

Nativism: In Defense of the Representational Interpretation

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The nativist view of language holds that the principal foundation of linguistic competence is an innate faculty of linguistic cognition. In this paper, close scrutiny is given to nativism's fundamental commitments in the area of metaphysics. In the course of this exploration it is argued that any minimally defensible variety of nativism is, for better or worse, committed to two theses: linguistic competence is grounded in a faculty of linguistic cognition that is (i) embodied and (ii) whose operating rules are represented in the neurophysiology of human language users.

Key words: nativism, linguistic competence, empiricism, embodiment, representation, dispositionalism

1. *Introduction*

It has long been recognized that in ordinary circumstances all humans eventually learn to speak and understand a language. A question of considerable importance concerns the explanation of this fact: what accounts for the virtually universal human capacity for linguistic competence?

Two main answers to this question have emerged. The first answer, currently the dominant position, is nativism (also dubbed 'psychologism' and 'conceptualism' in some circles). Nativism, launched by Chomsky in the mid-20th century (1959, 1975, 1980, 1986) and refined by a host of philosophers, linguists, cognitive scientists and psychologists including Fodor (1975, 1981), Higginbotham (1983, 1998), Jackendoff (1990, 1997) and Pinker (1997, 2002), is internalist and psychologistic in orientation. On nativism, the primary basis of linguistic competence is an innate language faculty. More

specifically, for the nativist, the foundation of linguistic competence is a domain-specific faculty of linguistic cognition or what Chomsky calls a ‘human language acquisition device’ (LAD).¹

The second main answer is empiricism (also dubbed ‘associationism’ and ‘behaviorism’ in some circles). Empiricism, ushered in by Saussure and Bloomfield of the structuralist school in linguistics (European and American structuralism respectively), was the prevailing view of linguistic competence from the late 19th century up until the Chomskyan revolution in linguistics. Empiricism received a quasi revival in the latter 20th century primarily on the basis of the influential critiques advanced by Quine (1969), Putnam (1967, 1980) and Goodman (1967, 1969), and later Soames (1984, 1989), Katz (1996), Cowie (1999) and Devitt (1989, 2003, 2006a, 2006b) of Chomsky’s poverty of stimulus and universal grammar arguments (1965, 1967).² On empiricism, the primary basis of linguistic competence is experience.³ The basic line of reasoning is that for any linguistic subject S, S’s ability to learn, understand and speak a language is explained in large part by the primary linguistic data: the observational evidence at S’s disposal.

¹ Nativism is here characterized along the lines recently proposed by Cowie (1999, pp. 154-156). It is distinguished exclusively in terms of its commitment to the theses of domain-specificity (“learning a language requires that the learner’s thoughts about language be constrained by principles specific to the linguistic domain”) and innateness (“the constraints on learners’ thoughts during language learning are in some manner innately encoded”). The virtue of this characterization is that it is agnostic on the controversial issues of representationalism (whether “...language mastery and acquisition requires the postulation of contentful mental states and processes involving their manipulation”) and universal grammar (whether... “the constraints and principles specified in (DS) as being required for language learning are to be identified with the principles of the Universal Grammar”).

² Although the latter four commentators can hardly be described as empiricists.

³ ‘Primary’ since the empiricist doesn’t deny humans might have innate linguistic abilities or propensities — virtually all empiricists concede this possibility. The distinguishing feature of the empiricist position is its refusal to acknowledge an innate faculty of linguistic cognition as the primary basis of linguistic competence (more on this in §§3 and 4).

While nativism is currently the received view of language, reviews continue to pour in.⁴ In this paper, focus is given to the metaphysics of the nativist view of language. In the course of this exploration I argue that any minimally defensible variety of nativism is, for better or worse, committed to two theses: the LADs underpinning linguistic competence are (i) *embodied* and (ii) have operating rules that are neurophysiologically *represented* in human language users. I address the first thesis in §2 and the second thesis in §3. In §§4 and 5 I address two strands of a standard rejoinder to the *embodiment plus representation* interpretation of nativism.

