# Skeptical Linguistic Essays

## Chapter 11 Junk Ethics 2: The Most Irresponsible Passage

Consider a contest to determine the most *irresponsible* passage (continuous sequence of statements) written by a professional linguist in the entire history of linguistics. Contestants will no doubt differ in their choice of entries; here I specify and try to justify mine.

The most irresponsible passage ever written by a linguist about the subject matter of linguistics is, I suggest, the five paragraphs quoted in (1). To facilitate its analysis and discussion, I have numbered the twenty successive sentences therein by associating a prefixed angle bracketed numeral with each. I have also suppressed from the quoted text the author's footnote numerals.

(1) Chomsky (1999: 33-34)

"<1> A broader category of questions has to do with the 'internalist' conception of language adopted in this discussion, and in the line of inquiry from which it derives for the past 40 years, a branch of what has been called "biolinguistics. <2> FL (= faculty of language : PMP) is considered to be a subcomponent of Jones's mind/brain; Jones's (I -) language L is the state of his FL, which he puts to use in various ways. <3> We study these objects more or less as we study the system of motor organization or visual perception, or the immune or digestive systems.

<4> It is hard to imagine an approach to language that does not adopt such conceptions, at least tacitly. <5> So we discover, I think, even when it is strenuously denied, but I will not pursue the matter here.

<6> Internalist biolinguistic inquiry does not, of course, question the legitimacy of other approaches to language, any more than internalist inquiry into bee communication invalidates the study of how the relevant internal organization of bees enters into their social structure.

<7>The investigations do not conflict; they are mutually supportive. <8> In the case of humans, though not other organisms, the issues are subject to controversy, often impassioned, and needless.

<9>We also speak freely of derivations, of expressions EXP generated by L, and of the set of such EXPs - the set that is called "the structure of L" in Chomsky (1986), where the I-/E- terminology is introduced. <10> Evidently, these entities are not "internal." <11> That has led to the belief that some externalist concepts of "E-linguistics" are being introduced. <12> But that is a misconception. <13> These are not entities with some ontological status; they are introduced to

simplify talk about properties of FL and L, and can be eliminated in favor of internalist notions. <14> one of the properties of Peano's axioms PA is that PA generates the proof P of "2+2 = 4" but not the proof P' of "2+2 = 7" (in suitable notation). <15> We can speak freely of the property "generable by PA," holding of P but not P', and derivatively of lines of generable proofs (theorems) and the set of theorems, without postulating any entities beyond PA and its properties. <16> Similarly, we may speak of the property "generable by L," which holds of certain derivations D and not others, and holding derivatively of an expression EXP formed by D and of the set (EXP) of those expressions. <17> No new entities are postulated in these usages beyond FL, its states L, and their properties. <18> Similarly, a study of the solar system could introduce the notion HT = (possible trajectories of Halley's comet within the solar system), and studies of motor organization or visual perception could introduce the notions {plans for moving the arm} or {visual images for cats (vs. bees)}. <19> But these studies do not postulate weird entities apart from planets, comets, neurons, cats.... <20> There is no "Platonism" introduced, and no "E-linguistic" notions: only biological entities and their properties."

Sentence <1> reveals that at issue in this passage are questions of the *ontology of NL* rather than particular linguistic facts and their description and explanation. As the sentence only cites the existence of questions and recognizes its author's own 'internalist' conception, it is itself unobjectionable.

Sentence <2> fills in the author's standard and well-known view; NL is taken to be a biological aspect of human nature. In the author's sense, the NL of an individual I is taken to be a state of I's brain. Irresponsibility has begun to appear since this view, although multiply repeated by the author over the years, and widely adopted by others, has also been criticized sharply, and even argued to be incoherent. [1] Responsibility would thus demand, if not reply to such criticisms, at the minimum reference to them with full citations. Instead, the relevant works and their authors are left as phantoms who need not be named and whose arguments need not be cited. This irresponsibly minimizes the reader's chances of objectively comparing the contrasting positions.

