyses of typological

patterns are not seen as antagonistic but, rather, as complementary.

Whitman's analysis of cross-linguistic word order patterns takes a very similar approach to that of Kiparsky. He classifies word order universals into three types, *cross-categorial*, *hierarchical*, and *derivational*. The most famous word-order "universals", those establishing a correlation between the order of heads of different syntactic categories and their complements (for example, between verb-object and adposition-object), are classified as cross-categorial. He argues that since these patterns are not absolute but statistical, they should be explained diachronically instead of being analyzed as predictable from the nature of synchronic syntactic structure. However, he further suggests that his other two classes of word-order universals should, in fact, be explained by appealing to the nature of syntactic structure. Thus, like Kiparsky, he views grammatical structure as playing a crucial role in explaining certain attested patterns but also believes that structure should not be invoked to explain all apparent "universals".

Albright's account of analogical change would also seem best classified as structural, since it is grounded in a synchronic grammatical model of paradigm structure and acquisition. It rests on two broad assumptions: (i) that paradigms are organized in speakers' grammars around a single surfacing form which serves as the base for all forms in the paradigm and (ii) that speakers will choose this single form from the pool of surfacing forms by determining which one allows them to most straightforwardly predict the shape of all the forms in the paradigm. These two proposed principles are understood to manifest themselves during acquisition but are nevertheless taken to be part of the structure of grammar. Therefore, while the kind of data Albright focuses on is purely diachronic, the burden of explaining attested diachronic pathways is placed within synchrony, following the schema in (1b), not (1a). So, even though the phenomena that Albright is concerned with may not be the prototypical foundation for a structural explanation, he shows

that a sufficiently explicit model of the structure of grammar can go quite far in accounting for them, recalling the point made by Kiparsky (1982:57), cited above, that progress in historical linguistics may often depend on sharpening synchronic theories.

5 Historical approaches

Historical approaches to universals claim that a particular universal can be understood as a predictable result of attested patterns of language change. This approach was schematized in (1a) where the locus of universal patterns was depicted as deriving from the ways in which grammars transition between different states. In such a model, even robust synchronic universals may be understood as epiphenomena of similar processes of change applying in converging ways across many languages.

To take an example of this type of approach from Greenberg, one way to explain the synchronically observed pattern that all languages with nasal vowels also have oral vowels is to invoke a historical generalization that, "nasal vowels come from oral vowels, and not vice versa (Greenberg 1978b:51)." Greenberg (1978a:71) schematizes one common pathway for the development of nasal vowels along the lines of (2).

(2) VN $\rightarrow$ ṼN $\rightarrow$ Ṽ

The pathway in (2) views the rise of phonemic nasalization as the result of a sound change producing allophonic nasalization of an originally oral vowel before a nasal consonant followed by a second sound change where the nasal consonant is lost. If we assume that this is the primary mechanism through which nasal vowels develop, we immediately have an explanation as to why languages with nasal vowels also always have oral vowels—the presence oral vowels in a language is a prerequisite for the development of nasal vowels. Such an explanation makes no

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appeal to the structure of grammar, only possible directions of change are important, which is why it is labeled *historical* here.

Historical explanations for language universals have a long pedigree, with origins going back to at least the neogrammarians. Paul (1880/1886), for example, explicitly argues against anything but a historical approach to the study of language—and, presumably, therefore, would exclude a synchronic approach to universals entirely. The neogrammarians are generally associated with word-level change (e.g., sound change and analogy), which has meant their work has had more influence on phonology and morphology than other areas of linguistics. However, Delbrück (1880/1974), also in the neogrammarian tradition, employs a similar approach with respect to syntax.

The work of Baudouin de Courtenay and Kruszewski of the Kazan School also shows a tendency for historical explanation. However, it must be readily acknowledged that, as important figures in the development of structural approaches to synchronic analysis, their work is properly categorized as simultaneously embracing historical and structural approaches (for general discussion, see Anderson (1985:56–82)). Their position can be aptly summarized with the following quotation: "The mechanism of a language (its structure and composition) at any given time is the result of all its preceding history and development, and each synchronic state determines in turn its further development (Baudouin de Courtenay 1871/1972:63)."

Despite their historical "head start", historical approaches to universals became significantly less prominent in the twentieth century as the synchronic study of grammar grew to become a major focus of linguistic theory, first under the influence of Saussure and, later, under the influence of the generativists. However, even for linguists of the generative tradition, historical explanations were sometimes taken to be the best way to account for certain kinds of

widespread grammatical phenomena (if not true universals) which, for one reason or another, resisted straightforward explanation via synchronic models of grammar—and, as discussed in section 4, this is also true of some of the structurally-oriented contributions in this volume.