2. *The Bare Embodiment Thesis*

While the metaphysical exhuming of nativism is doubtless an ambitious enterprise, certain presumptions appear fail-safe. cursory philosophical reflection reveals that, at a minimum, nativism incurs a rudimentary ontological commitment: LADs (and their operating rules) are *embodied* (on this issue, see Chomsky (1991) and Devitt (2003 & 2006a)). For the prototypical proponent of nativism LADs must have a physical realization. This is to say that for the nativist *qua* physicalist LADs must be neurophysiologically realized, they must somehow be genetically hardwired into us,⁵

⁴ Notable recent contributions to the philosophical literature on linguistic nativism include Barber's valuable anthology (2003), Cowie's reassessment of nativism in general, Devitt's polemic against psychologizing linguistics (2006a), and recent volumes of the *Croatian Journal of Philosophy* (2006, Volume 6 (18), 2007, Volume 7 (21), 2008, Volume 8 (22) and (23) devoted to the philosophy of linguistics and recent claims defended by Devitt.

⁵ The standard nativist embodiment proposal is that LADs and their operating rules are located in a language module, a specific region of the brain separate from the so-called central cognitive processing module, a region of the brain that is exclusively responsible for language comprehension and production (on this issue, see Fodor (1975) and Pinker (2002)). This is by no means, though, the only proposal. In principle, the embodiment thesis doesn't imply the LAD supervenes on a brain module (or even a set of brain modules) — it might supervene, more widely, on the body as a whole.

since physicalism avers that all real phenomena, including psychological phenomena, are physical phenomena, and accordingly must be physically tokened.

Needless to say, the nativist can escape commitment to the embodiment thesis by rejecting physicalism in favor of dualism. Unsurprisingly, though, this is a maneuver nativists seem uneager to invoke, a maneuver currently dismissed by the vast majority of self-proclaimed nativists including Chomsky, Fodor, Jackendoff, Higginbotham and Pinker.⁶ Since dualism, according to a steadily emerging consensus, is vulnerable to irremediable flaws, the reasonable view seems to be that embracing dualism in order to evade the embodiment thesis brings with it a cost too heavy to bear. Whatever the case may be regarding the merits of the dualist view of LADs, no attempt is made here to confront this marginal faction in the philosophy of linguistics.

3. *The Embodiment Plus Representation Thesis*

The question of greater import vis-à-vis the metaphysics of nativism, one that has been a primary occupation of philosophical linguistics for several decades, is whether nativism incurs any ontological commitments beyond the firmly entrenched embodiment thesis. Traditionally, nativism has been deemed committed not only to the embodiment thesis but to some kind of representational thesis as well: nativism is committed to the *embodiment plus representation* thesis. Among others, Chomsky (1965, 1975), Fodor (2000) and Rey (2003) have endorsed some form of this thesis. Chomsky expresses the representational component of the *embodiment plus representation* thesis as follows:

⁶ Though it should be borne in mind that Chomsky has staunchly renounced physicalism/dualism dialectic in the light of his skepticism concerning the possibility of delimiting the domain of the physical (e.g., 1996, pp. 194-195).

A child who is capable of language learning must have: (i) a technique for *representing* input signals; (ii) a way of representing the structural information *about* these signals ... (1965, p. 30)

And later,

The construction of a grammar ... by a linguist is in some respects analogous to the acquisition of language by a child ... The child constructs a *mental representation of the grammar of the language*... (1975, p. 11)⁷

The long-standing debate over the traditional *embodiment plus representation* interpretation of nativism suggests this interpretation is not easily dismissed, despite its relatively poor reception at present. A superficial inspection of nativism's psycholinguistic framework unearths a possible reason for the resilience of the *embodiment plus representation* interpretation of nativism in the form of an appealing line of argument concerning the epistemic function of LADs.

On the epistemological argument it is proclaimed that since LADs are faculties of linguistic cognition they must operate by transmitting signals that are what Chomsky calls 'cognizable', where "“cognizing” is implicit or tacit knowledge ... that has the structure and character of knowledge, but may be and in the interesting cases is inaccessible to consciousness (1980, pp. 70)”⁸. The observation looks unassailable on the face of it: LADs must supply some type of cognitive input to linguistically competent human subjects, the kind of input the grasp of which is required for implicit knowledge of

⁷ Of course the first of these quotes concerns the representation of the syntactic properties of linguistic structures, while the second concerns the representation of the principles of a grammar (an internal grammar for the child and a universal grammar for the linguist).

