

What is universal about typology?  
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### Abstract

The paper considers language-typological statements in relation to other kinds of linguistic generalizations: rules of single-language grammars, theoretical claims, and explanatory principles. It highlights a common denominator for all of these: they are generalizations about the distribution of grammatical characteristics of various sorts over various domains.

Keywords: language typology, single-language grammars, dialects, linguistic theory, explanations, distribution

### 1. Introduction

The study of language typology has often been viewed as a rather special endeavor with few if any similarities to other pursuits within linguistics and outside it. Here are three such oppositions.

- (1) 1/ Language-typological generalizations are different from single-language rules.
- 2/ Language-typological generalizations are different from theoretical claims.
- 3/ Language-typological generalizations are different from explanatory principles: they describe but do not explain.

These points are not without foundation but they don't do full justice to the relationship between language typology and the other areas of inquiry mentioned above: in addition to differences, there are also pervasive similarities. The purpose of this paper is to highlight these similarities<sup>1</sup>.

We will consider the three oppositions in turn.

### 2. Language typology and single-language grammars

Let us first review the well-known logic of crosslinguistic research. It is based on initial observations, such as in (2).

- (2) (a) In SOME languages, there are oral stops.
- (b) In SOME languages, there is an /n/.

If all we wanted to know was what kinds of grammatical phenomena were possible in languages, statements like those

in (2) would suffice. However, we also need to determine how grammatical features are distributed among languages so that we can predict whether a given language will or will not have them.

The simplest and most predictive statement type is one of universal scope over all languages, exemplified in (3).

- (3) (a) In ALL languages, there are oral stops.  
 (b) In ALL languages, there is an /n/.

(3a) is a hitherto unrefuted statement but (3b) is a problem: it is untrue. For example, Quileute has no /n/. Thus, regarding the occurrence of /n/, we have to retreat to (4).

- (4) In SOME languages, there is an /n/; in OTHER languages, there is no /n/.

(4) says more about alveolar nasals than (2b) does: it states not only that some languages have them but also that others do not. It thus establishes two language types: those with alveolar nasals and those without them. We will call statements of this sort EXISTENTIAL TYPOLOGIES. However, (4) does not say which languages have alveolar nasals. To render the distribution of the two types predictable, we need to find a way of combining the (NON-UNIVERSAL) TRUTH of (4) with the (UNTRUE) UNIVERSALITY of (3b). This becomes possible if we can identify a sub-universe of human languages where the presence versus absence of /n/ has a perfect distribution. The following statement achieves this goal<sup>2</sup>.

- (5) In ALL languages, IF there is an /m/, THEN there is also an /n/.

Both language-universal statements and language-typological implications are DISTRIBUTIONAL generalization determining the conditions under which a language has a particular property; and both are of UNIVERSAL scope stating the perfect distribution of a linguistic property within a given universe. While language universals are only about shared features of languages, typological statements are both about differences and similarities, the latter holding for sub-universes within the universe of all languages. In other words, "[t]ypology is simultaneously about the diversity and uniformity of this universe" - the

universe of human languages (Plank 1997: 1; see also Plank 1999: 319, Croft 2003: 53, 86)<sup>3</sup>.

The difference between unrestricted and restricted universals - the size of their domain - is relative: the notions "universe" and "sub-universe" are not given independently of the analyst's point of view. The universe of languages that have an /m/ is a sub-universe only as long as our focus is on the larger universe of all human languages; if the focus is on languages having an /m/, the sub-universe becomes the basic universe of investigation. Similarly, the universe of all human languages may be viewed as a sub-universe of some larger class of phenomena, such as all communications systems or all human cognitive faculties. If we set our focus on such larger universes, language universals become typological statements characterizing a sub-universe within those larger domains.

The progression traced above from "some languages ... other languages" to "all languages..." or "all languages that ..." is paralleled by the logic guides the construction of single-language grammars. The first step is noting the existence of a grammatical property in a language. Based on words like *sane*, *seal*, *slip*, *spell*, *string*, and *sprain*, the following observation can be offered.