The irresponsibility of <3> is perhaps clouded by the absurdity of its claim. Note that it is a claim and not, e.g. a suggestion. The 'we' must clearly be understood to mean 'linguists' or at the least 'linguists (including trivially the author of <3>) who accept the claims and linguistics-characterizing assumptions in <1> and <2>. But barring a perverse interpretation of 'more or less' as meaning 'in largely distinct ways', it must be clear to anyone who has read a sample of the author's linguistic research writings that they bear no serious connection to the study of immune or digestive systems.

Consider in particular the latter. Since digestive systems are physical objects, existing in space and time, the biological and medical scientists who study them of course maximize their possibilities of gaining physical knowledge of their natures. They do this by getting physical records, for instance, by probes, dissection, photographs, slides and in more recent years by physical records produced by X-rays, MRIs, etc. Those who have had the personal experience of a medical

study of their own digestive system are not likely to be bluffed into imagining it shared some feature with the author's inquiries into, e.g. subjacency, expletive associates, or whatnot. The author's work does not involve any analog of sigmoidoscopies. Nor does it have the most remote plausibility that the author could be unaware of the enormity of the nonparallels between, in particular, his own linguistic research and the physical study of digestive systems. No one could be unaware that his own work had after more than four and half decades failed to produce a single *physical* record of any of the postulated objects (syntactic component, lexicon, LF, move alpha, syntactic trees, etc. etc.) parallel to the physical records which are the everyday feature of the study of digestive systems. To paraphrase a formulation due to Everett (2001), if linguistics were what the author claims, syntactic trees would be visible in CAT scans.

<3> is then a crude and deliberate distortion of the truth.

Sentence <4> develops the irresponsible character of <3> further. The 'it is hard to imagine' locution is either to be taken literally, or as a harmless, relatively standard way of indicating a claim of extreme implausibility. But in this context, neither interpretation can defend the remark against its truly ugly character. For under either reading, it is mendacious. Even if the author were, implausibly, sufficiently limited imaginatively as to be personally unable to conceive an alternative to his own ontological position, others then not so limited have long ago done the work for him and not only proposed but justified such an alternative, with specific discussion of the relative inferiority of his own position; see note 1. Moreover, the author could not in general be unaware of such work. [2] So the only viable interpretation of <4> is that it is a pretense that adoption of the author's ontological position is imposed by a sort of necessity due to the lack of an alternative ; see Chapter 13. The remark substitutes for a substantive answer to the all too real but never answered challenges already issued to the author's ontology and reveals an extraordinary lack of the intellectual courage to grapple openly and fairly with the threat of the alternative.

Sentence <5> is irresponsible in several ways. It seeks to rhetorically support the distortion of <4> by a claim unsupported by argument or fact, thereby empty, that other approaches in fact ('we discover') adopt the author's position *even when they deny it*. An objective or even inquisitive reader might be interested in knowing who are those shadowy and misguided workers who think they have an alternative (recall that for the author in <4> such was 'hard to imagine') and what it is. Irresponsibly, nothing is said and <4> and <5> together can support nothing about the author's position.

Sentence <6> tells us that 'internalist biolinguist inquiry', that is, in effect, the author, does not question the legitimacy of other approaches to NL. Has the author forgotten that just a couple of lines above <6> he had told us that it was hard to imagine approaches which did not adopt his 'internalist' viewpoint ? So <6> declares, then with entirely hypocritical magnanimity, that the author does not question the legitimacy only of something whose existence is essentially beyond his imagination.

Sentence <7> is parasitic on <6>, and seems to tell us that two inquiry types, the author's own and one whose existence he can not imagine, do not conflict.