⁸ It is a matter of considerable contention what kind of cognitive state a linguistically competent human subject is supposed to bear towards the grammar of a language (on this issue, see Knowles, 2000, Dwyer, 1999, Chomsky, 1990, Evans, 1981, Davies, 1987 & 1989, and Peacocke, 1986). Is it one of belief, justified belief, justified true belief, knowledge, etc.? If it is knowledge, is it propositional knowledge, non-propositional knowledge, explicit knowledge, implicit knowledge, etc.? I remain essentially neutral on the question of our cognitive relation to the grammar of a language just as Chomsky effectively does since it does not impinge on the position developed in this paper.

a language. This is often taken to be an irresistible *cognitivist* insight: absent supplying cognitive inputs LADs could not generate the linguistic outputs manifestation of which constitutes competence in a language.⁹

But, it is frequently maintained, for the LAD's operating rules — the rules of the universal grammar — to be cognizable they need to be represented. In simple terms, the cognitive states operative in linguistic competence must be intentional. In particular, to sharpen the point, cognition of a grammatical rule R by a linguistic subject S putatively implies S's cognition *of* R or *directed towards* R, where R a fortiori is transmitted or represented to S. More specifically, insofar as S's cognition of R involves a propositional attitude, R must be represented to S at least in the sense that R is the kind of thing that can play an explanatory role in propositional attitude ascriptions. This is the type of linguistic cognition → representation rationale that Fodor has repeatedly canvassed in support of the *embodiment plus representation* interpretation of the nativist view of language (1975, 1981, 2001). The definition of 'representation' Fodor employs is akin to that we are working with (2001, pp. 4-5): "What is innately represented should constitute a bona fide object of propositional attitudes; ... it must be the sort of thing that can be the value of a propositional variable in such schemas as 'x knows (/believes/cognizes) that p'".¹⁰

⁹ The cognitivist doctrine in the philosophy of linguistics articulates the fundamental epistemological credo of linguistic nativism, i.e., that there is some sense in which linguistically competent human subjects understand, cognize or know the language they speak (or more specifically, the grammar of the language they speak). Naturally, cognitivism is at odds with any anti-psychologistic position such as Devitt's (2003, 2006a, and 2006b) according to which a linguistically competent human subject can be fundamentally ignorant of the language she speaks.

¹⁰ Devitt exploits a similar de facto definition of representation in his recent work (2006a, p. 273). While Devitt agrees that propositional cognition involves representation, since he endorses the representational theory of mind, he argues that linguistic cognition is not a species of propositional cognition and so does not involve representation. More on Devitt's view to follow.

This argument for the traditional interpretation of nativism recruits a line of reasoning the fidelity of which Chomsky, Fodor, Rey and a throng of other nativists *and* empiricists have recognized at some time or another. A common explanation for its prima facie appeal is that it exploits what looks to be a fundamental fact about cognition, i.e., cognition implies representation.¹¹ In the terms of Fodor's representational theory of mind, there can be 'no cognition without representation'.¹² If one grants a cognition → representation thesis of this form, it would seem the rules by which LADs operate, like all other objects of cognition, must not only be embodied but represented in the neurophysiology of linguistic subjects. As we will see, a considerable measure of recent opposition to the traditional representational interpretation of nativism has emerged in response to this way of viewing the force of such an interpretation.

4. *First Reply*

To be sure, there has been much resistance to the traditional interpretation of nativism both within and outside of the nativist camp. With few exceptions, opposition to the traditional interpretation of nativism issues in large part from an uncompromising aversion to intentionalist theorizing in the area of linguistics. Among others, Soames (1984), Katz (1996) and recently Chomsky (1996, 2000),¹³ in retreating from his earlier

¹¹ In §4 I take aim at this explanation of the force of the Chomskyan/Fodorian line of reasoning supporting the representational interpretation of nativism.

