# PARTIAL ORGANIZATION IN LANGUAGES: LA LANGUE EST UN SYSTÈME OÙ LA PLUPART SE TIENT[1]

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**Abstract**
At least some of the systematicity of language can be rooted in imperfection and flux. We assume that languages are the product of undirected (cultural) evolution with neither plan nor purpose and explore the role of competition in the organization of linguistic systems, with a narrow focus on inflectional morphology. In actual languages, there is often more than one way to express the same notion and these must compete in a Darwinian fashion. The competition may not be resolved quickly and instead persist for a long time. We will explore in detail one such example, the English comparative construction. Conventional grammatical wisdom is that the two ways of forming the comparative of adjectives (suffixal *–er* and periphrastic *more*) are in complementary distribution. We review the recent corpus-based literature on the English comparative and add finding of our own, based on the Google Books N-gram Corpus. We show that the two strategies have competed for millennia, with no resolution on the horizon. A case like this, though rare, is important because it makes sense only in a framework based on competition.

On the morning of 28 November, 2012, while traveling by train between Manchester and York, one of us noticed the following sentence in the lead article on the front page of that day's edition of *The International Herald Tribune*. *The new allies of Hamas want a more quiet region*. Curious about this use of *more quiet* rather than the usual *quieter*, he looked at the original version of the article, published the previous day in *The New York Times*, where he found the following sentence: *Egypt, Qatar and Turkey all want a more quiet, stable Middle East*. He typed both sentences into Microsoft Word's grammar checker, which flagged the expression *more quiet* with the heading Comparative Use in both instances and suggested *quieter* instead. In the remainder of this article, we will discuss a framework in which it is not unreasonable for the synonymous expressions *quieter* and *more quiet* to coexist.

[1] We are grateful to the organizers of Décembrettes 8 for their kind invitation to present this work at the meeting in Bordeaux and for the depth of their hospitality.

The reader should know that this article is almost entirely phenomenological in nature. It does not provide much if any analysis of the phenomena presented and has little theoretical content, *stricto sensu*. Instead, we defend in it a particular metatheoretical or ideological point of view that is alien to many linguists, though not to Martians, one hopes.

Most grammarians and linguists assume that languages are fully organized systems où tout se tient, where everything holds together. One notable exception is Edward Sapir: "Were a language ever completely 'grammatical' it would be a perfect engine of conceptual expression. Unfortunately, or luckily, no language is tyrannically consistent. All grammars leak." (Sapir 1921: 38). Sapir understood that a perfect language, a grammar that didn't leak, would never change. Not being far removed in time from the neo-grammarians, he also understood well that one of the most interesting properties of languages was the systematic ways in which they do change, which is made possible by their imperfection. Saussure, too, understood that the stop-action shot that was the object of synchronic linguistics was as much an analytical convenience as a reality. Here we will show how at least some of the systematicity of language can be rooted in imperfection and flux. We will couch the discussion in evolutionary terms, but we will have nothing to say about the evolution of the language faculty. Our sole interest is the evolution of individual languages (Hurford 2011).

There are three basic schools of thought concerning why languages are organized systems. The first and most widely discussed is that there is an initial cause: Languages are the product of an already organized language generating machine, a language organ. The second is that of a final cause or purpose: Languages are tools for communication, driven by a unique need to share information and states of mind that Fitch (2010) calls *Mitteilungsbedürfnis*. The last, which we advocate here, is that there is no cause: Languages are the product of undirected (cultural) evolution with neither plan nor purpose. The languages that we witness are survivors. These languages survive because they run in the sense that a Tinguely machine runs, not because they do anything but because a machine cannot run unless it is organized. We do not deny the value of the other two ideas. There must be some innate component to human language, since all human groups have a language, and languages clearly have communicative value. But the ludic and accidental nature of much human behavior and their importance for language have been neglected in the literature.