Sentence <8> is irresponsible principally in being largely empty. The irresponsible implication though is clear; some misguided individuals (but not the author) are engaged in impassioned and needless controversy over something; but he is evidently too busy to tell us who they are, what they are arguing about and why it is needless. How easy to make oneself standout as objective, above the fray and not drawn into needless emotionalism like the (unnamed) inferiors, whose inferiority the reader is though thereby denied any means of verifying.

Awful as sentences <2>-<8> are separately, and offensive as they are as a whole to any serious standards of scholarship, it might still not be a sure thing to enter them in the contest on their own. Fortunately for the viability of the present contest entry, the *really* bad stuff in passage (1) has not yet even begun to be dealt with.

Although the author does not indicate this, sentence <9> introduces an issue which is a major source of incoherence in his overall ontological position. By the standards of the overall passage, <9> is itself only mildly irresponsible. Basically, it introduces the fact known to all that linguistics deals with sentences, avoiding that term in favor of 'expressions'. It begs the question of whether NL sentences *have derivations*, and whether there is a set (here called EXP) of them which can be generated, the former of which is denied in many types of linguistics (e.g. HPSG [3]) and the latter of which was argued to be impossible in some long ago published works, such work being systematically ignored by the author. [4] The issue introduced is how can these expressions, which linguistics in some sense seems to be about, be made sense of in terms of the author's ontology represented by <1>-<3> ? Although the author does not explicate, the issue is what status can sentences have if an individual's NL is a state of his mind/brain.

With sentence <10>, more irresponsibility enters immediately. The facile 'evidently' covers up the fact that readers are not told the reason. Moreover, in a work by the same author published shortly after this one and whose proofs would no doubt have been read roughly simultaneously with the writing of this one, one finds:

(2) Chomsky (2000a: 160)

"The internalist study of language also speaks of "representations" of various kinds, including phonetic and semantic representations at the "interface" with other systems. But here too we need not ponder what is represented, seeking some objective construction from sounds or things. The representations are postulated mental entities, to be understood in the manner of a mental image of a rotating cube, whether it is the consequence of tachistoscopic presentations or a real rotating cube, or stimulation of the retina in some other way; or imagined, for that matter."

Remark (2) states that 'representations' are mental entities, where 'representations' are clearly sentences or parts of sentences, that is, just the 'expressions' in (1). They are, we are told, to be understood on analogy with mental images, that is, therefore as mental, internal. [5] There is then in short a crude contradiction between <10> and an almost contemporaneous claim by the author, with no explication, no crossreferences, no indication of how these claims could fail to be contradictory. Revealed is an extraordinary failure of the author to take even his own assertions seriously.

In sentence <10> the core question at stake in (1) is joined. Precisely what is at issue in the whole discussion is a surreptitious attempt to back away from any claim of sentence internality like (2). But if sentences are not internal, then since, for the author, NL *is* internal, sentences can't be part of it. A new contradiction then threatens, one distinct from that *between* the separately published positions of Chomsky (1999) and Chomsky (2000a), and entirely internal to claim (1). Because, if NL is internal and sentences are now not internal, then maintenance of position (2), which takes sentences to be mental things, is incoherent and must be replaced. But by what?

Sentences <11> and <12> jointly reject the idea, developed and justified at length in work such as that cited in note 1, that sentences are real things, just non-mental ones. The now repeated irresponsibility on the author's part of rejecting positions without citation and without therefore indicating how to overcome their unpleasant opposing arguments is manifest.

By the end of its sentence <12> the author of (1) has at this point driven himself to the conclusions that (i) NL is a biological thing, hence 'internal'; (ii) that sentences (usually called by the author 'expressions', 'representations', 'symbolic objects') are, contrary to Chomsky (1999: 160), not 'internal'; and that (iii) sentences are not 'external' either.