(6) In English, SOME words begin with an /s/.

This statement says that /s/-initial words are possible in English but it does not predict whether a word does or does not start with an /s/. A simple statement that would do that is (7).

(7) In English, ALL words begin with an /s/.

This statement has predictive power but it is clearly untrue: there are many English words that do not start with /s/. To be sure, there are generalizations that do hold for all English words, such as (8).

(8) In English, ALL words contain at least one vocalic segment.

However, (7) is not one of them. What holds is merely (9).

(9) In English, SOME words begin with an /s/, and OTHER words do not.

The next task is to formulate a statement that correctly predicts the occurrence of word-initial /s/ in English - i.e., one that combines the truth of (9) with the universality of (7). (10) offers one.

(10) In ALL English words, IF they begin with three consonants, THEN the first one is an /s/.

This statement is true: there are no English words like \*ftring or \*lpring.

The single-language rules above correspond to the three kinds of crosslinguistic generalizations discussed in earlier: (9) is existential-typological, (8) is an unrestricted universal, and (10) is an implicational universal. The only difference is that while the crosslinguistic statements pertain to the universe of all human language structures, the single-language statements pertain to the structures of a single language. A universal rule, such as that all language have oral stops ((2a) above)) excludes languages from the universe of human languages that have no oral stops; while the English-language rule (10) excludes words that start with three consonants where the first is not an /s/ from the universe of English words.

Beyond this basic similarity between cross-linguistic and single-language generalizations, the various sub-types of language-typological statements all have counterparts in single-language descriptions. First, crosslinguistic generalizations may differ in modality: they may be absolute or statistical (probabilistic); and this is so for single-language rules as well. Parallel examples of statistical generalizations in the two domains are given in (11).

(11) (a) In most languages, if there are gender distinctions in some plural pronouns, then there are also gender distinctions in some singular pronouns. (Plank & Schellinger 1997)

(b) In most English imperatives, there is no overt subject.

Second, language-typological statements may differ in the complexity of their terms: whether the implicans or the implicatum is simple or complex. The same is true for distributional statements that hold for a single language.

- (12) (a) In all languages, if a language is BOTH prepositional AND the demonstrative follows the noun, so does the adjective. (Hawkins 1983: 71)
- (b) In all sentences of Lebanese Arabic, if the direct object is EITHER case-marked OR placed in front of the subject, the verb agrees with it in gender.

A third subclassification of language-typological statements also finds parallels in single-language descriptions. Consider the examples in (13).

- (13)(a) In all languages, if the inflected verb must precede the subject in yes/no-questions, so must it in wh-questions as well. (Greenberg 1963: 111, #11a)
- (b) In all languages, if in wh-questions the inflected verb must precede the subject, the *wh*-word is normally initial. (Greenberg 1963: 111, #11b)
- (c) In all languages, if yes-no questions are differentiated from declaratives by an intonation pattern, the position of this pattern is reckoned from to the end of the sentence rather than from the beginning. (Greenberg 1963: 110, #8)

These generalizations differ in how their implicans and implicatum are related to each other. In (13a), the claim is about the construction repertoire of languages: verb-before-subject order in yes/no-questions predicts the presence of the same pattern in wh-questions. Thus, implicans and implicatum are properties of different sentence types: wh-questions and yes-no questions. In (13b), this is not so: implicans and implicatum are both properties of a single sentence type: wh-questions. Since (13a) proposes an implication across constructions, it may be called a PARADIGMATIC IMPLICATION, while (13b), linking one part of a construction to another part of the same construction, forms a SYNTAGMATIC IMPLICATION.