Only by accepting all three factors can we understand that languages are the product of innate human-specific capacities that combine with an overwhelming human need to share and the unique human capacity for cultural evolution, allowing groups of humans to construct languages, many of whose properties are historically contingent byproducts of this interaction.

The rest of this article will be concerned with the role of competition in the organization of linguistic systems. Most similarities between languages likely result from innate mechanisms and the exigencies of communication. The differences between languages most likely result from cultural evolution (Richerson & Boyd 2005). Cultural evolution works in terms of cultural selection, which in turn works by competition.

In this article, the discussion of competition in language will have a narrow focus on inflectional morphology. There has been a good deal of excellent detailed work in the last decade on competition between rival derivational affixes, much of it on French (e.g., Dal 2003; Grabar et al. 2006; Fradin et al. 2008). We discussed some of the complexities of competition between rival derivational affixes in our last presentation at Décembrettes (Lindsay & Aronoff) and we plan to return to this topic in future research.

It is important to emphasize in any discussion of the topic that most competition is not goal-driven or directed. One area of morphology where a competition model has been popular is that between words and rules in lexical access (Pinker 1999). Here is a simple example. Why do speakers of English say *went* and not *goed* ? The assumption is that two mechanisms compete in producing the past tense of the lexeme GO. First, there is a general rule that operates on all English verbs to produce a past tense form by suffixing *–ed*. This rule produces *goed*. Also, for this lexeme only, there is a stored form *went*, which is retrieved at the same time as the rule is invoked. Since *went* is a very frequent word, it will be accessed very quickly and so win out over the slower rule, which needs time to compute. That is why people do not normally say *goed*. A language learner might, but that is because they do not know the form *went*.

The relation between the rule and the stored form is sometimes referred to as a horse race, the basic idea being that the fastest to the finish line, which in this case means the fastest to form a word, wins. The term *horse race*, though, is misleading, since it carries with it the implication that the two mechanisms are racing against each other towards a finish line, in the way individual people might race. In fact, there is no sense in which the mechanisms know that they are competing, let alone that there is a finishing line. The criterion for victory is completely external to the competitors. The winner is the survivor, not a triumphant victor. The same is true for competition in biology and it is this sense of competition that we are interested in here.

In a perfect language, there would be only one way to realize a meaning. In actual languages, there is often more than one way to express the same notion, as we see in this simple example. These must compete in a Darwinian fashion. The expressions are eventually sorted systematically. The sorting among alternative expressions is accomplished by competition over

time and one of several outcomes eventually results. In the simplest case, one (or more) of the alternatives dies out and one emerges victorious. It is also possible that one of the alternatives retreats to a niche and the other emerges as the default expression. This is what happened with the various ways of forming the past tense in English. Another possibility is that each alternative retreats to a distinct niche and there is no default. We will not explore this case. Finally, the competition may not be resolved quickly and instead persists for a long time. One example of this, which we will explore in detail, is the English comparative construction. Such cases are especially important, because it is only in a framework based on competition that they make sense.

In most cases, the competition will eventually be sorted out. Because most frameworks are discrete, however, there is no discussion of how the nondiscrete sorting out process takes place. These theories assume that the competition itself is uninteresting and that it always leads to a discretely defined distribution of the competing expressions in which one expression is the default. We hope to show otherwise here.

Competition involves systematic distribution of elements within a system. One of the first and still most important discoveries in modern linguistics was the distinction between phonemes and allophones that underlay the phonemic principle. Saussure (1916) and others discovered the phonemic principle of contrast early on. It was only later, however, that Sapir (1933) and others showed that the subphonemic level at which elements do not contrast was equally interesting. The basic discovery was that each distinct phoneme was not always phonetically uniform. Instead, the phonetic realization could be described in terms of a set of non-contrasting allophones that were in complementary distribution, with each allophone or positional variant occurring in a specific subset of the larger environment in which the phoneme occurs.