Via logic alone, (i-iii) can only mean that sentences are not real. And it is this claim that forms a major kernel of the deepest irresponsibility in (1) and which sentence <13> makes explicit. That is, there is no other way to interpret in context the assertion that 'X are not entities with some ontological status' than as saying 'X has no ontological status', which is to say 'X do not exist'. Moreover, only this is consistent with the second clause of <13>, which involves a rather standard type of philosophy of science reductionism, claiming that sentences 'can be eliminated' and actually involve a mere façon de parler to simplify discussion of the putatively real things, FL and L, a biological object and one of its states respectively, that is, purely internal things. [6]

Before continuing to delve into the post-sentence <13> remarks which the author offers in the attempt to justify claim <13>, it should be commented immediately that for the author to adopt <13> is trivially incoherent/contradictory, and, with a further dose of irresponsibility, contradictory in ways already explicated in the literature as an objection to just the sort of ontology the author is forlornly trying to rescue here. This is true since for almost five decades the author has claimed consistently that NL has the property of (denumerable) *infinitude*. And this is maintained in Chomsky (2000a:

3) and also, albeit more obliquely, in Chomsky (1999). [7] Evidently, NL is only denumerably infinite if there is some aspect of it which can be put in one to one correspondence with the full set of natural numbers, and the only aspect of NL with this property is some collection, e.g., the collection of sentences. But the author has now claimed that a NL is simply a *state* of a mind brain, an obviously *finite* object (since any brain state has physical and temporal boundaries), and that there are no sentences, entailing thereby that their collection is the null set, maximally far from a collection in one to one correspondence with the full set of natural numbers. In short, as observed in Langendoen and Postal (1984: 131-132), Katz and Postal (1991: 547-548), one of the incoherences of the author's ontology is to both claim that NL is infinite and yet to deliberately recognize no aspect of linguistic reality which could have this property.

Evidently, in the face of uniform previous recognition of the existence of sentences in NLs and his own previous forty-five plus year history consistent with this, as in Chomsky (2000a: 160), a sudden denial of the reality of sentences is a bit much to simply *declare*, even for this author. Unacknowledged recognition of this then leads him to seek a bit of justification. But instead of attacking directly the challenge of making sense of a linguistic claim that sentences are not real, as would minimally be required in a responsible account, the author proceeds via a purported analogy. This carries the discussion into levels of shoddiness orders of magnitude beyond even the ominous levels already documented.

The author's sentence <14> introduces the notion of Peano's axioms, well-known basic principles of number theory. A version of these is given in (3) :

(3) Partee, ter Meulen and Wall (1993: 214)

"(8-40) *Peano's axioms.* There are two primitive predicates, *N* and *S*. The intended interpretation of *N* is 'is a natural number' and that of *S* is 'is the (immediate) successor of'.) There is one primitive constant, 0, whose intended interpretation is the natural number zero.

P1) *N*O as

P2) $\forall x(Nx \rightarrow \exists y(Ny \,\&\, Syx \,\&\, \forall z(Szx \rightarrow z = y)))$

P3) $\sim \exists x(Nx \,\&\, SOx)$

P4) $\forall x \forall y \forall z \forall w((Nx \,\&\, Ny \,\&\, Szx \,\&\, Swy \,\&\, z=w) \rightarrow, x=y)$

P5) If *Q* is a property such that

(a) *Q*0

(b) $\forall x \forall y((Nx \,\&\, Qx \,\&\, Ny \,\&.\, Syx) \rightarrow Qy)$,

then $\forall x(Nx \rightarrow Qx)$

Peano, like Euclid, conceived of the primitive terms of the system read having known meaning, and of the axioms as the smallest set of true statements about the natural number series from which its other properties could be derived."

While <14> might seem innocuous, it is actually irresponsible since it falsely takes PA to be generative/proof-theoretic principles analogous to the rules of a generative grammar, when they are in fact evidently *statements*, formulae which can be assigned truth values. As such, like other axioms, PA can not generate proofs. Proofs can be built from them only with the help of an actual proof system which provides appropriate instructions for forming the legitimate formal objects (e.g. sequences of lines of symbols) which are proofs. Since the author knows what a proof is, his confusion of PA with proof-theoretic principles is irresponsible distortion. [8] That is, the analogy the author later (sentence <16>) draws between PA based proof derivations and generative grammar derivations fails.