One example of a phenomenon discussed in this regard is split ergativity. There are a number of "universals" which can be stated about the nature of split ergative systems. Anderson (1977:329–330), for example, states that, "languages may have ergative marking in perfect (or past) tenses and accusative marking in imperfective (or non-past) tenses, but not vice versa." He suggests that the source of the explanation for this generalization is, "to be found in the principles by which perfect tenses are created (330)." (See also Anderson (1989:343–349).) This clearly is an example of historical explanation of a typological pattern, even if the relevant "universal" is a relatively narrow one.[10] Hyman (1977) is another example of a linguist associated with the generative tradition appealing to diachrony to explain certain phenomena, in this particular case, phonological ones.

However, although the broadest trend of twentieth-century linguistics may have involved a movement away from historical explanations for universals, a number of linguists maintained such approaches. Almost certainly the most significant figure espousing historical explanations was Joseph Greenberg. In a number of works, including Greenberg (1966) and Greenberg (1978a), he argues that certain basic mechanisms of change are universal to language and that many apparent synchronic universals are the result of common paths of change being instantiated across many languages. Within this book, the chapter by Bybee is most closely aligned with the Greenbergian view—though quite similar views can also be found in the chapters by Blevins and Garrett.

While not always explicitly tied to the pursuit of explanations for universals, the study of

grammaticalization (see, e.g., Heine et al. (1991) and Hopper and Traugott (1993) for an overview) should also be mentioned here since work in this area has been used to support the historical approach to universals. The most comprehensive work combining both strands of research is probably Bybee et al. (1994), an examination of the historical development of tense, mood, and aspect marking based on an extensive cross-linguistic survey. One conclusion of this study is that, with respect to the semantics of grammatical morphemes, universal patterns are far better explained through diachronic models than through synchronic ones (Bybee et al. 1994:281).

As Kiparsky mentions in his contribution, historical explanations for universals seem to be "recently regaining popularity", citing work like Bybee (1988), Garrett (1990), and Blevins (2004), as well as Aristar's (1991) study of Greenbergian word-order correlations—not surprisingly, three of the authors he gives are represented in this book since their research speaks so directly to the relationship between diachrony and language universals. Of the above works, Blevins (2004) is notable for thoroughly codifying a diachronically-oriented approach to phonological universals, which she names Evolutionary Phonology. Her basic approach has been adopted by a number of other phonologists in recent work, including Guion (1996), Kavitskaya (2002), Barnes (2002), and Yu (2003), among others. However, diachronically-oriented explanations for universals in phonology are not limited to such an "evolutionary" approach. Bybee (2001), for example, offers a rather different—though not necessarily contradictory—diachronic model of phonological development from that found in Blevins (2004).

There is however, an interesting contrast, between approaches like that of Bybee (2001), on the one hand, and Blevins (2004), on the other. While some aspects of their methodology are quite similar, their guiding principles appear to be quite distinct. In the beginning of her contribution to this volume, Bybee writes, "The true universals are the mechanisms of change that

create the diachronic paths." Blevins, on the other hand, gives as the central premise of her approach that, "Principled diachronic explanations for sound patterns have priority over competing synchronic explanations unless independent evidence demonstrates, beyond reasonable doubt, that a synchronic account is warranted."

Both approaches have a common diachronic "bias". However, while Blevins explicitly admits the possibility that a synchronic account may be necessary for universal patterns in some cases, Bybee is clearly skeptical about this. Furthermore, Blevins (2004) generally employs a more or less traditional model of sound change which treats it as a transition from one discrete state to another—a relatively comfortable conceptualization from the point of view of generative/structuralist phonology. For Bybee, however, change is conceptualized much less discretely: "[T]he cumulative effect of [the application of the mechanisms of change] over multiple usage events creates grammar."[11]

In the present volume, both Blevins and Bybee offer historical explanations for universal patterns in line with their previous work. Blevins approaches consonant epenthesis within the framework of Evolutionary Phonology. And, Bybee develops a historical, usage-based account of a well-attested pattern of phonological alternation known as Structure Preservation, wherein morphologically-conditioned phonological alternations show an overwhelming tendency to be restricted to contrastive features in a language's phonological system (and, therefore, tend to involve changes from one phoneme to another). This is opposed to, for example, phrasally-conditioned phonological alternations, which typically involve only non-contrastive features (and, therefore, involve alternations between allophones of a single phoneme).