The general theoretical distinction between contrasting emic distribution and complementary etic distribution was quickly extended to other areas of language and even culture (Pike 1967). It remains important in anthropology, where it has been much broadened (Kottak 2008). In linguistics, its most prominent extension was in morphology, where morphemes could be seen to have positional variants, allomorphs, that were distributed in a way that appeared to be analogous to allophones: in complementary distribution.

Although it is not traditional to think of complementary distribution in terms of competition, the connection is clear. Each allophone of a phoneme and each allomorph of a morpheme can be thought of as competing with all the others. The distribution that we see at any stage of the language is a resolution of this competition, with each allophone and allomorph settling into a particular environment or niche. Most of the time, one allophone or allomorph will emerge as dominant, while the others will be more

specialized. The dominant variant is the default. Of course, no distribution is completely stable, since no language is perfect.

Morphology differs from phonology in the characterization of the environments in which the rival expressions occur. Most notably, the environment of one or more of the expressions may be lexical, consisting of one or more specific lexemes, as we saw above with *went*, the past tense form of *go*. Still, in inflection, just as in phonology, one of the competing expressions can usually be characterized as the elsewhere or default variant. The default variant is not normally assigned lexically. In the case of the English past tense, the default variant is *–ed*, which is assigned by rule.

Brown and Hippisley (2012) provide a computationally implementable general account of complementary distribution in inflectional morphology. The most important mechanism in this account is default inheritance within a network. Default inheritance encodes the system of defaults very elegantly within network morphology. More specific variants or lexical specifications override the default, which emerges where it is not overridden.

What about non-contrastive, non-complementary distribution? Within structuralist phonology, this was included in the category of free variation. Allophones whose distribution could not be predicted were said to be in free variation. The study of systematic non-complementary distribution emerged in the 1960's with William Labov's work on inherent sociolinguistic variation and the idea that non-complementary distribution and statistical variation are general characteristic of languages has gained importance in the study of dialects and sound change. Not so much in morphology. But if we view the distribution of morphological variants as a form of competition, we expect to encounter variable distribution throughout language. This expectation is borne out even in standard English, as we will show. We did not see the variability because we were not looking for it.

There has been very little work on variable distribution in 'standard' languages. This may be because of a mistaken prejudice that variation should be more characteristic of nonstandard varieties. The work of Anna Thornton (2011), who has discussed the concepts of 'overabundance' and 'cell-mates' in Modern Standard Italian, is a notable exception.

Because of the history of the field, most syntacticians and morphologists, when they do encounter variation, have either dismissed it as performance rather than competence or attempted to reduce it to a discrete system. Good examples of this method can be found in Adger's (2006) discussion of a Scottish dialect and Adger and Trousdale's (2007) treatment of variable agreement in a British dialect. Hudson (2007) criticizes Adgers's method and concludes that no account of the Scottish data that fails to incorporate inherent variability at its heart can be sastisfactory. The real question is whether languages encode phenomena statistically at their heart.

We turn now to Standard English and to the two forms of the comparative with which we began, which we will call *periphrastic* and *suffixal*. Conventional grammatical wisdom for the last century has been that they are in complementary distribution. We will show, quite to the contrary, that the two competing strategies have been at work side by side for millennia, with no resolution on the horizon. From the perspective that we defend here, such unresolved competition is exactly what we expect, at least in some instances. Languages are not fully organized systems où tout se tient.

The comparison of adjectives (degree) in English is famously expressible by two means, the suffixes *–er*, *-est* and the adverbs *more*, *most*.[2] As the quotations from *The International Herald Tribune* and *The New York Times* show, despite the best efforts of prescriptive grammarians, the two are rivals in non-complementary distribution. Some of the earliest English-language documents show that the rivalry has gone on for at least 1200 years and each of the two strategies has roots in Indo-European.

