

Newcastle University e-prints

Date deposited: 7th March 2011

Version of file: Published

Peer Review Status: Peer Reviewed

Citation for published item:

Tallerman M. [If language is a jungle, why are we all cultivating the same plot?](#). *Behavioral and Brain Sciences* 2009, **32**(5), 469–470.

Further information on publisher website:

<http://journals.cambridge.org/action/displayJournal?jid=BBS>

Publishers copyright statement:

Copyright © Cambridge University Press 2009. This paper is published by Cambridge University Press, and is available with access permissions, from the DOI below:

<http://dx.doi.org/10.1017/S0140525X09990598>

Always use the definitive version when citing.

Use Policy:

The full-text may be used and/or reproduced and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not for profit purposes provided that:

- A full bibliographic reference is made to the original source
- A link is made to the metadata record in Newcastle E-prints
- The full text is not changed in any way.

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

**Robinson Library, University of Newcastle upon Tyne, Newcastle upon Tyne. NE1
7RU. Tel. 0191 222 6000**

4a. Optimality Theory (OT), mentioned in the target article as a promising direction, contains the strongest architectural and specific universals currently available within generative grammar. According to OT's architectural universals (Prince & Smolensky 1993/2004; 1997), grammatical computation is optimization over a set of ranked constraints. This strong hypothesis (more than the hypothesis of "parameters") has contributed insight into all levels of grammatical structure from phonology to pragmatics, and has addressed acquisition, processing, and probabilistic variation (the website <http://roa.rutgers.edu> hosts more than 1,000 OT papers). In a particular OT theory, specific universals take the form of a set of constraints (e.g., C1 = "a sentence requires a subject"; C2 = "each word must have an interpretation," etc.) A grammar for a particular language is then a priority ranking of these constraints. For instance, C1 is ranked higher than C2 in the English grammar, so we say "it is raining," although expletive "it" contributes nothing to the meaning; in Italian, the reverse priority relation holds, making the subjectless sentence "piove" optimal – grammatical (Grimshaw & Samek-Lodovici 1998).

4b. OT's cog-universals yield theories of cross-linguistic typology that generally predict the absence of des-universals. Each ranking of a constraint set mechanically predicts the possible existence of a human language. OT therefore provides theories of linguistic typology that aim, as rightly urged by the target article, to grapple with the full spectrum of cross-linguistic variation. OT makes use of a large set of specific universals (i.e., constraints), but because of the resolution of constraint conflict through optimization, these do not translate into des-universals: In the preceding example, C1 is violated in Italian, and C2 in English. Some des-universals can, however, emerge as general properties of the entire typology, and can be falsified by the data (as, perhaps, the existence of onsetless languages). This does not entail abandoning the Generative Linguistics program, nor the OT framework, but rather, revising the theory with an improved set of specific universals.

5. Language is more a biological trait than a cultural construct. The authors do not provide criteria to determine where language is located on the continuum of bio-cultural hybrids. Lenneberg, quoted in the target article, presented four criteria for distinguishing biological traits from cultural phenomena (universality across the species, across time, absence of learning of the trait, rigid developmental schedule) and concluded that oral (but not written) language is a biological trait (Lenneberg 1964). The validity of this argument is ignored by the authors. Ironically, OT is more readily connected to biology than to culture: the architectural-universals of OT are emergent symbolic-level effects of subsymbolic optimization over "soft" constraints in neural networks (Smolensky & Legendre 2006); and Soderstrom et al. (2006) have derived an explicit abstract genome that encodes the growth of neural networks containing connections implementing universal constraints.

If language is a jungle, why are we all cultivating the same plot?

doi:10.1017/S0140525X09990598

Maggie Tallerman

Centre for Research in Linguistics and Language Sciences (CRILLS),
Newcastle University, Newcastle upon Tyne, NE1 7RU, United Kingdom.

maggie.tallerman@ncl.ac.uk

<http://www.ncl.ac.uk/elli/staff/profile/maggie.tallerman>

Abstract: Evans & Levinson (E&L) focus on differences between languages at a superficial level, rather than examining common processes. Their emphasis on trivial details conceals uniform design features and universally shared strategies. Lexical category distinctions between nouns

and verbs are probably universal. Non-local dependencies are a general property of languages, not merely non-configurational languages. Even the latter class exhibits constituency.