¹² Of course, for Fodor this thesis applies only to higher order cognitive processes. The discussion to follow will focus on a broader version of the thesis according to which all cognition requires representation since misgivings about this thesis seems to constitute the core of much recent opposition to the representational construal of nativism.

¹³ Chomsky, in his transition to the so-called minimalist view about the psychological reality of internal grammars, renounces the representational construal of nativism: "We can be reasonably confident that 'mentalist talk' will find no place in attempts to describe and explain the world..." (1996, p. 405); and

position, call into question representational construals of nativism owing to their *explicitly* intentionalist explanation of linguistic competence.¹⁴

Within the broad anti-intentionalist school of opposition to the traditional interpretation of nativism, specific lines of argument continue to surface. Of particular significance is an argument that would seem to embody the anti-intentionalist's core concern with the representational construal of nativism. Advanced by both nativists and empiricists, (e.g., Chomsky (2000) and McGilvray (2000), and more obliquely Evans (1981) Davies (1987) and Collins (2004)), this argument appears to take aim at what is considered to be the principal rationale for intentional representational interpretations of nativism: the cognition → representation thesis (CR).

While Devitt does not directly target the representational interpretation of nativism, his current line of argument against CR (2003, pp. 109ff and 2006a, pp. 87-121) represents the kind of opposition to this interpretation that has come to define anti-intentionalist resistance to representational forms of nativism.¹⁵ In *Ignorance of Language*, Devitt argues that, contra some proponents of the representational theory of mind, cognition does not imply representation: it is possible for an entity, organism or

later, "If 'cognitive science' is taken to be concerned with intentional attribution, it may turn out to be an interesting pursuit (as literature is), but is not likely to provide explanatory theory or to be integrated into the natural sciences" (2000, pp. 22-3).

¹⁴ Perhaps unsurprisingly, the main concern with intentionalist linguistic theorizing of this type is that it cannot be genuinely explanatory or integrated into a naturalistic worldview. In the spirit of this and other concerns, Devitt has recently urged the linguistic theorist to invoke an Ockhamian principle of parsimony dubbed 'Pylyshyn's Razor' according to which "representations are not to be multiplied beyond necessity" (2006a, p. 107). This closely resembles Chomsky's recent view of the role of intentional idiom in linguistic theory (Cf., the previous footnote).

¹⁵ To my knowledge, Devitt has nowhere explicitly taken aim at the representational interpretation of nativism though he has repeatedly attempted to refute its representational thesis. Devitt's ambitious forays into the philosophy of linguistics seem to have two primary aims (especially of late): (1) to argue against the thesis that linguistics is a branch of psychology and the related cognitivist view that humans understand/cognize/know the language(s) they speak (according to Devitt, humans can be completely ignorant of the language(s) they speak), and (2) to argue in support of an alternative view according to which the defining feature of linguistic cognition and competence is our ability to grasp the nature of a distinctively linguistic reality — "a reality of symbols made up of sounds, inscriptions, and the like, that really have linguistic properties" (2006b, p. 571).

system to understand or follow a rule by simply embodying the rule without the rule being represented. Such an argument is intended, at least indirectly, to lend support to Devitt's fourth tentative proposal in *Ignorance of Language* (p. 276):

The speedy automatic language processes arising wholly, or at least partly, from linguistic competence are fairly brute-causal associationist processes that do not operate on metalinguistic representations of the syntactic and semantic properties of linguistic expressions.

To this end, Devitt proposes a variety of purported counter-examples to CR including the following two (paraphrased from his 2006a, pp. 48-9):

- (BB) The bumblebee, inasmuch as it performs a dance involving a variety of intricate physical maneuvers intended to relay the location of food to members of its species, appears to evince cognition in the form of rule governed behaviour. But while the bumblebee's behaviour is governed by the rules of its dance, such rules are not represented in the bumblebee's neurophysiology. The bumblebee seems, then, to be an example of an organism that understands the rules of its dance without having corresponding representations of them.
- (EV) In the phenomenon of 'early vision', the visual system accurately recovers a 3-D layout from a 2-D image.¹⁶ It seems to do this by behaving as though it were making certain assumptions about the physical world. These are said to include (quoted from Pylyshyn, 1991, p. 237): "that most of an image consists of light reflected from surfaces, that the distance of the surfaces from the perceiver varies gradually in most of the image, that certain kinds of discontinuous visual features of the image usually arise from physical discontinuities on the surface of smooth rigid 3-D objects..." But while the visual system has a cognitive capacity to function within these rule-governed constraints, it does not exploit representations