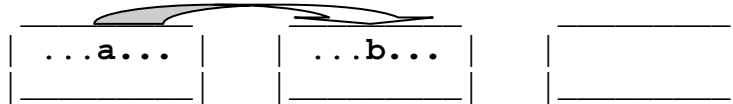
(13c) also applies within a sentence but implicans and implicatum are not distinct parts of a construction but properties of a single constituent. It takes one part of a construction - an intonation pattern - and assigns an additional feature to it: its position. We will call this

type a REFLEXIVE IMPLICATION (since implicans and implicatum converge on the same entity)<sup>5</sup>.

The diagrams in (14) show the three subtypes of implicational universals. The rectangles are constructions of a language; a and b are implicans and implicatum; arrows highlight the direction of prediction.

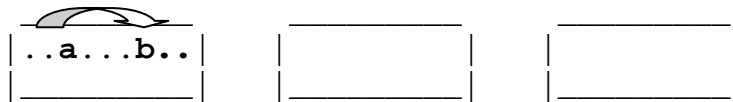
(14) (a) paradigmatic implication:

**If a, then b.** (where a and b are features of different constructions of the same language)



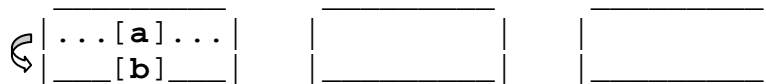
(b) syntagmatic implication:

**If a, then b.** (where a and b are features of different constituents cooccurring in the same construction)



(c) reflexive implication:

**If a, then b.** (where a and b are features of the same constituent)



These three kinds of typological implications can be exemplified from outside linguistics as well. A zoological statement that restricts the co-occurrence of properties of individual body parts - such as that, for primates, limbs must be articulated - is a reflexive implication. A zoological instance of syntagmatic implications is one restricting the co-occurrence of body parts in an animal body, such as that if an animal has feathers, it must have two legs. A counterpart of paradigmatic generalizations restricts the co-occurrence of different life forms within an ecological system, such as that if an ecological system includes bees, it must also include flowering plants<sup>6</sup>.

Corresponding examples from single-language grammars for two of these three types are easily found. The most

prominent are syntagmatic typologies, e.g. (15) relating properties of two distinct parts of a construction.

- (15) In English, all wh-questions where the wh-word is a non-subject have auxiliary-before-subject order.

Reflexive generalizations, such as (16), are known as phonetic or lexical redundancy rules.

- (16) In English, all interdentalals are fricatives.

Are there single-language counterparts of the third kind: paradigmatic implications? Paradigmatic implications generalize over inventories across systems and thus it would appear that such statements cannot be formulated for a single language. But, given that a language consists of various styles, registers, and dialects, paradigmatic typologies are possible linking the presence of one grammatical property with the presence of another across registers or dialects. (17) may be an example.

- (17) In all English dialects, if auxiliary-before-subject order occurs in indirect questions, multiple negatives occur, too.

Recent work on the relationship between typology and dialectology is presented in Kortmann (ed.) 2003.

Why is it useful to observe these parallelisms between crosslinguistic and single-language generalizations? One benefit is conceptual: being aware of the logical affinity of language-typological and single-language studies may lower the barriers between these areas of research as well as among the people who pursue them. In a chapter entitled *Thinking like a typologist* (Croft 2003: 282-283), Croft identifies certain issues that language typologists are made aware of, such as variation in language, a degree of arbitrariness of language structure, the dynamicity of language, and the utility of the inductive method. Croft proposes that awareness of these issues is a benefit of doing crosslinguistic research; but they loom equally large for grammarians of single languages, largely because of the shared goal in the two endeavors: that of finding distributional generalizations over heterogeneous domains.