This sort of competition is common in derivational morphology, where rival suffixes rise and fall with great frequency, as we showed at the last Décembrettes meeting (Lindsay & Aronoff 2013). What is remarkable about adjective comparison in English is that it bears all the hallmarks of being inflectional rather than derivational and examples of systematic rival inflectional forms are vanishingly rare.

Degree morphology is usually considered to be syntactic rather than lexemic and hence inflectional (Zwicky 1989). The adverbial expressions of degree is accordingly termed *periphrastic* morphology (Chumakina & Corbett (2012). Periphrasis is usually thought of as a syntactic method that fills cells in a lexemic paradigm alongside those filled by morphology. Periphrasis is thus lexical in that it furnishes members of a lexeme's paradigm but also non-morphological, in that it is not a part of morphology in the narrow sense: it does not form words. The most commonly cited periphrastic example is the Latin perfect passive. Most of the forms in a Latin verb's paradigm consist of single words: *laudō* 'I praise'; *laudābitur* 'she will be praised'. The exception is the perfect passive, which is a two-word form consisting of the present tense of the verb *esse* 'be' preceded by a passive participle: *laudātus est* 'he was praised'.[3] Sadler and Spencer (2000) provide an analysis of this construction in which "the syntax actually fills cells in the morphological verbal paradigm" (*ibid*: 73). The same seems to hold for the English periphrastic comparative: it is part of the paradigm of adjectives.

[2] In what follows, we will use the blanket term *comparative* to include both the comparative and superlative forms.

[3] This same periphrastic form also functions as the active perfect of deponent verbs (Flobert 1975).

What evidence do we have that the English comparative is inflectional? First, like all good inflection, degree morphology does not change the category of its base, which remains an adjective. Also, the expression of degree is always available for a gradable adjective; a degree form never seems novel in the way a newly derived word may. Individual degree forms do not drift semantically and degree forms have no special connotations. For all these reasons, Zwicky (1989) concludes that we are dealing here with inflection.

These two means of forming the comparatives appear at first glance to be in complementary distribution, like other competing inflectional realizations. Words of one syllable generally take the suffixed forms. Two-syllable words ending in *–y* and *–le* are said to take the suffix but other two-syllable words do not: *sillier*, *livelier*, *nobler*, but **foolisher*, **rampanter*. Adjectives that can appear in the predicate only must take the periphrastic form: **awarer*, **afraider*, **contenter*. Elsewhere, only periphrastic forms occur, notably with adjectives of more than two syllables. But there are many exceptions and uncertainties. Some one-syllable words avoid suffixation: ?*apter*. Clearly borrowed words always avoid suffixation: **loucher*.

Most uncertainties occur among two-syllable words. Some two-syllable words ending in unstressed syllables other than *–y* also prefer suffixation: *narrow*, *clever*. But some two-syllable words prefer periphrasis: *vapid*. Zwicky, noting the variability, quotes Evans and Evans (1957): "But this is a description of what usually happens, not of what must happen. Mark Twain must have agreed, for he wrote: the confoundedest, brazenest, ingeniousest piece of fraud." According to Jespersen (1949: 347) "a good deal is left to the taste of the individual speaker or writer" and that the "rules given in ordinary grammars are often too dogmatic." Individual linguists differ in their intuitive judgments about individual words. Zwicky notes that disyllables with tense vowels in their final syllable take the suffix: *profounder*, *politer*, *sincerer*, *obscurer*, *shallower*. My own intuition is that disyllables with tense vowels in their final syllable accept both suffixed and periphrastic forms.

Those who have looked at real data note that "Disyllabic words have always been subject to more variation." (Kytö & Romaine 2000: 180) Frequency also plays an important role among two-syllable words (Graziano-King 1999). A number of authors claim that there are stylistic differences between the alternatives, with the periphrastic form more common in written registers, but this has not been established empirically.