¹⁶ Devitt borrows this example from Pylyshyn (1991, p. 237ff).

of the rules. The visual system seems, then, be an example of a system that performs cognitive operations minus representations of the rules it is guided by.

The challenge in confronting the objection to intentional representational interpretations of nativism stemming from this influential line of argument is to examine and evaluate the import of Devitt's putative counter-examples to CR. In brief, my general approach will be to provisionally concede (i) that the proposed counter-examples to CR are legitimate but argue that (ii) they do not undermine the representational interpretation of nativism.

For starters, a hasty reply to the standard anti-intentionalist line of argument needs to be dismissed. A detractor of this argument might claim that in (BB) and (EV) the entities featured do not in fact satisfy the antecedent of the cognition→ representation thesis. The fact that bumblebees and human visual systems follow rules is certainly an indication of their ability to behave *as if* they understand the rules, it might be claimed, but to assume behaving in accordance with rules and as if one understands them is tantamount to understanding the rules is a kind of category mistake. Devitt in effect concedes this later claim in his discussion of the processing rules governing the operation of certain systems such as mechanical calculators (2006a, pp. 45 & 48).

The indisputable problem with this line of argument is that at issue is just *whether* rule governed behaviour can in certain instances be constitutive of cognition. It is precisely Devitt's contention that it can since certain entities can be viewed as exhibiting cognition in the form of rule governed behaviour, where the rules are simply embodied without being represented. To argue, then, that an entity cannot exhibit cognition from the fact it lacks an intentional state to represent the object(s) of its cognition fails to

confront the question at hand. It does not address the possibility that cognition is a brute-causal process wherein an entity embodies rules governing its behaviour without representations of these rules being applied or ‘read’ in processing (Devitt (2006a), p. 46).

In point of fact, in my view, Devitt erects a strong preliminary case against CR (although I don’t want to rest anything on this claim), and in consequence appears to mitigate its potential to buttress the representational interpretation of nativism. Contra recent speculation, though, the representational interpretation of nativism is not founded on CR but a weaker thesis. This thesis is concerned not with cognition per se but *innate* cognition: cognition deriving from humans’ innate cognitive endowment must be representational. In particular, it is compelling that a congenital faculty of cognition cannot supply cognitive inputs with *propositional content* absent a mode through which the inputs are represented.¹⁷

Consider the application of this point to LADs. Conceding the nativist credo that LADs are the principal basis of linguistic competence (on the grounds that the primary linguistic data radically underdetermine our ability to learn, understand and speak languages), LADs cannot operate via bare embodiment of linguistic processing rules. If Chomskyan poverty of stimulus and universal grammar arguments are correct that the primary linguistic data (in conjunction with innate behavioral dispositions vis-à-vis language) cannot support linguistic competence, what is hardwired into us looks ill-suited to pick up the explanatory slack.

¹⁷ Again, my definition of ‘representation’ in the case is the same as Fodor’s abstract definition: the kind of thing that can play an explanatory role in propositional attitude ascriptions.

This view of innate cognition is supported by an intuition demanding careful scrutiny: i.e., the brain (or our body as a whole) qua material object cannot engender cognition of propositional objects. It is a tempting notion that the brain, as a physical organ, cannot be the sole source of humans' capacity for propositional cognition.¹⁸ While the brain qua material object can *inter alia* generate behavioral propensities, it is difficult to swallow that it can deliver the kind of uptake supposed by nativists to play a foundational role in linguistic competence: cognitive input signals with propositional content.