Sentence <15> is the core of the analogy intended to justify the author's claim of the nonexistence or unreality of NL sentences. The point is, irresponsibly made since not explicit, that where mathematicians think of PA as formalizing the properties of real objects, the natural numbers, as in Partee, ter Meulen and Wall's description, <15> in effect denies the reality of natural numbers, since these are precisely the entities one can supposedly avoid postulating. Rather, we are to believe that talk of these can tenably just be taken as some sort of simplification of 'real' talk about proofs from PA. Evidently the reader is not supposed to ask, as the author seemingly has not, what sense one could make of questions of the *choice* of sets of axioms like PA if there is no real domain independent of the axioms for them to formulate truths about. Why should one be talking about PA and not e.g. a set of axioms like (4a, b):

(4)a. O is not a number.
b. Neither is anything else.

This pair of absurdities in fact seem to say about numbers what the author claims. Is one supposed to query mathematicians about why they do not adopt the simpler system (4a,b)?

The ground is then laid in <15> for defending by analogy the claim that NL sentences are not real, though the mental grammar = brain state which generates them supposedly is. [9] The reader is supposed to conclude that this is viable from the just asserted viability of the claim that PA (presumably real in some sense [10]) generates proofs of theorems about numbers even though the latter don't exist. [11]

Sentence <16> makes the analogy explicit. And sentence <17> then draws the inference which is the whole point of the exercise. The entities which are not postulated, that is, which supposedly need not be postulated, are exactly NL sentences.

Now, there are two major sorts of inept irresponsibility here. The justification of the relevant conclusion that sentences do not exist depends solely on an analogy with arithmetic. Even if the characterization of the latter and PA which the

author has sketched were tenable, this would be no actual argument for a relevant property of *NL*. A sceptic could simply deny that NL is like arithmetic, and justifiably deny it *without argument* since the author has given no argument that it is relevantly like *his* conception of the number system in the pertinent respects. So the analogy could provide no ground for the conclusion about NL sentence nonexistence *even if the characterization of PA and the number system made sense*.

Moreover, the highlighted hypothetical is false, in fact, grotesquely so, as already indicated. A vivid additional way to see this is to recognize that it is broadly agreed that the greatest result of modern logic is provided by K. Gödel's incompleteness theorems. So e.g. Suppes (1957 : 70) indicates: "Gödel's theorem on the incompleteness of elementary number theory is probably the most important theorem in the literature of modern logic." Hintikka (2000 : 3) goes even further: "Gödel had indeed proved such a result. This result is known as his first incompleteness theorem. It is arguably one of the most important and challenging discoveries in twentieth-century science, comparable with Einstein's theory of relativity or Heisenberg's uncertainty relation."

We need not say much about the highly technical substance of Gödel's theorems, except that one result shows that no axiomatization of elementary number theory, that is, inter alia, no set of axioms like PA, can be both complete and logically consistent. To understand this claim, one needs to understand the relevant property of *completeness*. Informally, an axiomatization A of a domain D is complete if every truth about D is a theorem of A. In the case of arithmetic then, to consider the question whether e.g. a system like PA is complete, one must consider the relation between two sets...the set of theorems of A and the set of truths about D.

To understand the grotesque character of the author's account of PA in <15>, it suffices then to observe this. Were it correct, not only would it be impossible to *prove* Gödel's incompleteness theorems, it would be impossible even to *formulate* them. Because the author's account of PA in <15> entails precisely that there is no set of truths about the relevant D. For D is then the domain of all natural numbers, just the entities the author says do not need postulating. But there are no truths about things which are not. We cannot answer questions like 'How tall was the first female President of the United States elected before 1940?' And yet, as Boolos and Jeffrey (1974: 180) indicate: "And perhaps the most significant consequence of Theorem 6 (Gödel's first incompleteness theorem: PMP) is what it says about the notions of *truth* (in the standard interpretation for the language of arithmetic) and *theoremhood*, or *provability* (in any particular formal theory): that they are in no sense the same." That is, the author's claim <16> totally ignores, and directly conflicts with, one of the luminous results of modern logic.

