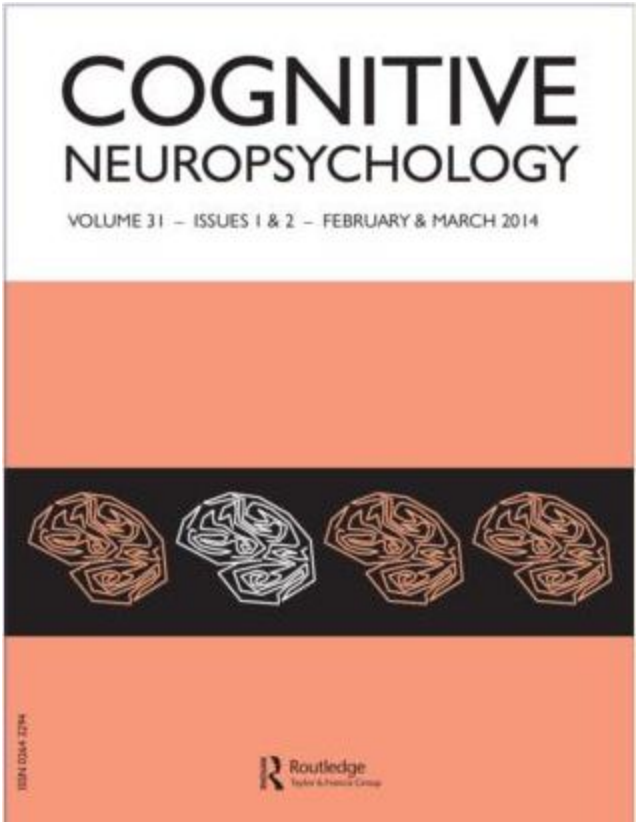

Grammatical number is sufficiently explained by communicative needs: Response to Franzon et al. (2020)

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Franzon, Zanini and Rugani offer a useful clarification of their viewpoint expressed in earlier work. (Franzon et al. 2020, Franson et al. 2018) Their account might be encapsulated as follows: A) Humans have native quantitative capacities that allow for the discrimination of 1, 2, and 3 precisely and B) these capacities directly motivate patterns that are observed in grammatical number worldwide. While the cross-disciplinary experimental support for A is compelling, the typological support for B is lacking. This does not imply that there are no native quantitative capacities, in fact these were directly acknowledged in Everett (2019). Yet the mere existence of such native capacities does not imply a direct ligature between them and the structures of grammatical number in the world's languages, which are more variable than Franzon et al's account would seem to imply even given their acknowledgement that communicative efficiency plays a role. That account relies heavily on the existence of grammatical duals and trials in speech when neither is widely attested and, in fact, trials are restricted primarily to one of 300+ language families. Furthermore, the typological patterns that do exist vis-à-vis grammatical number are readily explainable by other factors related to frequency of use, as noted in Everett (2019).

The conclusions in Everett (2019) followed in part from a reliance on parsimony: If we already have a simple and direct account of a linguistic phenomenon, one based on a straightforward understanding of communicative needs, why posit another explanation, particularly if the support for that explanation is not very strong? In the case at hand: If there is already a well-established usage-based factor that motivates the restrictions on grammatical number types in the world's languages, why postulate a less-established motivation? To be clear, much linguistic research has demonstrated that morphological phenomena evolve out of lexical collocates. In the words of Givón (1971), "Yesterday's syntax is today's morphology." Morphemes derive from words that are frequently used together. (See, e.g. Traugott 2010.) This does not mean that native quantitative thought is irrelevant in explaining their origins, but it does imply that frequency of use of some numerical distinctions can explain the origins of morphological number. To demonstrate that native quantitative thought is the specific cause of the relevant morphological distinctions, say dual vs. trial, we would at least need some compelling evidence for their cross-linguistic commonality. Otherwise they seem just like the many other infrequent and esoteric grammatical distinctions that happen to crop up in some societies, and would appear to be based on discourse pressures that can vary cross-culturally.

While Franzon et al. (2020) claim in their response that "an account based only on cultural grounds does not sufficiently nor economically explain what is observed in one of the most widespread features across natural languages", they have not offered data in support of that pivotal point. As stressed Everett (2019), factors associated with conversational and communicative pressures more directly explain the cross-linguistic distribution of grammatical number types. What do we gain from the proposed nativist account of grammatical number? There is no neat parallel between the grammatical categories of singular, duals, trials, paucals, and plurals, and our native quantitative capacities, since there is a very steep decline in the frequency of singular, dual, and trial markers within and across the world's languages--a decline

we would expect based on the analogous reduction in the conversational utility of the associated semantic distinctions. (Corbett 2000) Franzon and colleagues oversell, in my view, the parallels between our native quantitative thought and the typological patterns in languages. It is the interpretation of these typological patterns that is under question, not whether humans are capable of natively discriminating 1, 2, and 3. The latter can be true and it can still also be true that such native discriminatory powers have no direct relationship to grammar.