At the very least, there is something mystifying about the view that embodied but unrepresented rules can bear determinate propositional content. On first blush, a rule identifiable with a brain state (under its physical description) cannot possess the kind of content that can feature in propositional attitudes or is expressible in sentences. But even if it is possible for information in the form of rules with determinate propositional content to be encapsulated in the brain, what seems unintelligible is that the brute mechanical operations of the brain can somehow pass on this kind of information to a cognizer. As Devitt expresses the conundrum for a non-representational nativist (2006b, p.593), it is difficult to envisage anything like "... a relatively direct cognitive path from the embodied rules of the language to beliefs about expressions of that language, a path that does not go via central-processor *reflection* on the data" (my emphasis).

The suggestion here is that an LAD cannot ground linguistic cognition by the bare embodiment of its operating rules since the brain, qua material object, cannot support the

¹⁸ As should be evident, 'propositional cognition' in this context refers to the cognition of propositional objects, not, as is sometimes the case, to a form of cognition that underlies what is referred to as the capacity of 'verbalizability': i.e., the capacity to supply the propositional content of the object of one's cognition.

propositional character of linguistic cognition. For the LAD to ground linguistic cognition there must be a way in which its operating rules are represented to human language users. More specifically, my proposal is that at least two conditions must be met for an LAD to underpin linguistic cognition: (i) the LAD must be physically realized, and (ii) some module, integrated set of modules or massive array of modules must be the intermediary through which the LAD transmits cognitive input signals with propositional content.¹⁹ If this way of thinking is correct the *bare embodiment* interpretation of the nativist view of language is patently spurious.

5. *Second Reply*

A second albeit related rejoinder to the representational interpretation of nativism is likely to be urged by our opponent. It might be argued that the propositional cognition underlying linguistic competence can be ascribed to the bare embodiment of the LAD's operating rules provided a similar explanation for innate human propositional cognition can be given as that for innate non-human cognition (e.g., that of bumblebees and human visual systems).²⁰ Yet it cannot be ruled out that a brute-causal associationist explanation might be available for innate human propositional cognition — i.e., as propensities for behaviour genetically hardwired into us as stimulus-response associations and triggered and rewired by various kinds of experience.

¹⁹ Setting aside exploration of its details, the module(s) through which LADs transmit cognitive input signals must, assuming a broadly physicalist worldview, be something like a higher order property of the brain in particular or our neurophysiology in general.

²⁰ This of course is to assume that the bumblebees and human visual systems exhibit a form of cognition, and moreover, a form of cognition that can be innately specified in the relevant sense.

But while innate human propositional cognition might be explicable in fairly brute-causal associationist terms, this does not seem to encroach on our position since associationist explanations of innate human propositional cognition cannot furnish support for a particular interpretation (the *bare embodiment* interpretation) of a *nativist* view of language. Instead, turning associationist in this case has the problematic consequence that the propositional cognition underlying our linguistic competence, like non-human cognition, is not innately specifiable in the sense required by nativism — as a built-in feature of our cognitive endowment.

The crucial point is that any proposal to the effect that the propositional cognition underlying linguistic competence can be explained by (i) behavioral dispositions genetically hardwired into us and triggered and rewired through experience and (ii) primary linguistic data looks indistinguishable from the empiricist view of language. In particular, such a proposal effectively construes the propositional cognition underlying linguistic competence in dispositional terms: the cognitive states operative (in conjunction with primary linguistic data) in linguistic cognition are propensities to act and react in certain ways vis-à-vis language. But dispositional construals of linguistic cognition of this ilk are doubtless at variance with the nativist view of language in both letter and spirit.

Without a doubt, propensities for linguistic behavior cannot be identified with anything in the order of an innate *faculty* of linguistic cognition or a human language acquisition *device*. Despite scant progress concerning the nature of language faculties over the last several decades, one indisputable conclusion to emerge is that faculties of linguistic cognition must provide a uniform explanation of linguistic cognition in terms of

a genetically determined domain-specific data base (see Fodor (1981, 2000), Collins (2004), Chomsky (1996). As Chomsky puts the point, “There is a special component of the human brain (call it ‘the language faculty’) that is specifically dedicated to language. That subsystem of the brain (or mind, from the abstract perspective) has an initial state which is genetically determined, like all other components of the body” (1996, p. 13). The problem is that dispositional linguistic cognition cannot be characterized in the manner of a uniform faculty since cognition that involves discrete behavioral propensities is not a phenomenon that can be supposed to supervene on a fixed domain-specific module (or set of modules) of human cognition.