Another positive outcome of recognizing similarities between crosslinguistic and single-language research is that shared problems are highlighted along with the possibility of unified solutions. For example, sampling is



an enormous challenge of crosslinguistic research: what makes up a proper sample of languages for which to test crosslinguistic generalizations on? (Cf. for example Rijkhoff & Bakker 1998 and the various articles on the related question of reproducibility in language-typological research in issues 9-1 (2005) and 10-1 (2006) of *Linguistic Typology*.) The same problem arises for single languages: what is a representative subset of the infinite set of sentences in a language that single-language rules may be tested on? The two problems are not exactly parallel: while knowledge of the sentences of a single (dialect of a) language is within the scope of a single human mind, knowledge of the sentences of all languages is not; but they are not unrelated (cf. Newmeyer 1998: 336).

In sum: the opposition between language typological and single-language generalizations boils down to the difference in the nature of the DOMAIN within which universal generalizations are sought: sentences across languages or the sentences of a single language.

The next dichotomy to be discussed has to do with the nature of the TERMS that figure in the generalizations.

### 3. Language typology and linguistic theory

Language-typological research is often contrasted with theoretical work. The most commonly noted division representing the two sides is the functional-typological versus the generative approach (e.g. Comrie 1989: 1-5, Newmeyer 1998: 7-18, 350-364).

A difference between the two approaches lines in the methodology applied in the first stages of research: theoretical work by its very nature involves in-depth studies of individual languages while typological work, again by its very nature, requires the inspection of many languages. But this does not mean that that theoretical work cannot encompass several languages - as in fact is has done so (e.g. Cole & Hermon 1998).

For a more substantive aspect of the division, let us consider an example of theoretically-phrased typology: the configurationality parameters first proposed by Kenneth Hale. As summarized by Fukui (1995: 330-332), the claim is that there are two types of languages: configurational and non-configurational, the former having multi-layered constituent structures for sentences (including a verb phrase) and the latter, flat structures. The difference is described in terms of the Projection Principle - which stipulates that the subcategorization frames of every lexical item should remain invariantly satisfied across

derivational stages - having a different role in the two language types. In non-configurational languages, arguments of verbs must be hierarchically represented in the lexicon but not in the syntax, whereas in configurational languages, they should be so represented both in the lexicon and in the syntax. Non-configurational languages - such as Japanese or Warlpiri - are hypothesized to have a number of other characteristics derivable from the difference in constituent structure, such as free word order, frequent zero arguments ("pro drop"), and lack of noun phrase movement transformations<sup>7</sup>.

There is nothing in the basic conceptual schema of this typology that would distinguish it from typologies outside generative grammar. A set of bidirectional implications is posited (cf. Cysouw 2003), such as that the occurrence of free word order in a language implies the occurrence of zero arguments and vice versa; and a general principle is offered from which these implications follow.

What is, then, the conclusion regarding the relationship between language-typological and theoretical claims? Fukui says: "one of the characteristics of... [the principles-and-parameters] approach that distinguishes it from most of the traditional typological studies is its abstractness." (Fukui 1995: 367) I believe this is the only difference (cf. Moravcsik 1997).

Nonetheless, an additional distinction has sometimes been claimed: while theoretical claims explain linguistic phenomena, language-typological ones merely describe but do not explain them. This takes us to the last opposition listed in (1).

#### 4. Language typology and explanations

Do language-typological statements explain? Or do they merely describe? The answer depends on what is meant by explaining something. Let us say that a statement is explanatory if it narrows the gap between what is expected and what actually occurs. In this broadest sense, both existential and universal typologies explain. Existential typologies - stating that in some languages, there is X and in others, there isn't - tell us what kinds of languages exist. If the initial expectation is that a particular language type does not exist, an existential statement brings this type from the realm of impossible into the realm of possible and thus explains it in the weakest sense of the word.

Here is an example. In his introduction to the paper on Tsez agreement by Maria Polinsky and Bernard Comrie,

Greville Corbett writes: "(Polinsky and Comrie) show how certain (main) verbs can agree with a noun phrase in a lower clause... This is a domain which many would have considered IMPOSSIBLE because of locality, and the existence of such an agreement pattern is a challenge to many existing theories of agreement." (Corbett 1999: 194; emphasis added) Accounts of long-distance agreement thus serve to bring something previously thought to be impossible into the realm of possibilities. The existential typology according to which there ARE languages with long-distance agreement renders it possible that the next language to be investigated has this pattern.