As support for the suggestion that grammatical number follows naturally from innate quantitative concepts, Franzon and coauthors note that "morphology encodes systematically and selectively some of all the possible information present in the referential word (such as numerousness) and not other, (such as e.g. colors)". They are correct that no documented languages refer to colors grammatically. Conversely, there are many noun distinctions in speech that are commonly relevant to the world's grammars, including animacy distinctions. (Strickland 2017) But countless grammatical noun classes in a single language family (or even a few) are based on semantic categories whose innate status nobody would seriously entertain. Consider, for instance, Dyirbal's famous noun class containing "women, fire, and dangerous things." (Lakoff 1987) Grammatical encoding in one or a few language families does not represent compelling evidence for a direct relationship to native cognition. Many semantically based morphological categories are more common typologically than the grammatical trial or dual, yet still not particularly common. We would not want to presuppose a direct relationship between such morpheme categories and some native capacity, given their absence in the bulk of the world's languages/cultures, and given the existence of alternate explanations based entirely on our understanding of how morphemes arise out of discourse-based grammaticalization processes. (Traugott 2010)

Franzon and colleagues are undeniably correct that quantities are commonly referred to morphologically, but this does not imply that grammatical number is encoded either systematically or mandatorily across the world's languages. The suggestion of systematicity in grammatical number is difficult to align with the cross-linguistic picture. In Everett (2019) it was stressed that grammatical number is entirely absent in many languages, but its binary absence/presence represents just one aspect of the relevant cross-linguistic variability. Consider this: In a survey of nominal plurality in 291 languages from diverse geographic regions and language families, Haspelmath (2013) observed that 28 exhibited no nominal plurality. (About 10%, as I observed in my paper based on Comrie (2013).) Yet it is not as though the roughly 90% of languages that do utilize a grammatical plural exhibit homogeneity with respect to this feature. For instance, in 75 of the 291 languages with nominal plurality in Haspelmath's survey, plural marking is optional for all referent types. This means that in 103 of 291 languages, over one third of the sample, plural marking is absent or optional for all referents. How is a grammatical feature that is not expressed or only optionally expressed in such a large proportion of languages either "mandatory" or "systematic"? Moreover, in only 133 of the 291 languages in the survey are grammatical plurals always required, irrespective of referent type. There is also a clear regional bias at play: These 133 languages are particularly prevalent in Europe and Africa but much less so in other regions. That geographic bias is hard to align with a proposed direct link between grammatical number and humans' native quantitative capacities.

What we can claim, based on the cross-linguistic data, is that grammatical number marking occurs in the majority of languages but is absent in many others, and that in the former

languages it is often optional and restricted to singular/plural distinctions. That accurate characterization does not support “mandatory” or “systematic” status. Framed another way: You could just as easily look at the typological data on grammatical number and conclude that people have no native biases towards discriminating 2 and 3 precisely. In fact, that might be the more natural interpretation of the linguistic data alone given the rarity of dual and trial morphemes when compared to singulars and plurals, bearing in mind that not even the latter morpheme types approach omnipresence in the world’s languages. To reiterate, this does not mean that humans do not have such native capacities. But it does mean that there is no clear parallel between those capacities and grammar, and hints that the former do not directly motivate the latter.

Note that a key variable at play in the coding of plurality is whether the nominal referents are human or animate. In 40 of the languages in Haspelmath’s survey, number marking is obligatory on human nouns only. In 20 of the languages, it is optional on human nouns only, and in 15 it is optional on animate nouns. The relevance of this variable further supports another point made in Everett (2019): One of the principal motivations for the grammaticalization of number distinctions is the need of speakers to refer to quantities of people, not just any quantities, during conversations. The pronounced frequency with which speakers must refer to one person, or more than one person, helps motivate grammatical singulars and plurals. Less frequently, speakers are required to refer to precisely two or precisely three people. In other words, less common communicative exigencies help to motivate the existence of duals and trials that are, not coincidentally, also much less common in the world’s languages. Duals and trials are also more heavily restricted grammatically, generally occurring in pronouns in the relatively few languages in which they exist. This point, like the patterns evident in Haspelmath’s survey, is unsurprising under an exclusively usage-based interpretation of the etiology of grammatical number. It does not, however, follow from Franzon and colleagues’ account.

There is also a methodological point evident in Frazon et al.’s position that I find discomforting. This issue is generally relevant to cases in which cross-linguistic data are used to support a nativist perspective of a cognitive phenomenon: The inescapability of HARKing (hypothesizing after the results are known). (Kerr 1998) That is, given some basic facts about a particular grammatical phenomenon, say number morphology, it is tempting to then see how those facts match what we know about specific native cognitive capacities, perhaps paying less attention to the ways in which they do not. The problem is that we can often find some way in which the cross-linguistic data support a proposed brain-language parallel, especially if that parallel is sufficiently vague. For instance, we can take the well-known fact that most languages have grammatical number markers and then claim this fact is due to innate cognitive mechanisms. That is understandable, but ideally the reverse approach is preferable: Given what we know about native cognition, we should draft specific testable predictions about less well-known grammatical facts. Arguably, the prediction that more naturally follows from the literature on native quantitative cognition, if it directly motivated grammatical number categories, would be something like this: “most languages should have grammatical singular, dual, and trial markers”. Even allowing for many exceptions given the extreme variability in languages, this prediction is not met.

Franzon and colleagues are of course correct that no described language has morphological number distinctions for quantities like “five”, or “six” or “twenty-one”, etc. But why,

given the well-known functional and usage-based pressures that actually lead to grammaticalization, would a language ever develop such categories? It would be an odd thing to expect even if one had no understanding of humans' native quantitative capacities. The functional need to refer to the distinction between 1 vs. not-1 things is much greater and more common in discourse than the need to refer to the distinction between, say, 6 vs. not-6 things. We need not postulate a specific innate motivation, therefore, for the absence of grammatical markers denoting exactly five things.

It is certainly possible that native quantitative cognition plays some direct role in constraining numerical language. Everett (2019) did not claim that we can conclusively rule out such a role. What was suggested is, simply, that we have no substantive typological evidence for such a role. Finally, I am completely in agreement with Franzon and colleagues that communicative efficiency can explain many linguistic phenomena. In fact, in the case of the particular phenomenon in question, communicative efficiency allows for a straightforward usage-based account of grammatical number. That account does not clearly benefit from nativist explanations of grammar, however, particularly when such explanations ignore the messiness of the cross-linguistic tableau.

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