So, to accept <15> one would have to accept that arguably the greatest modern logician and the entire community of subsequent logicians who have expounded his incompleteness results and touted their greatness were and are misguided

fools who failed to recognize the nonexistence of any truths about numbers and thus the chimera of all talk of (in)completeness. One need not linger over the absurdity of such a conclusion.

Moreover, the author's assertion here is even more irresponsible than it might seem. One cannot, for example, imagine that he merely *fails to understand* the general outlines of the notion of completeness and Gödel's incompleteness results or that he does not know that there is a set of truths of elementary number theory distinct from any questions of proofs from axioms. For he already knew this almost forty years ago:

(5) Chomsky (1963 : 356)

"There are, furthermore, perfectly reasonable sets that are not recursively enumerable; for example, the set of true statements in elementary number theory or the set of all satisfiable schemata of quantification theory."

It is impossible to render quote (5) consistent with sentence <15>. Since the set of all generated proofs is a recursively enumerable set, if the set of true statements were only a façon de parler for talking about proofs, no interpretation of 'true statements in elementary number theory' could define a nonenumerable set.

In short, sentence <15>, the core of the author's 1999 attempted defense of his *biological* ontology for NL, is inconsistent with his own 1963 understanding of basic facts of logic. Even minimal responsibility would then have required that he explicate this contradiction and justify the 1999 branch of it as against the other, accepted by all logicians for seventy years. Instead, as with the contradiction between Chomsky (2000a: 160) and <13>, the author fails to allude to the issue, to his own earlier position, to standard ideas in logic and thus irresponsibly obscures with silence the absurdity of his claims. There is no textual basis for doubting that <15> represents something the author knows to be nonsense but states anyway in an unscrupulous attempt to prop up a bankrupt ontology.

The issues about logic just gone provide a further insight into the irresponsibility of (1). Surely if the author had any genuine work product whatever dealing with elementary number theory which even *hinted at* calling into question the validity (still less the sense) of Gödel's results, or which called into doubt the existence of a collection of truths of elementary number theory, the only thing to do with such a result would be to submit it to a *professional journal in logic*, where it could be reviewed by experts. Of course, the author has not presented anything which represents even an iota of such a result. Instead, with enormous cynicism, he has to the contrary buried his fake claim, contradicting even his own earlier statement and entirely unsupported by argument, in an article for linguists, assuming no doubt that most will not be able to recognize the incompetence of his account about a domain which is not their area of expertise. [12]

Sentences <18>-<20> require little comment. They introduce a further pointless analogy between linguistics and various physical studies. The key feature is the use of the undefined but clearly pejorative term 'weird' to describe the sort of

entities these studies do not postulate. Sentence <20> with its passing remark about Platonism, as usual with no reference to proponents, no citation and no discussion of opposing arguments, irreponsibly makes it clear that what is at issue throughout, as stated here, is defense of the author's biological perspective against the Platonist alternative. And what is the defense in these sentences? It consists essentially of the empty name-calling 'weird'. There is also the illegitimate invited inference that if astronomy, vision studies, felinology, etc. need not posit abstract objects of the sort advocated by Platonists, that linguistics (thereby) need not either. The inference is question begging nonsequitur because the author has chosen arbitrarily to mention only fields which study physical objects. Why exclude e.g. logic, which can hardly be assumed to deal with 'biological entities and their properties'? But whether linguistics need not appeal to abstract objects, as the author claims, or whether it studies exactly those (sentences and collections of sentences) like logic and mathematics, as Platonists claim, is exactly the point at issue in the ontological discussion the author has entered into in (1).

