In defence of iconicity

JOHN HAIMAN*

Abstract

A number of iconically motivated grammatical distinctions, among them that between alienable and inalienable possession in Japanese and Korean, are graded. Haspelmath's Zipfian frequency hypothesis may be able to accommodate these facts (lowest bulk is most frequent, middle bulk is less frequent, and maximal bulk is maximally infrequent), but until more data are forthcoming, iconicity alone makes the correct predictions in those cases, and (crucially) in others where bulk is simply not the grammatical variable at issue in signaling markedness (as for example, the distinction between nominative|absolutive and ergative|accusative in Kurdish). The productivity (not just the fortuitous correctness) of an iconically motivated "more form" implies "more meaning" principle is attested in: (a) the (pre)history of the development of nominalizations in Romanian and Khmer, (b) in the frequent operation of "Watkins' Law" whereby 3sg. forms are interpreted as if they were zero-marked, even when they are not, and (c) grammaticality judgments about the differences between anaphoric epithets and structurally identical non-anaphoric noun phrases like the pig *in English. Like reduced form, so too elaborated form, may have a number of motivations, not only iconic and economic (both cognitive), but also esthetic. It is probably misconceived to look for only one motivating factor to account for most observed grammatical facts, although the motivating factors are more easily identified when they operate alone.*

Keywords: *iconicity; frequency; productivity.*

1. Introduction

Martin Haspelmath's article is a stimulating and thought-provoking critique of the notion of iconic motivation which deals with a broad range

Cognitive Linguistics 19–1 (2008), 35–48 0936–5907/08/0019–0035
DOI 10.1515/COG.2008.002

of data and demands careful scrutiny. Not surprisingly, I am not equally convinced by all of his arguments.

Haspelmath's fundamental argument is a version of Occam's razor: certain phenomena of reduced expression which seem to be iconic are equally motivated by Zipfian reduction, which is "necessary anyway". He thus proposes that for a variety of phenomena which seem to manifest diagrammatic iconicity, only frequency—in fact, no cognitive explanation whatsoever—is necessary. It is important to recognize this aspect of his argument. To say that frequency itself is motivated by some conceptual considerations would be to beg the question—which one? But since he never denies that iconicity is also "necessary anyway" in other areas of grammar, Occam's razor won't work for him. Moreover, he has not yet done all his homework. The iconicity hypothesis is compatible with graded phenomena. For example, Sohn (1994) and Tsunoda (1995) have argued that possession (in Korean and Japanese) may be graded so that there may be three or even four-way contrasts in conceptual closeness that are mirrored in grammatical performance and grammaticality judgments. To claim that frequency counts also reflect this graduation, Haspelmath would need to produce frequency comparisons of not two, but three or more forms. Until such evidence is available, paired frequency counts alone will not be able to compete with iconicity.

Let us however assume for now that there are a variety of phenomena for which both a frequency and an iconicity explanation are equally plausible. When a structure is equally motivated by two constraints, however, credit should be given

a) to the one that is applicable to a broader range of phenomena—not just the one which seems to have one or two fewer exceptions. (I am not impressed by Haspelmath's claims that here and there an exception to the iconicity principle makes the "wrong prediction", while frequency does not. Frequency also has its exceptions. For example, as Orwell (1957: 150) and others have pointed out, it is not necessarily always true that the shorter of two forms is the most frequent: infrequency, verbal sludge like "the American people" at least in political discourses, swamps out homely expressions like "Americans", probably by orders of magnitude. In the same way, the occasional counterexample to a generalization about iconicity is not convincing.)
b) to the one that is shown to be productive—that is, responsible for the creation of novel forms. Productivity is the real test for psychological reality.