While the label given this phenomenon implies it should be more amenable to a structural than a historical account, Bybee argues that a historical one is to be preferred because it can

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explain both the generally observed pattern as well as known exceptions to it. The idea that patterns which are not exceptionless might, in general, be better explained historically than structurally is, in fact, a common theme in this volume and is discussed as well by Kiparsky, Kuteva and Heine, and Whitman.

Garrett's contribution also offers a historical explanation for a universal pattern—in his case for the phenomenon known as paradigm uniformity whereby analogical change tends to affect paradigms whose base forms alternate in ways that reduce those alternations. Garrett explicitly argues against any structural property of grammar favoring uniformity over non-uniformity, arguing instead that apparent uniformity effects are epiphenomena of other mechanisms of change.

As discussed in section 2, Harris takes on the problem of explaining typologically unusual structures, trying to develop a model which can predict that such rara can exist, on the one hand, but that they would be attested only infrequently, on the other. Her explanation is grounded in the idea that some grammatical patterns are rare simply because the historical chain of events required for them to develop involves a large number of independent changes that would not be expected to "come together" in the right way very often due to the laws of probability. A rare pattern, therefore, may not be rare because there is anything "structurally" wrong with it. Rather, the odds may simply be stacked against its ever arising in the first place.

Heine and Kuteva also offer a historical explanation for certain grammatical patterns, specifically arguing that some instances of apparent grammatical "irregularities" can be straightforwardly explained if we understand the nature of the grammaticalization processes that produced them. However, another dimension to their explanation involving the role of language contact—a factor external to grammar. Accounts for universals invoking such factors will be

taken up in the next section.

6 External approaches

In addition to structural and historical approaches to the explanation of universals, it seems worthwhile to recognize a third possibility: that the locus of explanation lies in principles not specific to language but, rather, in ones external to it. Of course, we must readily recognize that an explicitly-invoked "linguistic" principle may itself have an ultimate explanation which would be non-linguistic. This issue was briefly taken up at the end of section 3. Nevertheless, one can distinguish between approaches which *formulate* their principles as being specific to language as opposed to those whose principles are explicitly understood to be more widely applicable, either to communication in general or more broadly to the human condition. I discuss some relevant approaches of this latter kind here.

Ohala's (1993) model of sound change is a good example of an approach making use of such external principles. It views sound change as resulting from a listener's misanalysis of the phonological representation that a speaker intended for a given utterance, where the range of predicted misanalyses is connected to well-attested types of variation found in the phonetic signal. Critically, Ohala grounds his theory of phonetic variation in a physiological model of speech production. To the extent that human physiology should be viewed as "outside" of grammar, Ohala's model would seem to constitute, at least partially, an external explanation for the relationship between universals and change. Of course, as with some of the contributions in this volume, Ohala's model of sound change does not solely fit into just one explanatory mold. The idea, for example, that a crucial step in language change also involves the *phonological* analysis of the phonetic signal of an utterance means that there is a structural dimension to his explanation as well.

Importantly, the distinction between an external explanation or a structural or historical one can be highly sensitive to theoretical interpretation. Hayes and Steriade (2004), for example, make use of some of the insights of the work of Ohala just discussed. However, they argue not for a model based on "misapprehension" (Ohala 1990:244) on the part of the listener but, instead, for one where the speaker actually has a "partial understanding of the physical conditions under which speech is produced and perceived " and where this knowledge is actually part of grammar (Hayes and Steriade 2004:1). They further propose that that such grammatical knowledge can drive historical change (Hayes and Steriade 2004:27). Under their model, some of the explanatory principles treated as external within Ohala's model would be labeled structural within the classification developed here.

External principles have been invoked to account for linguistic phenomena in a number of domains. Bybee and Moder (1983:267), for example, propose that linguistic objects can be classified on the basis of their phonological form in a way that is analogous to the categorization of natural and cultural objects and suggest that this indicates some of the principles governing linguistic behavior may, in fact, be more general in nature. Haiman (1983:816) makes comparable claims for the relationship between morphosyntactic categories and conceptual categories. Similarly, Sweetser (1990:23–48) makes use of an externally-oriented principle of metaphorical extension, taken to be rooted in broad aspects of human cognition, which both delimits possible synchronic metaphorical uses of certain words and also guides how the semantics of words can change diachronically.