To sum up then, what (1) represents is no more and no less than a deception. Faced with, although never explicitly admitting, the contradiction between his claim that NL is mind/brain internal and the fact that sentences cannot be, a contradiction pointed out years ago by opponents of the author precisely to show the impossibility of his ontology, the author has surreptitiously retreated to a distinct but equally incoherent position, one which denies that sentences even exist. The only basis for this claim is a purported analogy with a characterization of elementary number theory. And this characterization is a travesty at odds with modern logic and even with the author's own correct 1963 understanding of that. [13] To make things worse, although the author knows there are opposed ontological positions in linguistics and that these have in fact been crafted in large part as explicit critiques of the failures of his own ontology, he deliberately fails to reference any such work and engages in empty name calling, empty talk of 'needless controversy', pretense that there is no alternative to his position, and in general nonsubstantive and purely rhetorical attempts to demean an opposing position he is evidently unequipped to face openly. It appears fair to conclude that one encounters here sheer desperation. Revealed is an ontological position so deeply lacking seriousness that its 'defense' is a descent into absurdity but one which the author tries to pretend fancifully is imposed by some sort of necessity.

The chief intended and unfortunately, probably to some extent real victims of the intended deception in (1) are, I suspect, two classes of naïve readers. One consists of those willing, given the author's influential status, to take almost any claim of his at face value. The other consists of those linguists little versed in logical and mathematical questions, including especially many relatively new in the field, such as the author's own students, that is, the very people whose education he is paid to further.

This concludes my analysis of (1) and justification for my belief that it is the most irresponsible passage in the history of linguistics. Find worse if you can. My own suspcion though is that not only will it not be possible to come close to (1)

in this regard, most linguists would, blessedly, be incapable of inventing anything worse, even if they set out with that goal in mind. [14]

## Notes

*I am indebted to Barbara Partee and Christopher Potts for criticisms of an earlier version of this chapter.. The usual exonerations hold.

1 See Katz (1981, 1984, 1996, 1998), Katz and Postal (1991), Langendoen and Postal (1984).

2 So, a few lines in Chomsky (1986a: 33-36, 49-50) *purport* to reply to the argument of Katz (1981). However, as argued in great detail in Katz and Postal (1991), a work never answered by the author, this 'reply' is mostly bluff and the core of the position has never really been addressed by the author.

3 See e.g. Pollard and Sag (1994: 4), who specify: "...and therefore HPSG shares the property of 'non-derivationality' with CG, GPSG, APG, and LFG, in contradistinction to GB and its derivational kin."

4 See Langendoen and Postal (1984, 1985).

5 Independently of questions of responsibility, it would not be entirely trivial to find a *worse* account of the ontology of sentences than one which analogizes sentences to mental images. Specifically:

(i) Sentences are objective; images are subjective. You may have an image at time t, I may not at time t or ever. But a sentence like e.g. 'Sentences are not like images' adheres to no one.

(ii) Images enter into causal relations (e.g. are caused); but sentences are neither caused nor cause.

(iii) Images have temporal boundaries; they begin at time t and end at time t + n. Sentences have neither temporal beginnings nor conclusions.

(iv) In so far as images are physical, they are bounded in space. Thus if X has an image IM and a large bomb goes off next to X, IM ceases to exist. But nothing can destroy a sentence.

(v) There are infinitely many sentences but the number of images in any mind/brain over a life span is finite.

6 The possibility that the author would deny the reality of sentences was foreseen in Langendoen and Postal (1984: 128).

7 Chomsky 's (1999: 2) account recognizes infinitude obliquely via its talk of a 'recursive system'. The quality of the discussion of infinity in Chomsky (2000a: 4) is revealed by the fact that it discursively treats the topic in just the sort of baby talk terms ("and that they go on forever") that Partee, ter Meulen and Wall (1991: 55) warn students against: "A definition employing the terms 'never ending' ...would be defective, since these expressions are themselves no clearer than the term 'infinite' that is to be explicated."