This is to say (at a minimum) that the innate propositional cognition supposed, by the nativist, to underpin linguistic competence is not explicable in *brute* behavioral/dispositional terms. Perhaps, though, a more sophisticated dispositionalist explanation of innate propositional cognition will serve the relevant purposes. It might conceivably be claimed that the cognitive states operative in linguistic competence are not brute dispositions, i.e., simple propensities for linguistic behavior, but something akin to what Evans calls ‘full-blooded dispositions’ (1981). Full-blooded dispositional cognitive states, for Evans, exist where there is some “single state of the subject which figures in a causal explanation” of the manifestations of the disposition (1981, pp. 125 & 127). Davies similarly describes dispositional cognitive states of this kind as those that can be implicated in the causal explanation of manifestations of the subject’s disposition (1987, p. 447).

But the credentials of Evans and Davies’ sophisticated dispositionalist view of linguistic cognition notwithstanding, its prospects for carving out a viable nativist

cognitive psychology look dim. The pivotal point is that in the event that there are single operative states figuring in causal explanations of linguistic dispositions, reason seems to dictate such states cannot be physical *in esse*. Whatever state is supposed to underlie linguistic dispositions or somehow figure in causal explanations of manifestations of these dispositions must, it would seem, be susceptible of intensional description (at least in principle). Such a recognition is the upshot of the primary argument developed here: while a physical state can *inter alia* generate behavioral dispositions, it cannot, under its extensional description, give rise to propositional cognition. Brain states *ipso facto* cannot transmit cognitive input signals with propositional content since the brute mechanical operations of the brain cannot alone pass on information bearing determinate propositional content to a cognizer. The brain *qua* physical organ (and absent the external data with which it interacts) can only give rise to propositional cognition via modules of representation. On this view of matters, full-blooded dispositions cannot serve as the explanatory basis of the propositional cognition supposed, by the nativist, to underpin linguistic competence.

The suggestion here is not, of course, that full-blooded dispositions cannot play a role, foundational or otherwise, in the explanation of linguistic competence. It is rather that, considered from within a nativist framework, the full-blooded dispositionalist account of linguistic cognition will not do since it collapses into a form of representationalism according to which intentional representational states are the principal foundation of linguistic competence. Contra the line of argument currently under consideration, then, the full-blooded dispositionalist account of linguistic cognition (like the simple dispositionalist account) fails to furnish us with a blueprint for

expounding the *bare embodiment* interpretation of nativism. In sum, dispositionalist/associationist maneuvers fail to deliver a genuine nativist account of linguistic competence to supplant the representational nativist account.

6. Conclusion

Nativism is well received: it is currently the preeminent theory among linguists, philosophers of linguistics, cognitive scientists and psychologists regarding the foundations of linguistic competence. Sustained reflection reveals that, vis-à-vis metaphysics, nativism is committed to an *embodiment plus representation* thesis: LADs are embodied and their operating rules are represented in the neurophysiology of human language users. The main alternative interpretation of nativism currently on offer, the dominant *bare embodiment* interpretation, emerges as ontologically specious on close inspection.

This may or may not be good news for the nativist. It has been argued by a wide variety of commentators (e.g., Chomsky (1996, 2000), Collins (2004), Davies (1987)) that if nativism is committed to the representation thesis it holds little promise for explaining linguistic competence in a manner considered satisfactory from the standpoint of current science. Needless to say, this outlook calls for wide-ranging and onerous exploration. The touchstone for its appraisal undoubtedly will be whether linguistic theories exploiting intentionalist notions such as *representations* can be genuinely explanatory and integrated into a sound and presumably physicalist worldview.²¹

²¹ I would like to thank John Collins, Richard Samuels, Rob Wilson, David Hunter and an anonymous referee for very helpful feedback and discussion on matters related to this paper.

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