The one class of words for which there is certainty is participles, which categorically allow only the periphrastic form. The restriction holds even for adjectival participles: *a more rousing/*rousinger cheer*; *a more fitted/*fitteder bodice*. The historical origins of this restriction are well known. All present participles are at least two syllables long, because the

affix *–ing* appears exceptionlessly with present participles. Most past participles are also more than one syllable long.[4]

The two strategies are very old, with the comparative and superlative suffixes dating back to Indo-European (Sihler 1995). Latin used the periphrastic expressions *magis* and *plus* for participles and other non-adjectival forms and the suffixes for adjectives: *longus* 'long'; *longior* 'longer'; *longissimus* 'longest'. Vulgar Latin lost the suffixed forms early on and they are absent from all modern Romance languages (Herman 1967). By contrast, Germanic languages other than English including Modern German, have only the suffixed forms, except for participles. Thus, most of English's geographically close relatives have resolved the conflict by picking one strategy or the other.

Gonzales-Diaz (2008) cites a number of Old English examples of the periphrastic construction with the adverbs *ma*, *bet*, and *swiđor*: *Θaet hi syn sylfe ma gode đonne ođre men* 'that they themselves are more good than other men'.[5] There are even examples of double periphrastics in Old English of the sort that persist today in a few expressions like *more better*. Old English examples of the adverbs in question with (usually past) participles in predicate position are attested. The periphrastic use of more increased in Middle English, with support from French and Medieval Latin. According to Kytö and Romaine (2000) the modern distribution developed gradually over a period of centuries.

What is the actual distribution of the two constructions and are they in complementary distribution? We will review the two recent major historical and synchronic studies of the question, both of which conclude that, though one predominates in certain environments, the distribution is not discrete and has never been. Gonzalez-Diaz is based mostly on the British National Corpus (henceforth BNC). Table 1, drawn from this work, contains all comparative forms of two-syllable adjectives ending in *–ly, -y,* and *–le* in the BNC. These sets are supposed to prefer the inflectional form, according to the standard descriptions, but the actual data show that they are split almost down the middle and that there is no difference between the three subclasses.

[4] This distribution may have contributed to the general distribution of the inflected and periphrastic forms. Since participles occur only in the periphrastic form and participles are generally more than one syllable long, it is likely that a word more than one syllable long will show the periphrastic form.

[5] This particular example is notable for the periphrastic comparative form of *gode* 'good' rather than the suppletive *beter* 'better'.

| Type | Adjective | Inflectional | Periphrastic |
|---|---|---|---|
| *-ly class* | | 119 (51%) | 115 (49%) |
| | Lonely | 11 | 4 |
| | Lively | 55 | 37 |
| | Lowly | 6 | 7 |
| | Friendly | 47 | 67 |
| *-y class* | | 190 (53%) | 175 (47%) |
| | Shaky | 7 | 1 |
| | Weighty | 19 | 6 |
| | Clumsy | 12 | 4 |
| | Glossy | 7 | 3 |
| | Empty | 11 | 5 |
| | Xosy | 20 | 14 |
| | Scary | 8 | 6 |
| | Angry | 38 | 29 |
| | Risky | 39 | 41 |
| | Sleepy | 3 | 6 |
| | Ready | 23 | 52 |
| | Cloudy | 3 | 8 |
| *Syllabic /l/ class* | | 31 (63%) | 18 (37%) |
| | Noble | 20 | 11 |
| | Feeble | 11 | 7 |
| **TOTAL** | | 340 (53%) | 308 (47%) |

**Table 1: Actual occurrences of comparative forms of adjectives ending in *–ly, -y,* and *–le* in the BNC (data from Gonzalez-Diaz 2008)**

It has often been suggested that the periphrastic option is more likely to be used predicative position, while the inflectional form is more common in attributive position (immediately before a noun). The postpositive position following the noun is fairly rare, occurring only about 3% of the time. Again, Gonzalez-Diaz's findings from the BNC are instructive, as shown in Table 2.