8 So, one finds Chomsky (1995: 226-227): "...any more than proof theory is concerned with a sequence of lines that does not satisfy the formal conditions that define 'proof'."

9 The identification of a grammar with a brain state is a crude category mistake, equivalent to identifying e.g. Microsoft Word with the state of some computer in which it is installed. Again, the brain state or computer state is destructible, but a grammar and Microsoft Word are sets, abstract objects, beyond space, time and causation. See Langendoen and Postal (1984: 147-148).

10 Actually, it is incoherent to object on ontological grounds to the reality of sentences and NLs as collections of sentences and yet accept the reality of PA. All of the properties of note 5 (i)-(v) characteristic of sentences are equally characteristic of logical axioms. This should not be obscured by a confusion between axioms and some physical representation of them.

11 Claims that numbers are not real should be juxtaposed with the most appropriate remark of Boolos (1998: 129):

"To maintain that there aren't any numbers at all because numbers are abstract and not physical objects seems like a demented way to show respect for physics, which everyone of course admires. But it is nuts to think Wiles could have spared himself all those years of toil if only he had realized that since there are no numbers at all, there are no natural numbers x, y, z, n > 2..." 'Wiles' here refers to the British mathematician Andrew Wiles, who in 1994, after years of work on the problem, completed a proof of Fermat's Last Theorem, which mathematicians had been seeking for some three hundred and fifty years.

12 Talk of journals reminds us that *refereeing* plays a large role in real science: In their study of fraud and deceit in science, Broad and Wade (1982: 17) note: "He (a scientist: PMP) must publish the results of his research in a scientific journal, but before publication his article is sent out by the journal editor to scientific reviewers, known as referees. The referees advise the editor as to whether the work is new, whether it properly acknowledges the other researchers on whose results it depends, and most importantly, whether the right methods have been used in conducting the experiment and the right arguments in discussing the results." Combining this central role of refereeing in (physical) science with the author of Chomsky (1999)'s repeated claim that his linguistics is biological physical science, one would expect to find that scientific refereeing of his work had played a major role. But, while I have not studied this question in detail, it seems that appearance of the author's work in refereed journals has been marginal in his overall career and that in more recent decades, it has been almost nonexistent. For instance, although the author began speaking of his 'minimalist program' early in the last decade, I am aware of no work published by him on this topic in a refereed journal. None is cited in Chomsky (1999, 2000a).

13 It is ironic to compare the toxic irrationality of the material criticized here with Smith's (1999: 181) highlighting of the author's *supposed* relation to rationality:

"so what is surprising is that many scholars systematically reject or ignore standard canons of rationality. There are at least three different categories. First, there is the uninteresting class of those who simply substitute emotional rhetoric for argument: many of Chomsky's detractors fall into this category. Second, there are those who assert contradictions, and are hence technically irrational, but who do so for reasons of propaganda, and rely on the reader's gullibility or prejudice to escape detection. This is the category of those "drowning in their own hypocrisy" that Chomsky has concentrated on most, and who will be discussed below."

Since instantiations of these two categories of 'ignoring standard canons of rationality' have both been richly illustrated in the text, and are in other chapters as well, Smith is arguably looking for hypocrisy in partly the wrong places.

14 The present entry is submitted for judgment independently of questions of the degree of influence of the writer whose passage is criticized. But of course, the degree of educational and scholarly irresponsibility in publishing proposals must in part be assessed by the degree of influence of the writer, which is a partial measure of the potential harm of the documented irresponsibility. And the exceptional influence of the author is well-known. So Smith in his laudatory introduction to Chomsky (2000a: vi) states: "and he has dominated the field of linguistics ever since." Given that, the irresponsibility documented above is magnified to an extent that would be hard to exaggerate.