Languages exhibit hugely more diverse phenomena than are displayed in well-studied European families. However, citing a collection of exotica does not prove Evans & Levinson's (E&L's) claim that "it's a jungle out there" (sect. 3, para. 17). Examining languages more closely, or at a higher level of abstraction, often reveals critical similarities which superficial descriptions can obscure. Moreover, languages frequently employ distinct grammatical strategies to achieve parallel outcomes; thus, the universal is the end result, not the means of achieving it. Finally, unrelated languages often "choose" the same strategy, despite the lack of a single universal solution, suggesting that homogeneity is widespread.

Lexical category distinctions (sect. 2.2.4). Certainly, there is no invariant set of lexical or functional categories. But it remains to be demonstrated that a language may lack any distinctions between lexical categories, or, more specifically, may lack a noun/verb distinction. E&L note that languages of the Pacific Northwest Coast are frequently claimed to have no noun/verb distinction, illustrating with Straits Salish. Similar claims have been made for a nearby, unrelated family, Southern Wakashan (e.g., Makah, Nuuchahnulth). Here, nouns can function as predicates (i.e., not only arguments) and bear predicative inflections, including tense, aspectual, and person/number marking, and verbs can function as arguments (i.e., not only predicates) and bear nominal inflections, including determiners; (1) and (2) give Nuuchahnulth examples from Swadesh (1939):

1. mamuuk-maa quuʔas-ʔi
work-3s:INDIC man-the
"The man is working."
2. quuʔas-maa mamuuk-ʔi
man-3s:INDIC work-the
"The working one is a man."

Thus, nominal and verbal roots cannot be identified either by distribution or morphology. Additionally, essentially any lexical root in Nuuchahnulth, including (the equivalents of) nouns, adjectives, and quantifiers, can take verbal inflectional morphology, superficially suggesting that all words are predicative, and thus that there is no noun/verb distinction. Immediate evidence against this (Braithwaite 2008) is that verbs only function as arguments when a determiner is present, whereas nouns function as arguments even without a determiner.

Close inspection reveals further behavioral differences between noun and verb roots (Braithwaite 2008). For instance, proper names can take nominal inflections, such as the definite -ʔi, shown on noun and verb stems in (1) and (2), but cannot take the third singular indicative verbal inflection -maa:

3. *Jack-maa
Jack-3s:INDIC
("He is Jack.")

Names, a subclass of nouns, therefore cannot be predicates, clearly distinguishing them from verb roots.

Moreover, although both nominal and verbal predicates can bear possessive markers, nominal predicates with possessive morphemes display a systematic ambiguity in terms of which argument an accompanying person marker is understood to refer to, whereas verbal predicates display no such ambiguity. A similar ambiguity arises in tense marking. Verbal predicates in Nuuchahnulth display a past tense suffix: *-(m)it*:

4. mamuuk-(m)it -(m)ah
work-PAST-1s:INDIC
"I was working."

This suffix also appears on nouns. Even nonpredicative nouns, including names, can bear tense morphology, apparently supporting the lack of a noun/verb distinction:

5. ʔahʔaaʔaʔ qahʕiʔ-ʔa ʔ mista-(m)it
and.then die-EVENTIVE Mista-PAST
“Then (the late) Mista died.”

The past-tense marker *-(m)it* on the name conveys the specific meaning “former”; since names cannot be predicative in Nuuchahnulth, as (3) shows, this is evidently not a nominal predicate. However, past-tense markers also attach to nominal predicates, which are then interpreted in one of two ways: (6) shows a past-tense nominal predicate, exactly parallel to (4), except with a noun root; (7) displays a predicate nominal in which *-(m)it* bears the alternative “former” meaning:

6. quuʔas-(m)it-(m)ah
person-PAST-1s.INDIC
“I was a man.”
7. ʔuunuʔ ʔani ʔuumiik-(m)it-qa
because that whaler-PAST-SUBORDINATE
“because he was a former whaler”

Critically, *-(m)it* on a verbal predicate never exhibits the “former” meaning but is always interpreted simply as past tense. In sum, careful investigation such as that of Braithwaite provides ample evidence for a noun/verb distinction in Wakashan languages, despite superficial appearances.

