

★ FORUM ★

Response to Balari & Lorenzo

Derek Bickerton

Adam's Tongue, as its title surely indicates, is about the transition from the alingual state that characterizes all other species to something that might qualify as a genuine precursor of language, thereby opening the road for (*not, pace* Balari & Lorenzo—henceforth B&L—making “inevitable”) the subsequent development of true language. It is thus illogical to complain, as B&L do, that it lacks explanations of “agreement, questions, anaphora” and similar components of full human language; inevitably, given the book’s scope, such features of later development are touched on briefly, if at all. The book’s secondary goal is to explain why human cognition as well as human communication differs so radically from that of other species.

B&L do not even try to deal with these issues. At least they are embarrassed by their omission of the first, and feel obliged to excuse it by claiming that the debate over the initial emergence of language is now “sterile” and too ideological to be pursued further (they fail to note the irony of proposing, in a biolinguistic journal, an embargo on the most crucial issue in biolinguistics). With regard to the second issue, they simply ignore it. Later I will suggest a possible motivation for this.

Adam's Tongue (Bickerton 2009a, sometimes abbreviated as AT, as used by B&L) is neither a textbook of evolutionary biology nor a primer of niche construction theory (NCT); it merely utilizes some concepts from these areas in its arguments. Yet amazingly it is on such incidental uses of biology and NCT that B&L almost exclusively focus. Granted, if I had really gone wrong here, the book’s major contentions would be seriously flawed. But in fact it’s B&L who are at fault. What they claim I say is far from what I actually say—sometimes even its exact opposite. And when they do quote me correctly, it turns out that I’m saying exactly what they’re saying.

One claim they make is directly refuted by one of the sentence they themselves cite. In section 3, speaking of the directional arrow in evolutionary processes, they state “Bickerton sees a single causal arrow pointing in one direction only, namely from the outside to the inside” (p. 118). Just a couple of pages later, at the beginning of section 4, they quote my actual words (AT: 99–100): “So a feedback process begins, a two-way street in which the animal is developing the niche and the niche is developing the animal” (p. 120).

Thanks to the kindness of the editors, I have read the response by Balari & Lorenzo. Given that the latter fail to react to the substantive points I made, but instead continue to attribute to me views I have never held, I see no purpose in further comment on my part.



Other claims are simply bizarre, such as that according to me, “given some appropriate genetic fiddling, appropriate environmental conditions could turn ants and bees [...] into fully-fledged linguistic beings (if they aren’t already, see AT: 136–137)” (p. 119). In fact, all these two pages do is conclude, after a purely factual description of certain ant behaviors involving combinations of signals, that “this isn’t quite like joining words. The shaking and the chemical trail may be meaningless in themselves, so it’s more like the joining together of in-themselves-meaningless speech sounds that we do to make words. But it’s still concatenation of a kind; a kind that, primitive as it is, is found seldom if at all among the behaviors of other species”.

Not a word, note, about the potentiality of ants to become “full-fledged linguistic beings”, let alone their already being such. Indeed, if B&L had read a few pages further they would have seen that I explicitly reject any notion of ant or bee communication as even remotely ancestral to language: “How could things like these possibly be precursors of language? They’re not [...]. The question is not so much why our species got [language] and no other did, it’s why *any* species got it at all” [AT: 144; original emphasis—DB]. So much for my alleged belief that “some appropriate genetic fiddling” could equip ants or any other species with language.

B&L also employ the Damning Context-Free Quote. Example: “It was, after all, the development of powered flight that eventually caused genes normally devoted to building front legs to express themselves, among birds and bats, in the form of wings” (AT: 131). Nothing in B&L’s (p. 122) deconstruction of this piece (“So, first came flight and only thereafter genes started making wings”) suggests that this sentence occurs, not as part of any general description of development, but in parentheses, in the middle of a paragraph devoted to an entirely different topic, where its sole function is to remind readers of a connection with two other topics, deep homology and flight, that have already been fully discussed elsewhere (AT: 129–130 and 9, respectively). In those discussions, readers will find all the details of gradualness and reciprocal influence in development that B&L accuse me of misunderstanding or ignoring.

On other occasions, B&L state my views, pour scorn on them, then express similar views themselves. This strategy is so remarkable that it demands at least two specific examples.

Example 1: They respond to my claim that behavioral innovations drive brain re-wiring, rather than vice versa, with “Well, *this* is plainly false. Brains do rewire themselves when they get bigger”. And what makes them get bigger? B&L (p. 120): “[S]ome of these episodes of brain growth correlate with behavioral innovations”.