2. Broader "range of phenomena" arguments

2.1. *Alienable vs. inalienable possession*

One of the best apparent pieces of evidence for diagrammatic iconicity is the contrast between alienable and inalienable possession. Typically, though not always, the expression of alienable possession is more complex, with greater linguistic distance between possessor and possessum, than that of inalienable possession and this seems to reflect conceptualization iconically (inalienable possession—at least of body parts—is conceptual closeness to the point of IDENTITY: and you can't get closer than that.) Haspelmath argues, with convincing statistics, that inalienable possession is more frequently expressed, and that the different degrees of bulkiness of 'my arm' versus 'my house' in languages which make an explicit distinction between the two is nothing but a Zipfian consequence of this difference in their relative frequency of occurrence. Indeed Haspelmath makes much of the fact that in some languages like Puluwat, his frequency test makes the right "predictions" about morphological bulk, while iconicity does not. (I first noted this as a problem myself. I would now hazard the guess that Puluwat, like other Oceanic languages, first allowed the inversion of alienable possession structures like

Possessor + X # Possessum → 2 1
1 2

as an "occasional stylistic" inversion, as is still the case in Tinrin (Osumi 1995: 437–438) or Paamese (Crowley 1995: 384, 386). Iconicity is not eternal.)

But morphological bulk is not the only means whereby the conceptual contrast between alienable and inalienable possession can be expressed. As William James (1890) pointed out:

> it is clear that between what a man calls me and what he calls mine, the line is difficult to draw. In its widest possible sense, a man's self is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes and his house, his wife and children, his ancestors and his friends. (James 1890: 291–292)

That is, the contrast between what one <u>is</u> and what one merely <u>has</u> is an infinitely gradable one, and languages sometimes reflect this gradation in a variety of (iconic) ways.

2.1.1. *Possessor ascension.* The phenomenon of possessor ascension or external possession exists in English as well as in many other languages (cf. Bally 1926; Hyman 1977; Durie 1987; Clark 1995; Tsunoda 1995; Payne and Barshi 1999). The contrast is illustrated by pairs like:

She patted his cheek/head/knee. (no possessor ascension)
She patted him on the cheek/head/knee. (possessor ascension)

In English possessor ascension is possible with all (real or imagined) body parts, and with clothes one is actually wearing at the time the action occurred, but not with clothes in one's closet, with pets, or with one's productions or other possessions.

She tapped him on the shoe (OK when worn, not OK when not)
*She tapped him on the gerbil/wallet/article he had just written/car

The operative criterion is not exactly inalienable possession but one very closely related to it. Possessor ascension may occur when the possessor can be *identified with* the possessum. It may seem like arrant chutzpah to invoke possessor ascension in defence of the idea of conceptual closeness, since it is the relatively inalienable possessor which can be separated from the possessum in this construction. But note that ascension is a natural consequence of identity: Who pats my shoulder is ipso facto patting me (cf. Hyman 1977: 107; Durie 1987: 388; Tsunoda 1995: 590, among many). Thus possessor ascension is iconic of conceptual closeness, although the means for expressing this closeness are different than in cases like Hua *d-zorgeva* "my hair" versus *d-gai' zu'* "my house". Iconicity can provide a common explanation (or at least a common characterization) of these facts, and frequency does not.

2.1.2. *Honorific agreement.* The phenomenon of *honorific agreement* is the tendency for honorifics to appear not only on NP denoting respected persons, but on NP denoting their possessions, or on predications that are made concerning these possessed NP.

Sohn (1994) and Tsunoda (1995) provide careful examinations of honorific agreement in Korean and Japanese, whereby a verb may mark the respect that the speaker accords to its subject or object. However, when that subject or object is a NP consisting of a possessor (modifier) and a possessum (head), and the one respected is the possessor, as in "the emperor's X", there is a cline of subtle and widely shared grammaticality judgments depending on where the possessum is on the hierarchy:

Body part > inherent attribute > clothing worn > (kin) > pet > production > other

The higher the possessum on the hierarchy, the more likely that possessor respect agreement as marked on the verb (either by a special verb form or

by a respect suffix) will be acceptable (Tsunoda 1995: 576). Accordingly, 'the emperor's hand' is accorded respect; 'the emperor's glasses' less; 'the emperor's horse' still less; 'the emperor's book that he wrote' less still; and 'the emperor's car/villa' none at all. Below, the same range of facts illustrated from Korean (Sohn 1994: 176):

(1) a. sensayng-nim-uy phali khu-sey- yo
teacher hon.gen. arm big hon.pol.
'The teacher's arms are big.' (arms are inalienably part of the teacher)

b. sensayng-nim-uy ankyengi khu- (sey)-yo
teacher hon.gen. glasses big hon. pol.
'The teacher's glasses are big.'
(glasses are less likely to bask in the teacher's reflected honor and glory)

c. sensayng-nim-uy namwuka khu-(?sey)-yo
teacher hon.gen. trees big hon. pol.
'The teacher's trees are big.'
(trees even less than glasses)

b. sensayng-nim-uy kaytuli khu- (sey)-yo
teacher hon.gen. Dogs big hon. pol.
'The teacher's dogs are big.'
(dogs the teacher owns are less likely to share in his honor than trees he has planted, perhaps because they have a will of their own)