Constituent structure (sect. 5). As E&L note, “non-configurational” languages display free word order and discontinuous constituents: in (8), from the Australian language Kalkatungu, the underscore shows the components of the ergative subject, and italics show the (nominative) object:

8. Tjipa-vi *tjaa* kunka-(ng)ku *pukutjurrka* lhayi nguwi-nyin-tu.
this-ERG this branch-ERG mouse kill fall-PARTICIPLE-ERG
“The falling branch hit the mouse.” (Blake 2001, p. 419)

E&L state that “the parsing system for English cannot be remotely like the one for such a language” (sect. 2, para. 3), because case-tagging indicates relationships between words, rather than constituency and fixed word order. But, in fact, the parsing system for English is well used to non-local dependencies – that is, to relating items not contiguous in the string. Note the discontinuous constituents in the following examples, and that the dependency even occurs across a clause boundary in the second instance: *A student sauntered in wearing a large fedora; Which girl did you say he gave the books to ___?* Parsing in Kalkatungu (or Latin) therefore utilizes a strategy also found in languages which do have clear constituents. Moreover, completely unrelated non-configurational languages like Kalkatungu and Latin share the same method of signaling relationships between words (case-marking). All this is hardly indicative of the jungle E&L assume; rather, it is evidence that very few solutions are available, and that languages make differential use of options from a small pool of possibilities.

Furthermore, certain non-configurational Australian languages (e.g., Wambaya; Nordlinger 2006) actually have one strict word order requirement, namely that the auxiliary is in second position, thus either second word, (9), or second constituent, (10) (Hale 1973 outlines the parallel requirement in Warlpiri):

9. Nganki ngiy-a lurrqbanyi wardangarringa-ni alaji
this.ERG 3SF-PAST grab moon-ERG boy
“The moon grabbed (her) child.”

10. Naniyawulu nagawulu baraj-bulu wurlu-n duwa.
that.DUAL.NOM female.DUAL.NOM old.person-DUAL.(NOM) 3.DUAL-PROG get.up
“Those two old women are getting up.”

Crucially, the auxiliary cannot appear as, say, third word within a four-word noun phrase. Contra E&L, this demonstrates the psychological reality of word order and of constituent structure in such languages. Moreover, while by no means universal, second-position phenomena occur widely (e.g., Sanskrit, Celtic, Germanic), demonstrating remarkable formal homogeneity cross-linguistically.

Finally, E&L claim linguistic diversity is not characterized by “selection from a finite set of types” (sect. 8, para 9, their thesis 3). Case-encoding systems are few indeed, and familiar strategies (such as ergativity) even occur in language isolates such as Basque.

Universal grammar is dead

doi:10.1017/S0140525X09990744

Michael Tomasello

Max Planck Institute for Evolutionary Anthropology, D-04103 Leipzig, Germany.

tomas@eva.mpg.de

Abstract: The idea of a biologically evolved, universal grammar with linguistic content is a myth, perpetuated by three spurious explanatory strategies of generative linguists. To make progress in understanding human linguistic competence, cognitive scientists must abandon the idea of an innate universal grammar and instead try to build theories that explain both linguistic universals and diversity and how they emerge.

Universal grammar is, and has been for some time, a completely empty concept. Ask yourself: what exactly is in universal grammar? Oh, you don’t know – but you are sure that the experts (generative linguists) do. Wrong; they don’t. And not only that, they have no method for finding out. If there is a method, it would be looking carefully at all the world’s thousands of languages to discern universals. But that is what linguistic typologists have been doing for the past several decades, and, as Evans & Levinson (E&L) report, they find no universal grammar.

I am told that a number of supporters of universal grammar will be writing commentaries on this article. Though I have not seen them, here is what is certain. You will not be seeing arguments of the following type: I have systematically looked at a well-chosen sample of the world’s languages, and I have discerned the following universals . . . And you will not even be seeing specific hypotheses about what we might find in universal grammar if we followed such a procedure. What you will be seeing are in-principle arguments about why there have to be constraints, how there is a poverty of the stimulus, and other arguments that are basically continuations of Chomsky’s original attack on behaviorism; to wit, that the mind is not a blank slate and language learning is not rat-like conditioning. Granted, behaviorism cannot account for language. But modern cognitive scientists do not assume that the mind is a blank slate, and they work with much more powerful, cognitively based forms of learning such as categorization, analogy, statistical learning, and intention-reading. The in-principle arguments against the sufficiency of “learning” to account for language acquisition (without a universal grammar) assume a long-gone theoretical adversary.

Given all of the data that E&L cite, how could anyone maintain the notion of a universal grammar with linguistic content? Traditionally, there have been three basic strategies. First, just as we may force English grammar into the Procrustean bed of Latin grammar – that is how I was taught the structure of English in grade school – the grammars of the world’s so-called exotic