More generally, Haspelmath (1999) has discussed the possibility of explaining the existence of supposed structural grammatical constraints of various kinds, proposed within the framework of Optimality Theory, by appealing to functional considerations. Specifically, he

argues that speakers will choose to use "good" variants of linguistic forms instead of "bad" ones and that these adaptive choices may become entrenched as constraints on grammars. The criteria distinguishing good variants from bad ones, in his view, are not specifically linguistic. For example, he proposes that the fact that many languages allow topic arguments to be unexpressed is connected to a general human proclivity to "save production energy" (Haspelmath 1999:197).

Haspelmath's arguments raise an important issue with respect to external explanations of universals: the explanatory principle need not be "confined" to either synchrony or diachrony. Synchronic pressures (for example, a functional pressure to save energy) may cause languages to change in particular functional directions (for example, a strong grammatical constraint against expressing topical arguments), resulting in universal patterns. This sort of external approach, which sees synchronic external pressures as the driving forces behind convergent diachronic changes, of course, speaks directly to the theme of the present volume. More general work along these lines includes Keller (1994) and Durie (1999).

In addition to external approaches invoking functional or cognitive constraints, sociolinguistic constraints have also been proposed as playing a role in shaping universal patterns. Labov (2001:511–518), for example, contains relevant discussion of some possible sociolinguistic principles which relate language change to social perceptions of language. One example of such a principle of social perception is the *Golden Age Principle*: At some time in the past, language was in a state of perfection (Labov 2001:514).[12] This principle is intended to explain, among other things, why older generations do not typically adopt speech norms of younger generations. Such a sociolinguistic attitude hardly seems to belong to anything like a universal grammar but has clear implications for both synchrony and diachrony and would, therefore, appear to be an externally-oriented account of a cross-linguistic grammatical generalization.

Similar work within sociolinguistics includes Trudgill (1989, 1996) and McWhorter (1998), which argue that there may be a connection between a language's sociohistorical profile and its typology (succinctly exemplified in the title of McWhorter (2001), "The world's simplest grammars are creole grammars").

Related to this, of course, is work on the relationship between culture and linguistic patterns (see, for example, Enfield (2002) or Evans (2003) for an overview of relevant research). Much of the work in this area tries to show that the presence of a particular cultural trait in a community may explain the presence of some fairly specific grammatical patterns in that community's language (see, for example, the discussion in Evans (2003:23–27) on the rise of grammatical encoding of kinship relations in certain Australian languages). However, Enfield (2002:20) raises the idea that even some apparent grammatical universals may actually be the result of cultural universals, citing the animacy hierarchy as a possible example (see Kiparsky's contribution for further discussion of this phenomena—though from a much different perspective).

In the present volume, Haspelmath's paper most explicitly makes use of an external explanation for grammatical universals, in a way similar to Haspelmath (1999) discussed above. Specifically, he invokes a *functional* principle of economy which causes humans to behave "purposefully and rationally in selecting from available variants and in creating new variants". Over time, this process of selection is taken to lead to the creation more economical language structures. Crucially, he does not attribute this trend for economy to a grammatical constraint but, rather, connects it more generally to human behavior.[13]

Hopper also invokes an external explanation in his paper, though the principles he employs are of a somewhat different type than Haspelmath's. Specifically, he argues that the

exigencies of discourse have played a crucial role in the development of an English construction that he labels *take NP and*. Discourse needs are not part of grammar proper, but rather the communicative situation, making his an external account.[14] In addition, Hopper argues that examining this construction in English can give us insight into similar constructions found in other languages, thus suggesting that not only this one English construction, but a cross-linguistically identifiable set of constructions can be explained by appealing to how discourse requirements can shape grammar.

As discussed above, Kuteva and Heine's contribution contains an element of historical explanation within a grammaticalization framework. However, at the same time, they argue that coming to a full understanding of a particular grammaticalization scenario may require acknowledging the role language contact can play in fostering such a change. In particular, they propose that they are able to improve the predictive power of their grammaticalization model by suggesting that the history of a given language may instantiate a grammaticalization pathway not simply because it was "available" but because its contact relationships—a factor external to grammar—pressured it to develop in that direction.