The iconic principle behind these judgments is this:

> The more we tend to identify the possessum with the possessor, the more we..show our respect for it, in accordance with our respect for the possessor. (Tsunoda 1995: 584)

This is exactly in accordance with the conceptual closeness of possessor and inalienable possessum as marked in physical closeness. The iconicity hypothesis suggests a common conceptual basis for these facts. The frequency hypothesis proposes none.

2.2. *Markedness in general*

Haspelmath argues (I think largely convincingly) *that local markedness* (Tiersma 1982) or *markedness reversal* (Andersen 1972) phenomena demonstrate that markedness is not so much an icon of the unexpected as a consequence of the relative infrequency of the unexpected. There is

nothing inherently marked even about singular or plural, which is why the unmarked form of 'stars' may be (in some languages) the plural. But relative markedness is reflected not only in relative bulk (the Zipfian correlation) but in other ways as well.

Consider one elaboration of markedness reversal, Silverstein's well-known hierarchy of animacy (1976), and its ability to explain a number of nominative/ergative case-marking splits. The ergative is marked relative to the nominative and marks unexpected/infrequent subjects (typically inanimate nouns, and typically transitive subjects in the past tense). Conversely, the accusative is marked relative to the nominative and marks unexpected/infrequent objects (typically animate human nouns, and objects in the present tense).

Sorani Kurdish happens to be a language in which the accusative and ergative are marked in exactly the same way—a triumphant demonstration of Silverstein's hypothesis that markedness alone is at issue in both nominative/accusative and nominative/ergative oppositions. But in Kurdish the marked/unmarked distinction (called the oblique/direct distinction in Western accounts, cf. McCarus 1958) is instantiated not by greater versus lesser bulk, but by the contrast between agreement suffixes on the verb (for the unmarked S and O) versus mobile pronominal clitics which land (roughly) after the first immediate constituent of the VP (for the marked A and O), cf. Haiman (forthcoming c). There is no difference in bulk between the agreement suffixes on the one hand and the pronominal clitics on the other. It is only in their syntactic behaviour that they differ systematically. To claim with Haspelmath that the "unmarked" is simply the most reduced is to miss the obvious generalization that in Kurdish, as in other languages with split ergativity, it is the nominative which is the unmarked grammatical relation.

3. Productivity arguments

Haspelmath correctly notes that investigators have had little to say on the genesis of iconicity: it is merely something that is already there, to be (alternately) oohed and aahed over or dismissed as epiphenomenal. This section examines some evidence for the productivity of iconic motivations for morphological asymmetries. Such evidence is relatively hard, but not impossible, to find.

It is worth emphasizing before going on that token frequency can make no predictions about productivity. It can only account for changes that have already happened. When an utterance is about to be made for the first time, there is nothing for frequency to work on.

3.1. takete/maluma *thought experiments*

I suggested that periphrastic causatives like 'cause to rise' tend to evoke some image of magic or telekinesis as opposed to 'raise'. Haspelmath argues that there is no need to account for such judgments since the shorter form is simply the most frequent. One typically raises objects through direct contact rather than by waving a wand. But consider now a new form like the verb *disappear* as a transitive verb, which first made its appearance in English (at least for me) in Joseph Heller's *Catch-22*:

– I just heard them say they were going to disappear Dunbar.
– Why are they going to disappear him?
– I don't know.
– It doesn't make sense. It isn't even good grammar. What the hell does it mean when they disappear someone? (Heller 1972 [1955]: 376)

It has now become widespread, but I still recall the image it conjured up when I first read this book in the sixties. Contrasted with *make disappear* it included as at least part of its meaning the notion of directly killing, as opposed to 'make disappear' which would have suggested some bureaucratic mediation. Speakers who make judgments like this are basing their images on a contrast between patterns and performing their computations without reference to frequency, since the frequency of a new form when it is first introduced is zero.