Other accounts of rare phenomena previously unknown and perhaps unimaginable include Rudolf Troike's report on the person agreement of non-subject arguments with subject arguments in Coahuilteco (Troike 1981) or a recent study of tensed nouns (Nordlinger & Sadler 2004). The ten-year output of *Linguistic Typology* has also contributed infrequent patterns, such as mirativity as a grammatical category (DeLancey 1997; cf. also Lazard 1999). The rich inventory of "rara", "rarissima", and "singularia" in the *Grammatisches Raritätenkabinett* of the Konstanz Universals Archive offers many such items (<http://ling.uni-konstanz.de/pages/proj/Sprachbau/rara.html>). Patterns reported there include a three-way quantity contrast of both vowels and consonants in Estonian and some other Uralic languages (#15), case marking exclusively by tone as in some Tibeto-Burman and other languages (#30), and the reduplication of verbs to form predicates of restrictive relative clauses with noun-actor head nouns reported for a single language: Wetan (Austronesian) (#31).

This shows so far that even mere existential typologies have some explanatory value. Universals do more than this: they state not only what is POSSIBLE in languages but, depending on whether they are statistical or absolute, they say what is PROBABLE or what is NECESSARY in languages. For example, the typological implication according to which verb-initial languages are generally prepositional probabilistically predicts that Samoan should be prepositional. Similarly, the exceptionless implication according to which if a language has an /m/ it also has an /n/ categorically predicts that German should have an /n/.

While statements about what is possible in language are only minimally explanatory, they rest of the firmest ground: whatever occurs must, by definition, be possible. In contrast, both probabilistic and absolute generalizations, while more explanatory, always remain

hypothetical due to the unavoidable gap between the language sample that they are based on and the set of all human languages that they make a claim about<sup>8</sup>.

While the language universals seen above do explain, they do so by mere instantiation: the explanations they provide are not causal. This is so regardless of whether they are stated in concrete or more abstract "theoretical" terms. Thus, for example, the sonority hierarchy, which is couched in relatively concrete terms, and the subadjacency constraint on syntactic movement rules as posited in some versions of generative theory both explain by simple instantiation: individual structures in various languages logically follow from these more general statements.

If typological generalizations are non-causal explanations, then what ARE causal explanations in linguistics? In order for an explanation to be causal, it has to apply to a temporal dimension involving an initial state, a cause, and a resulting effect. There are three processes in language where causality may apply: acquisition, use, and history.

Let us consider a simple example.

- (18) Jack: *What is this?*  
 Jill: *This is an apple.*

Here is our first explanandum:

- (19) Why does Jill say *an apple* and not *apple an*?

The answer is given in (20).

- (20) Because Jill has ACQUIRED the grammar of ENGLISH, according to which *an* must precede *apple*; and because she USES this acquired knowledge for saying *an apple*.

(20) makes crucial reference to three factors: language acquisition, language use, and the language that has been acquired and used. Further questions arise about each.

- (21) (a) Why - or how - did Jill acquire English?  
 (b) Why - or how - does Jill use her acquired knowledge to yield *an apple* rather than *apple an*?  
 (c) Why does English require *an apple* rather than *apple an*?

(21a) and (21b) are about temporal processes: those of acquisition and use. Language acquisition proceeds from no

(or less) knowledge of a language to full (or more) knowledge; language use proceeds from knowledge to the application of knowledge. The causal factor in both processes must be function: the goals and the physical and psychological means of language acquirers and language users.

This leaves the third question, (21c): why is the language system - the input to the processes of acquisition and use - the way it is? An answer can of course be given by reference to general rules, such as the order of articles and nouns, of determiners and nouns, and of dependents and heads. Such rules provide explanations by simple instantiation. But is there a causal explanation for why a language system is the way it is?