| Position | Inflectional | Periphrastic | Total |
|---|---|---|---|
| Attributive | 152 (45%) | 72 (23%) | 224 (35%) |
| Predicative | 179 (52%) | 224 (73%) | 403 (62%) |
| Postpositive | 9 (3%) | 12 (4%) | 21 (3%) |
| Overall | 340 (100%) | 308 (100%) | 648 (100%) |

**Table 2: Inflectional and periphrastic forms according to syntactic position (data from Gonzalez-Diaz's analysis of the BNC)**

We see that periphrastic forms are more that three times more likely to occur in predicative position than in attributive position. Inflectional forms, however, show no preference for the attributive position, appearing in the predicative position slightly more frequently, though this distribution is likely due to the fact that overall the comparative is used in the predicative position almost twice as often as in the attributive.

One more variable that Gonzalez-Diaz explores is the presence or absence of a *than-phrase*. Overall, only 116 of the 648 examples in the last table are followed by a *than-phrase*. All but 13 of these appear in predicative position and 58% of those are inflected rather than periphrastic. We find the opposite ratio when there is no *than-phrase* in the same predicative position. So overall, the presence of the *than-phrase* appears to favor the use of the inflected form.

How do we make sense of this system? Whatever is going on, it does not resemble complementary distribution. If that were so, we would find the inflectional forms overwhelmingly in attributive position and the periphrastic forms equally overwhelmingly in predicative position. If, instead, we conceive of the inflectional and periphrastic forms as entirely independent entities that happen to compete for the same resource, adjectives, in order to accomplish the same goal, realizing English comparative morphosyntax, then there is no expectation that the two will be in complementary distribution. They are competitors. In some arenas, such as one-syllable words, one will be dominant. In other arenas, such as words of three or more syllables or participles, the other will be dominant. But, as Gonzalez-Diaz has shown in beautiful detail, the competition between the two entities still rages when the food source is two-syllable words. What is remarkable is only that this battle has gone on for so long, at least a millennium, and shows no sign of abating. We see similar prolonged contests between suffixes in English derivational morphology (Lindsay & Aronoff 2013), but not in inflection, where there is usually one overwhelming choice or, if there are several, they sort themselves out into inflectional classes, accompanied by a few lexical exceptions. We have no explanation for why the English comparative remains such a hotly-contested battleground, but the incontestable fact that it does provides striking support for a framework in which competition plays a central role.

In the same year as Gonzalez-Diaz, Martin Hilpert (2008) did an independent logistic regression analysis of comparative forms in the BNC and found a number of additional significant factors, including individual word frequency and the ratio of the comparative to the positive form of any given word, both of which favored the inflected form. Hilpert confined himself to 247 "alternating" adjectives, those that appeared with both inflected and periphrastic forms. He found a number of significant variables of several kinds that had been identified in previous studies as candidates, most of them

phonological and a few syntactic. Almost all the effects he found were gradient.

Hilpert concludes with the following remark:

> The results of the present study suggest that the comparative alternation is governed by functionally motivated factors as well as by formal phonological factors that do not necessarily reflect such a motivation. This may seem a provocative statement to the functional linguistic community, and indeed it is intended to be a strong hypothesis which I hope others will attempt to falsify. (*ibid.*: 413)

Unfortunately, Hilpert does not explain what he means by functionally motivated factors or functional linguistics. He makes it clear, though, that his goal is "to predict the distribution of the two variants with a high degree of accuracy" (p. 412). If he means predicting which of the two will occur in a given specific environment, then it is precisely here that we part company with Hilpert and, we suspect, most linguists. The key term here is *variant*. For us, these are not variants but rather competitors and as such there is no reason to believe that their distribution should be complementary in the way that linguists have come to expect of variants. There may be systematic pressure for the distribution to become complementary but these two have staunchly resisted that pressure for a long time.