3.2. length *revisited*

As most cognitive linguists maintain, and as Haspelmath (1993: 106–107) has also contended, human imagery and conceptualization tend to be based on concrete experience, and are not always the same as what is viewed by the elite of the scientific community as ''objective physical fact''. For example, consider notions of UP and DOWN: the sun still ''rises'' and ''sets'', even though we accept Copernicus.) In his discussion here, Haspelmath seems to retreat from this sensible position: an *entity* is trisyllabic, although *things* are monosyllabic. Hence length does not correspond to conceptual complexity. To Haspelmath (as to Leibniz), an ENTITY may have seemed conceptually prior to THINGS and PEOPLE (and how fortunate at least for Leibniz that *ens* is monosyllabic in Latin). Humans in general simply do not seem to operate in this manner: before we make abstractions about entities, we are at home with things and people (cf. Wierzbicka 1972, who boldly disregarded both the thought of Leibniz and the morphology of English in insisting that *someone* and *something* are mutually independent semantic primitives).

In the same way, it is, if not ridiculous, at least highly unlikely, that human beings begin their thinking with a priori dimensions of absolute space, time, colour, and morality (among them *length*), which they then "populate" with judgments like "long" versus "short", "good" versus "bad", "green" versus "red" and so forth. Rather, the conceptual dimensions like "length", "width", "time" and "morality" and personifications like "life", "death", "beauty" and "justice" come into being (if they do so at all) only after scores of these judgments are made and people have reflected on them. (It is satisfying, if ultimately irrelevant, that modern physics now seems to "agree" with this folklore to the extent that space, rather than preexisting, is thought to be created by the objects within it.) This is why in every language I have ever heard of, nominalizations like *length* are systematically more complex than judgments like *long* from which they derive (again, we can and should take occasional exceptions like *beauty* and (German) *Tod* "death" in stride). And that is also why there are languages (like Hua) in which words like "death", "justice" and "beauty" do not exist all, and therefore have a frequency of zero.

We can observe the generation of the verb/nominalization distinction in the recorded history of one language (Romanian) and in the tentatively reconstructible prehistory of another (Khmer). In both languages, inherited phonetic material was exapted (essentially from the careful pronunciation of a verb form) to create a novel and productive derivational nominalizing suffix (Romanian *-re* from the inherited infinitive) or infix (Khmer *awm(n)-* from an inherited unstable anacrusic syllable in sesquisyllabic roots) to form new words (Haiman 2003). Considerations of frequency will not explain why this recycled material was assigned the novel task of marking nominalization in both languages (and also marking causativity in Khmer). The iconic principle that "more form is more meaning" can do so naturally.

3.3. *Watkins' Law*

Not only is it true that the 3sg. form in the indicative or the 2sg. in the imperative are typically zero, facts which may or may not be accountable through Zipfian reduction. It is more interesting to observe that in paradigmatic restructurings, 3sg. is often treated *as if it were zero*, even when it isn't (Watkins 1962: 1–6; Haiman and Beninca 1992: 89; Bybee 1985: 55). So we are faced not with actually reduced forms but the reinterpretation of non-reduced forms. Zipf may account for the actual erosion of a frequently occurring form, but not for the perception of a non-reduced form as if it were reduced.

3.4. *Full nouns and anaphoric expressions*

On the relative abbreviation of anaphoric forms, I would have been tempted to accept Haspelmath's position, but now I am not so sure. Consider the well-known e-mail joke variously told about various political leaders:

> George Bush and his chauffeur are out for a drive in the countryside. Suddenly a pig darts across the road in front of the car and is killed. Bush sends his driver to the farmhouse to apologize and make amends (insert a more plausible politician if you wish) and settles down to wait. After more than an hour, the chauffeur re-emerges from the farmhouse. In his left had he holds a Havana cigar; in his right, a bottle of champagne. His shirt is undone and covered with lipstick.
>
> – What happened?
> – Well, I got the cigar from the farmer, and the champagne from his wife, and for the last hour, their daughter has been making passionate love to me.
> – What did you tell them?
> – Just that I'm George Bush's driver, and I've killed the pig.