7 Conclusion

Categories like *structural*, *historical*, or *external* are, of course, primarily heuristic in nature. And, in fact, one of the more important conclusions that comes out of this volume is the extent to which a full explanation for the relationship between language universals and language change requires integrating different approaches. Kiparsky, for example, writes from a structuralist perspective but also quite clearly does not see structural explanations as giving us all the answers (see Newmeyer (2005) for a similar view). Bybee, though explicitly taking on a diachronic-functional perspective, nevertheless examines a generalization which was uncovered using structuralist

methodology. And, while Haspelmath's paper sees the ultimate explanation for certain phenomena as being external to grammar, he still views the mechanisms through which they become expressed in language as being historical in nature.

Whereas purely synchronic studies often allow a particular linguist to take on only a "formal"(=structural) or a "functional"(=diachronic/external) perspective (see Newmeyer (1998) for an overview of this issues), it is clearly much more difficult to do so when looking at the relationship between universals and change. On the one hand, the generalizations described by everyone's "universals" need to be explained somehow, even if there is disagreement about how universal they might be. On the other hand, whenever the role of diachrony is introduced into "explanation", language use is generally involved at some level because it is so often implicated in language change—whether its role is limited to the accidental skewings of language input during language acquisition or it is viewed as relevant over the entire lifetime of an individual.

The study of the topic of universals and change is, therefore, not solely interesting in and of itself but is also an interesting arena in which competing linguistic methodologies can be readily compared, allowing us to see what kinds of approaches are well-suited to dealing with what kinds of problems.

Notes

[1]I would like to thank Adam Albright and several anonymous reviewers for comments on earlier versions of this paper.

[2]Of course, issues like the ones raised by these questions are not applicable solely to the study of language. They could equally well be applied to music, culture, or any other human creation, and many would also apply to the study of biological diversity.

[3]For a recent survey of approaches to language change, see Hickey (2003).

[4]For a recent overview of different senses of and approaches to linguistic universals, see the papers in Mairal and Gil (2006b), in particular Mairal and Gil (2006a).

[5]An example of such a generalization would be a statement like: Languages with SOV basic word order tend to make use of postpositions. That is, they are generalizations about how patterns in one syntactic category correlate with patterns in another category.

[6]I am grateful to an anonymous reviewer for offering valuable criticisms and insights into the nature of different categories of explanations, many of which are used here—in particular, the categories *absolute*, *probabilistic*, and *permissive*.

[7]In syntax, the majority of the papers in Pintzuk et al. (2000) and Lightfoot (2002), two recent volumes, would fall into this line of work. In morphology, as discussed by Garrett in his chapter, constraints have been proposed to account for paradigm uniformity synchronically. Such constraints could clearly also be used to account for historical change. Hock (1991), though not explicitly attempting to unify a synchronic theory of phonology with diachronic change, makes use

of a set of distinctive features in describing many sound changes, which would seem to put him into a similar category as King. Extensive discussion of different kinds of explanations for phonological change, including synchronically-oriented accounts can be found Blevins (2004), which does the topic far more justice than I can here.

[8]A useful summary of approaches making use of grammar competition can be found in Pintzuk (2003:518–519).

[9]See, for example, Lightfoot (2003:107), who writes, "...the only way a different grammar may grow in a different child is when that child is exposed to significantly different primary data."

[10]Kiparsky's contribution contains a detailed criticism of a comparable historical approach to split ergativity, Garrett's (1990) analysis of Hittite.

[11]An additional feature of Bybee's paper, worth mentioning in the present context, is the fact that she concludes with, "structural properties...arise as language is used and find their explanations in the nature of the categorization and processing capacities of the human brain." While the argumentation of her paper, therefore, focuses primarily on linguistic mechanisms of change, she clearly views those mechanisms as connected to broader aspects of human cognition, adding a dimension of external explanation, of the sort discussed in section 6, to her account.

[12]The Golden Age Principle, of course, is not a true principle of historical linguistics. Rather, it is a taken to be held by speakers in a way which informs their attitudes towards language change.

[13]As with the above example of Ohala's model, there exist analyses very similar to Haspelmath's which do treat his proposed externally-oriented principle as specifically part of synchronic grammar. Aissen (2003), for example, who, like Haspelmath, discusses morphosyntactic asymme-

tries, directly incorporates economy "constraints" into an Optimality Theory model of grammar, without connecting them to human behavior generally, thus indicating she intended her principles to be interpreted structurally.

[14]This is not to say that particular discourse strategies are necessarily outside of "grammar". Only the communicative imperatives shaping a given stretch of discourse are what is taken to be external to grammar here.

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