Example 2: They describe my treatment of NCT as “a serious perversion” of that theory. But here, side by side, are our respective summaries of NCT (see if you can spot the difference):

[A] constructive, dialectical model in which genes, organism and environment are an integral part of the same cyclical developmental process, where organism and environment co-construct each other in a never-ending process. (B&L: 124)

[A]nimals themselves modify the environments they live in, and these modified environments, in turn, select for further genetic variations in the animal. So a feedback process begins, a two-way street in which the animal is developing the niche and the niche is developing the animal. (AT: 99)

The only difference I can see is that mine is fourteen words longer but a whole lot easier to understand. What's almost unbelievable is that B&L themselves have already cited the second half of it, not as a summary of NCT, but with the comment "this looks like garden-variety adaptationism" (p. 121). How can they accuse me of perverting a theory if they can't even recognize that theory when they see it?

Heinous as they are, B&L's sins of commission pale before their sins of omission. I have already referred to their refusal to address one of the two core issues of the book—how language got off the ground (to add insult to injury, in their conclusion they dismiss this issue as merely "one of the many secondary factors" (p.124), though it occupies the first two-thirds of the book and should be central to any discussion of language evolution.) I shall therefore confine myself to the second issue, the role of language in forming human cognition.

I argue that, instead of enhanced cognition giving rise to language, as so many believe, language (from its very earliest manifestations) gave rise to enhanced cognition. In addition, I propose specific mechanisms by which this might have come about. Those proposals may be wildly wrong, but you wouldn't learn that from B&L's review. Nor would you know that the book contains extensive criticism of a currently popular approach to language origins that places those origins in the mind rather than in communication (Hauser *et al.* 2002)—an approach to which, though they are somewhat coy about it, B&L obviously subscribe. Rather than answer these criticisms (to which one and a half out of a dozen chapters are devoted) B&L prefer to pretend that they don't exist. And I suspect I know why.

The non-communicative approach holds the following beliefs (fully documented in *Adam's Tongue*):

- (A) The key development in language, perhaps the only one unique to it, was recursion, created by "Merge".
- (B) Before language was "externalized", Merge created recursive structures in the mind, linking concepts.
- (C) The concepts that Merge linked had to differ from animal concepts in that they did not, like the latter, refer to "mind-independent entities" (i.e. directly, to real-world objects), but instead were symbolic in nature, representing abstract categories (Chomsky 2010).

In other words, before recursion could operate (therefore, before language could start), a new type of concept had to emerge. Where did such concepts come from? How and why did they form? In *Adam's Tongue* I try to answer such questions. My answers may not be correct, but they are at least answers.

The non-communicative approach hasn't even got that far. It has no answers. Supporters of this approach cannot afford even to look at the language-cognition interface, since doing so would force them to admit this gaping hole in their theory, and probably also to concede that, contra (A), there may be at least two components to the Faculty of Language (Narrow)—symbolic concepts as well as recursion. But, as *Adam's Tongue* also shows, recursion itself is dubious as a uniquely language-devoted function. Recursion can be defined in two ways; basic assumptions of Minimalism show that the stronger is simply an artifact of earlier generative formulations, while the weaker would hold for a wide variety of non-linguistic behaviors by both humans and other animals (see also Bickerton 2009b). But again, not a word about any of this from B&L.

The motives behind this review should by now be apparent; likewise its choice of targets. B&L are doubtless familiar with the nest-defense strategies of golden plovers (Byrkjedal 1989). When its eggs or nestlings are at risk from an approaching predator, this plover tries to draw the predator away by elaborate, albeit bogus behaviors (feigning wing injury, limping along on the ground, etc.), B&L's review has a similar distracting function. Finding their cherished ideas menaced by the central arguments of *Adam's Tongue*, they avoid any confrontation with those arguments (just as the plover avoids any confrontation with the predator) and instead seek to draw attention away from the vulnerable target (just as the plover does) by moving the discourse elsewhere, even though, in order to do so, they have to resort to behaviors as deceptive as the plover's dragging wing.

Ironically, B&L's negative review serves to support the core arguments of *Adam's Tongue* more convincingly than the most favorable review could have done. The latter might merely reflect the reviewer's bias. But B&L's review can lead to only one conclusion. The book's central claims are that language emerged from certain specific communicative uses, and that language created human cognition, rather than vice versa. If critics as determinedly hostile as B&L did not even try to refute these claims, it can only be because they were unable to do so.

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Derek Bickerton
University of Hawai'i Mānoa
Department of Linguistics
569 Moore Hall
1890 East-West Road
Honolulu, HI 96822
USA
derbick@hawaii.rr.com