The linguistic judgment that needs to be accounted for is that this joke can only be written, and not told. The reason, as everyone seems to agree, is that what the chauffeur said can only be pronounced

– *. . . I've killed the PIG*

while what the farmer's family responded to could only be

– *. . . I've KILLED the pig.*

The contrast, of course is between the uses of the expression *the pig* as a full noun phrase (the chauffeur's speech) and as an epithet (as in the farmer's understanding). Epithets need not be monosyllabic. Other possibilities include *the cocksucking bastard, that idiotic asshole, the cross-eyed son of a bitch*, or virtually anything else one might want to use to characterize George Bush or anyone else. Thus there need be no contrast in morphological bulk between an epithet and a full NP. What is common to all epithets, however, is that in addition to incorporating any amount of information or speaker's attitude about a referent, they also function as anaphoric expressions, and refer back to some antecedent, wherein that referent is first named. The totally iconic intuition that underlies the grammaticality judgment above is that epithets, *as anaphors*, are copies of an original referring expression, and like copies everywhere, paler than their originals. This pallor is indirectly reflected in the locus of sentence stress on the verb rather than its object. Whether "relative pallor" via destressing is the same fact as the relative abbreviation of anaphoric

pronouns in general is perhaps open to debate, but here Occam is on the side of iconicity.

4. Conclusions

Both complexity and elaboration may arise more or less accidentally: Frequency may lead to erosion (thus Zipf 1935), and appendix-like ''quirky'' vestigial residues may result in unnecessary elaboration in languages as well as in biological organisms (Mayr 2000, Dahl 2005, Kuteva to appear). But there are also multiple non-accidental motivations for both compact and elaborated expression. Among the functionally motivated bases for compactness are brutality (e.g., four letter words) and esthetic power (e.g., haiku). Among other motivations for elaboration are

a) various mechanisms of phonetic bulking which prevent total loss of both lexical and grammatical categories (Bloomfield 1933: 395–396; Bolinger 1975: 438; Matisoff 1982: 74–76; Heath 1998),
b) high register and/or politeness (Geertz 1955; Aoki and Okamoto 1988)
c) disambiguation via diacritics (Haiman 1985: 60–67),
d) the iconic representation of conceptual symmetry (Haiman 1988) and
e) esthetic appeal (ritual elaboration, Haiman to appear a,b).

Doubtless there are also others. In approaching human language, the rational exuberance of Chappell and Thompson 1992 (who uncover no fewer than seven different motivations for the absence of qualifying *de* in Chinese possessive constructions), or of Hugo Schuchardt 1885: 23 (''I perceive here the motley interplay of innumerable drives'') seems to do more empirical justice to its subject than Haspelmath's reductionism.

Each of these motivations is most clearly attested ceteris paribus, that is, when they operate unopposed. Haspelmath makes a strong case for frequency as the sole possible motivation for differing expressions of one conceptual dimension (transitive versus intransitive): frequently or typically ''spontaneous'' events like freezing will typically occur as root intransitives, and form their marked transitive congeners via an extra causative morpheme. Conversely, events which are typically seen to be brought about by external agents, like breaking, will typically occur as transitive verbs, and form their intransitive congeners via an extra mediopassive or reflexive morpheme. (Note that here again, human conceptualization is not the same as objective physical fact. To a physicist, freezing, melting and boiling are brought about by external agency no less than breaking). This case is exactly analogous to the contrast between typically

"introverted" and typically "extroverted" transitive actions discussed at considerable length in Haiman 1985: actions typically performed upon oneself occur in the typical case with unexpressed or reduced objects (e.g., "I shave": middle voice) while actions more typically performed on others occur when they are reflexive with a separate object noun phrase (e.g. "I kicked myself": reflexive voice). Armed with this clear example of economic motivation, Haspelmath attempts to eliminate iconicity in other cases as well, with less success.

I think we must acknowledge that iconicity is clearly one possible motivation for the asymmetric realization of referential asymmetry. I have tried to argue here that it is preferable to frequency when it accounts for a broader range of related phenomena, and when it seems to be productive in generating new forms. Moreover, iconicity is the only possible motivation for the even more wide-spread if not universal manifestations of referential symmetry (in distributivity, comparison, reciprocity, coordinate conjunction and so on) that have been discussed elsewhere in the literature (Lakoff and Peters 1969; Haiman 1980, 1985, 1988).