The causal explanation cannot be in terms of individual acquisition since the acquisition process presupposes the system as it is. Similarly, it cannot be in terms of individual language use since that, too, draws on the system. Nor can language function be directly invoked for a cause since there is no temporal process to connect function - the resources of a human being for acquiring and using language - to the system of language he acquires and uses. As Dryer points out (2007: 246), even though language function is often cited as an explanation for language structure, this must be interpreted as a shorthand for language function explaining diachrony which in terms explains structure. Indeed, the only possible causal explanation for a language system is by reference to history: how a given system evolved from something else.

In the case of the order of constituents in an *apple*, the components of a diachronic explanation are those in (22).

- (22) (a) The English indefinite article evolved from the numeral 'one' by grammaticalization. This process is in turn an instance of a language universal according to which indefinite articles are in all or most cases are grammaticized from the numeral for 'one' (Heine & Kuteva 2002: 220-221, 332).
- (b) Grammaticalized elements generally do not change their linear order from that of the original lexeme that they arose from.

(22) draws on the evolution of the indefinite article from 'one': a diachronic universal. This is an instance of

the more general process of grammaticalization which in turn can be shown to be an instance of conventionalization that is ubiquitous in human individual and social behavior (for a survey of explanations of grammaticalization, see Croft 2003: 268-272). But does grammaticalization have a causal explanation? The fact that a change HAPPENS in the speech of individual persons must be explained by the individual processes of acquisition and use (cf. Blevins 2004, 2006). That it BECOMES PART OF THE ENTIRE LANGUAGE SYSTEM must in turn be explained by the principles of social behavior driving propagation and standardization of behavior patterns. The causal factors in all of this must again be functional: people's individual and social goals and their physical and psychological means to achieve them.

Diachronic universals are different in kind. Synchronic universals themselves do, by necessity, yield some constraints on historical change: certain diachronic universals logically follow from them. First, if A is universally present in languages, this means that it cannot change into something else - unless something else simultaneously changes into A. Second, if A is universally excluded, nothing can change into A. Implicational universals similarly translate into constraints on historical change: the implicatum cannot change before the implicans does (for an overview, see Croft 2003: 232-244).

However, not all diachronic universals are logical consequences of synchronic ones; additional generalizations about what may or must change into what and what may or must in turn derive from what are also needed (cf. Plank 1999). Grammaticalization for example, as characterized in (23), is a diachronic universal that is not a logically necessary consequence of a synchronic one.

- (23) Lexical items tend to change into grammatical elements over time through formal reduction and semantic bleaching.

The dichotomy of synchronic and diachronic explanations has recently drawn increased attention due to Juliette Blevins' insightful work on phonological change. Blevins (2004: 61-85, 2006: 124) views the opposition of synchronic and diachronic explanations as calling for a choice between the two: in her view, diachronic explanations should be given priority over synchronic ones and the latter should be resorted to only if warranted. Thus, she proposes that certain generalizations traditionally considered part of synchronic descriptions - e.g. constraints on affix order -

may play no role in synchronic grammars (Blevins 2004: 304-305).

However, there is no need to choose between synchronic and diachronic explanations: synchrony is explained by diachrony. Thus, a fruitful resolution of the difference between the two may be by fully recognizing both the significance of synchronic generalizations as providing explanations by instantiation and their role as explananda for diachronic and ultimately functional explanations.

What is, then, the conclusion to be drawn regarding whether language universals explain or whether they only describe? SYNCHRONIC universals both describe and explain; the explanation they provide is BY INSTANTIATION. Language universals provide CAUSAL explanation if they go beyond limiting synchronic states to constraining processes of language change, of language acquisition, of language use, and, ultimately, constraining language function.