Once we frame the discussion in terms of competition, we can shift our focus to the opposite cases from those that interest Hilpert and everyone else, *balanced pairs*, in which the inflected and periphrastic forms of a given adjective are close to equal in their numbers of occurrences in a corpus. Balanced pairs have not received attention in the literature on comparatives because previous researchers have all looked for complementary rather than identical distribution, but they provide clues to the environments in which the two rival strategies are most competitive, which is precisely what our new point of view directs our attention to.

A single balanced pair provides only anecdotal evidence and so we need a way to find many of them. A natural source was the Google Books N-gram Corpus, which contains 500 billion part-of-speech tagged words in over 5 million books published since 1500. We restricted our search to books published in English between 1900 and 2012, in order to control for possible diachronic (as well as orthographic) effects. We found 3551 adjectives used in comparative constructions. In each pair, we compare the number of tokens for each form; the form with the most tokens is the 'winner' for that pair. Looking at the total number of winners for each form, a pattern emerges. We have only begun to explore the data and it is a little dirty, in spite of the part-of-speech tagging. False positives include *phase*, *skid*, *text*, *report*, and *bargain*. We consider here only the 972 pairs in which the token count of each member of the pair meets a threshold of 500, in order to limit the

number of false positives, though this is not completely foolproof. Still, we find comfort in large numbers. Indeed, we find that the ratio of *–er* winners to *more* winners stays relatively constant no matter the threshold: between 1.78 and 2.05 when considering a threshold from 0 to 1000. The difference in tokens between the winner and loser of each pair differed by at least an order of magnitude in 41.2% of cases.

The greatest imbalance tends to appear with monosyllables. They strongly favor *–er*, just as Hilbert found. In our case, *-er* was favored by a ratio of 3.5 in monosyllables; that ratio becomes 1.25 with polysyllabic adjectives. Polysyllables ending in *-y* favor *-er* 220 to 97 (a 2.27 ratio), while all other polysyllabic pairs strongly favor *more*: 105 to 53 (a 1.98 ratio). It is in the latter category where *more* seems to find its niche.

Disyllables not ending in *–y* rarely make the 500 hit threshold but go both ways. The forms that prefer suffixation are mostly trochaic (e.g. *shallow*, *narrow*) but not all trochees prefer suffixation. Even some monosyllables favor periphrasis, e.g. *more prone* > *proner* (difference log 2.667). But the word *prone* appears almost exclusively in predicate position, supporting the importance of this factor. Disyllables ending in *–y* tend to have the most balanced distribution. *Blocky*, *leaky*, *lonely*, *scaly*, *starry*, and *haughty* are among the 10 most balanced. Many monosyllables are also among the most balanced (contradicting most previous assertions): *sour*, *terse*, *lewd*, *sly*, *ripe*, *odd*, *cute*, *stark*, *mute*, *frank*.

In any competition-based account, there are no a priori conditions on what will constitute a viable environment. A viable environment can only be defined a posteriori as one is which something has been found to thrive. Because true competition is never head-to-head, we should expect to find environments where two or more rivals thrive, as revealed here through balanced pairs. Disyllables ending in *–y* constitute an example of such an environment. This is the first linguistic example known to us of two competitors both thriving in a specific environment. More should be out there but we linguists will to change our research methods in order to find them.

Overall, we have identified a number of environments in which one or the other competitor is stronger, and also environments in which the two are close competitors. Inflection is more likely with monosyllables although not with very infrequent or phonologically marked lexemes. Inflection is more likely in attributive position and less likely in predicative position. Both options are found with disyllables ending in *–y* but with clear lexical effects.

Most generally, there is no complementary distribution. This, we believe, is the clue to the mystery of the English comparatives. In language, when two realizations compete for the same resources, one usually emerges as the default and the other either disappears, changes its meaning, or retreats to a

special niche (Brown & Hippisley 2012; Aronoff 2013). That is one major aspect of the organization of languages. Here, for whatever reason, none of these developments has occurred. The result is a standoff in which each party to the battle has a substantial territory, with occasional incursions into the other's feeding ground. We see no resolution on the horizon.

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