I believe that this is puzzling: Iconicity seems at least at present to offer no proven cognitive benefits (Here I am reluctantly in disagreement with Givon 1985: 189; cf. Bellugi and Klima 1976; Bonvillian et al. 1997; Tomasello et al. 1999). If we grant this, it is unexplained why it should occur at all. Given the fact that it disappears so rapidly under conventionalization (Bloom 1979), moreover, it cannot possibly be regarded as a vestigial feature—from proto-language, or from Old English, or even from last week. In other words, for iconicity to appear in language at all, it has to be productive. Now it seems that neither of the traditional motivations for linguistic form (economy of effort for the benefit of the speaker versus clarity for the benefit of the hearer) can account for it.

I very tentatively propose that iconicity is generated over and over not only for purely cognitive reasons, but because speakers take a purely esthetic pleasure in making the form fit the sense. Some purely creative drive is necessary to account for the ultimate genesis of linguistic material (which sound change, analogy and grammaticalization merely erode and tidy up), but it is frequently overwhelmed by the other two (and perhaps others). Yet a creative esthetic drive compounded of "imitation and ambition" is well attested in human behavior generally and even in language it is not only inferable on a priori grounds. Indeed it is responsible for the creation of *non*-referential non-iconic symmetry, which may include not only "twin forms" like *flimflam* (Pott 1862; Marchand 1960), but even nuts and bolts phenomena like grammatical agreement (Ferguson and Barlow 1988: 17; Haiman to appear a,b). A creative esthetic drive may even be responsible for the spontaneous creation of "expressive mor-

phemes'' like ideophones, as noted long ago by Hermann Paul 1880, Ch. 9. But that is a subject that deserves another treatment.

Received 28 February 2007 *Macalester College, USA*

Notes

* Author's email address: ⟨Haiman@Macalester.edu⟩. Contact address: Linguistics Search, Macalester College, 1600 Grand Avenue, St. Paul, MN 55105, USA.

References

Andersen, Henning
1972 Diphthongization. *Language* 48, 11–50.
Aoki, Haruo, and Okamoto, S.
1988 *Rules for Conversational Rituals in Japanese*. Tokyo: Taishukan.
Bally, Charles
1926 [1995] The expression of the concepts of personal domain and indivisibility in Indo-European languages. In Chappell, H., and W. McGregor (eds.), 31–61.
Bellugi, Ursula, and Klima, Edward
1976 Two faces of the sign: Iconic and abstract. In Harnad, S. et al. (eds.), *The Origins and Evolution of Language and Speech*. New York: N.Y. Academy of Sciences, 514–538.
Bloom, H.
1979 *Language Creation in the Manual Modality*. Honors Thesis, University of Chicago.
Bloomfield, Leonard
1933 *Language*. New York: Holt.
Bolinger, Dwight
1975 *Aspects of Language*, 2nd ed. New York: Harcourt: Brace.
Bonvillian, John, A. M. Garber, and S. B. Dell
1997 Language origin accounts. *First-Language* 17, 219–239.
Bybee, Joan
1985 *Morphology*. Amsterdam: Benjamins.
Chappell, Hilary, and McGregor, William (eds.)
1995 *The Grammar of Inalienability*. Berlin/New York: Mouton de Gruyter.
Chappell, H., and Thompson, S.
1992 Semantics and pragmatics of associative *de* in Chinese discourse. *Cahiers de Linguistique Asie Orientale* 21, 199–229.
Clark, M.
1995 Where do you feel? Stative verbs and body-part terms in Mainland South-east Asia. In Chappell, H., and W. McGregor (eds.), 529–563.
Crowley, Terry
1995 Inalienable possession in Paamese. In Chappell, H., and W. McGregor (eds.), 383–432.