## 5. Conclusions

The title of this paper has raised the question of what is universal about typology. Based on the considerations presented above, the answer is that typology is a universal conceptual tool in all domains of inquiry in linguistics as it is outside it. As long as a scientific study adopts the goal of accounting not only for the occurrence and internal structure of an object but also for its distribution, the formulation of typological generalizations is not a choice but a logical necessity.

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## NOTES

<sup>1</sup> There are also interactions among these fields of study. For example, typological generalizations are based on descriptions of individual languages and language description is based on theory. This paper will not focus on such interactive relations.

<sup>2</sup> Existential typologies, too, may provide for such predictions all by themselves if the property that defines a language type is general enough so that it has multiple instances in languages. Such statements are implicitly implicational. The classic morphological typology that originated with August Wilhelm Schlegel, distinguishing inflecting, agglutinating, and isolating languages, is of this kind. For example, from the agglutinating nature of nouns in a language, the occurrence of verb agglutination can be inferred (Plank 1999, Haspelmath 2000).

Other examples of such general typologies are the division between topic-prominent versus subject-prominent languages (Li & Thompson 1976, É. Kiss (ed.) 1995); verb-framing versus satellite-framing languages (Talmy 1985, Slobin 2000); head-marking versus dependent-marking languages (Nichols 1986, 1992); languages with 'and'-type and 'with'-type coordination (Stassen 2000), languages differing in referential density (Bickel 2003); and languages with "symmetric negation" versus "asymmetric negation" (Miestamo 2003). Some of these existential typologies also have correlating features. For example, Nichols has found that SOV languages are mostly dependent-markers (Nichols 1986: 81), and referential density - the presence versus absence of overt noun phrase arguments in sentences - has been linked to the presence versus absence of case marking (Bickel 2003).

<sup>3</sup> Apart from correlating properties of structure, other bases on which relevant sub-universes of languages may be defined are the genetic, areal, or cultural attributes of languages. Examples are in (i).

- (i) (a) All Khoisan languages have clicks.
- (b) Most languages in South Africa have clicks.
- (c) In small, isolated language communities, there is less structural redundancy. (Trudgill 2004: 306)

While such generalizations are standardly viewed as belonging to separate subfields - historical linguistics,



areal linguistics, sociolinguistics - the goal of identifying distributional generalizations is shared between these fields and language typology. Given that regularities once thought to hold across genetic and areal groups of language have more recently turned out to hold preferentially within certain language families and areas (cf. Nichols 1992, Bickel 2005), the boundaries between historical and areal linguistics and language typology have become less pronounced.

<sup>4</sup> For typology being about the distribution of grammatical properties, see for example Stassen 1985: 6, Newmeyer 1998: 297, Bickel 2005. On the general notion of distribution, see Moravcsik 1994, 2006: 19-20.

<sup>5</sup> For the distinction between syntagmatic and paradigmatic implications, see Bakker 1994: 71-73. Reflexive implications are recognized as a distinct type in the Konstanz Universals Archive and are dubbed provisions.

<sup>6</sup> For other analogies between linguistic typologies and typologies in other sciences, see Newmeyer 1998: 303, Givón 2002: 205-207, Moravcsik 1979.

<sup>7</sup> On the pro-drop parameter, see Newmeyer 1998: 357-359, 2005: 44-45.

<sup>8</sup> Universals are explanatory but they are also in need of explanations themselves. Almost all generalizations made in any domain of reality - except for a hypothetical "highest one" that "explains everything" - are both explananda and explanantia; and this holds for language-universals as well. The two functions of a generalization being both descriptive and explanatory or explanatory and being in need of explanation are not contradictory but complementary (Croft 2003: 283-286, Eckman 2004: 684-688). Regarding explanations for language-universal and language-typological generalizations, see for example Hawkins (ed.) 1988, Kirby 1997, the articles in section VI. *Explanatory principles, principles of organization, and methods of typology and language universals in* Haspelmath et al. (ed.) 2001, and Moravcsik, to appear.

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