Dahl, Östen
2005 *Origins and Maintenance of Linguistic Complexity*. Amsterdam: Benjamins.
Durie, Mark
1987 Grammatical relations in Acehnese. *Studies in Language* 11, 365–399.
Ferguson, Charles, and Barlow, Michael
1988 *Introduction to Agreement in Natural Language*. Stanford: CSLI.
Geertz, Clifford
1955 Linguistic etiquette. *The Religion of Java*. Glencoe: The Free Press.
Givon, Talmy
1985 Iconicity, isomorphism, and non-arbitrary coding in syntax. In Haiman, John (ed.) *Iconicity in syntax*, 187–219. Amsterdam: Benjamins.
Haiman, John
1980 The iconicity of grammar: Isomorphism and motivation. *Language* 56, 515–540.
1985 *Natural Syntax*. Cambridge: CUP.
1988 Incorporation, parallelism, and focus. In Hammond, Michael, Edith Moravcsik, Jessica Wirth (eds.), *Studies in Syntactic Typology*. Amsterdam: Benjamins, 303–320.
2003 Explaining infixation. In Polinsky, M., and J. Moore (eds.), *The Nature of Explanation in Linguistic Theory*. Stanford: CSLI, 105–120.
forthc. a Competing motivations. In Song, J. (ed.), *Handbook of Typology. Oxford*: OUP.
forthc. b Decorative imagery in ritual elaboration. In Noonan, M. et al. (eds.), *Formulaic Language*. Amsterdam: Benjamins.
forthc. c Ergativity in Kurdish.
Haiman, John, and Beninca, P.
1992 *The Rhaeto-Romance Languages*. London: Routledge.
Haspelmath, Martin
1993 More on the typology of inchoative/causative verb alternations. In Comrie, Bernard, and Maria Polinsky (eds.), *Causatives and Transitivity*. Amsterdam: Benjamins, 87–120.
Heath, Jeffrey
1998 Hermit crabs. *Language* 74, 728–759.
Heller, Joseph
1972 [1955] *Catch-22*. New York: Dell.
Hinton, Leanne
1982 How to cause in Mixtec. *BLS* 8, 354–363.
Hyman, Larry
1977 On the syntax of body parts in Haya. In *Haya Grammatical Structure*, (Southern California Occasional Papers in Linguistics 6). Los Angeles: University of Southern California, 99–117.
James, William
1890 *Principles of Psychology*. NY: Dover reprints.
Kuteva, Tania
forthc. On the 'frills' in language. Unpublished manuscript.
Lakoff, George, and Peters, S.
1969 Phrasal conjunction and symmetric predicates. In Reibel, D., and S. Schane (eds.), *Modern Studies in English*. NJ: Englewood Cliffs, 113–142.
Marchand, Hans
1960 *Categories and Types in English Word Formation*. Heidelberg: Carl Winter.

Matisoff, James
1982 *The Grammar of Lahu*. Berkeley: University of California Press.
Mayr, Ernst
2000 *What Evolution Is*. New York: Basic Books.
McCarus, Ernest
1958 *A Kurdish Grammar: Descriptive Analysis of the Kurdish of Sulaimaniya, Iraq*. New York: American Coincil of Learned Societies.
Orwell, George
1957 Politics and the English language. In: *Inside the whale and other essays*, 143–157. Harmondsworth: Penguin.
Osumi, M.
1995 Body parts in Tinrin. In Chappell, H., and W. McGregor (eds.), 433–462.
Paul, Hermann
1880 *Prinzipien der Sprachgeschichte*. Tübingen: Max Niemeyer.
Payne, Doris, and Barshi, Emmanuel
1999 *External Possession*. Amsterdam: Benjamins.
Pott, August
1862 *Die Doppelung*. Lemgo: Detmold.
Schuchardt, Hugo
1885 *Gegen die Junggrammatiker*. Berlin: Robert Oppenheimer.
Silverstein, Michael
1976 Hierarchy of features and ergativity. In Dixon, R. (ed.), *Grammatical Categories in Australian Languages*. Canberra: Australian Institute of Aboriginal Studies, 112–171.
Sohn, Ho-Min.
1994 *Korean*. London: Routledge.
Tiersma, Peter
1982 Local and general markedness. *Language* 58, 832–849.
Tomasello, Michael, Tricia Striano, and Philippe Rochat
1999 Do young children use objects as symbols? *British Journal of Developmental Psychology* 17, 563–584.
Tsunoda, Tasaku
1995 The possession cline in Japanese and other languages. In Chappell, H., and W. McGregor (eds.), 565–630.
Watkins, Calvert
1962 *Indo-European Origins of the Celtic Verb*. Dublin: Institute for Advanced Studies.
Wierzbicka, Anna
1972 *Semantic Primitives*. Frankfurt: Athenäum.
Zipf, George Kingsley
1935 *The Psychobiology of Language*. Boston: Houghton-Mifflin.