

## Critical notice

# Defending the Martian Argument

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### **Abstract**

The Chomskian holds that the grammars that linguists produce are about human psycholinguistic structures, i.e. our mastery of a grammar, our linguistic competence. But if we encountered Martians whose psycholinguistic processes differed from ours, but who nevertheless produced sentences that are extensionally equivalent to the set of sentences in our English and shared our judgements on the grammaticality of various English sentences, then we would count them as being competent in English. A grammar of English is about what the Martians and we share. In this note, I argue that a recent attack on the Martian Argument by Laurence fails to mitigate its force.

### 1. Introduction

All agree with Bloomfield that linguistics is the science of language (Bloomfield, 1933). Linguists like Chomsky have argued that this science of language is a branch of psychology, while others remain sceptical.<sup>1</sup> Devitt and Sterelny have a forceful argument called the Martian Argument for why linguistics is not a branch of psychology. In this discussion note I will defend the Martian Argument against a recent attack by Laurence (Laurence, 2003).

### 2. The Martian Argument

Chomsky holds that linguistics is a 'branch of cognitive psychology' (Chomsky 1972, 1). Its research object is 'one specific cognitive

<sup>1</sup> See for example Lewis 1983, Soames 1984 and Devitt and Sterelny 1989.

domain and one faculty of mind, the language faculty' (Chomsky 1980, 4).<sup>2</sup> Linguistics deals with human knowledge and understanding of language, i.e. our linguistic competence and is therefore concerned with questions about the cognitive skills of human beings (and thus, *a fortiori*, about the specific human neural setup).<sup>3</sup> The grammars produced by linguists are about those human psycholinguistic structures i.e. our mastery of a grammar, our linguistic competence. The psychological mechanisms for language acquisition and processing represent the rules of grammar as described by linguists. The grammars are instantiated in the minds/brains of the human language users and since grammars are about such instantiations, the instantiation of, say, English grammar in humans is, indeed, English according to this picture. We can call this the Competence Thesis, i.e. the thesis that grammars are about the human language competence.

Now consider the Martian Argument (Devitt and Sterelny 1989, 514). Assume Martians whose psycholinguistic processes differ from ours, but who nevertheless produce a set of sentences that are extensionally equivalent to the set of sentences in our English. The sentences that are grammatical in Martian English are also grammatical in Earthling English and vice versa. The Martians have a different mind/brain grammar than us, i.e. a different language competence. Should they count as speaking English?

They seemingly speak in accordance with English grammar and let us furthermore assume that their grammatical judgements are the same as ours in relation to the same strings of words in English. On the level of linguistic symbols and the syntactic relations between these linguistic symbols, the Martian speakers' grammar is indistinguishable from English grammar. The Martian Argument can now be reconstructed as follows. On any reasonable account of what it is to speak English and follow English grammar, the Martian speakers should count as speaking English. They are on the level of linguistic symbols indistinguishable from us and we also seem to be able to communicate with them via a seemingly shared language.<sup>4</sup> They are,

<sup>2</sup> See also Chomsky 1975, 36 and 1991, 9.

<sup>3</sup> See Chomsky 1980, 82-83, Chomsky 1986, 24, Chomsky 2000, 166 and 168-169 and Chomsky and Lasnik 1995, 14.

<sup>4</sup> Throughout this note I will follow Chomsky in using the words 'language' and 'grammar' interchangeably for most of the time.

on the face of it, competent in English. The thought experiment establishes that (i) we English speaking Earthlings would count Martians as English speakers like ourselves, (ii) our willingness to do so is not contingent (or at least not contingent now) on them turning out to share with us the same psycholinguistic processes or knowledge base (i.e. the human psycholinguistic structures which allow us to process and produce grammatical sentences in various human languages) and (iii) there is something to study, the language we and the Martians share, quite apart from studying our different competences, and that is what a grammar is about.

### 3. The Martian Argument: replies to Laurence's objections

*Objection:* The Martian Argument begs the question against Chomsky's view of language, after all, 'the Chomskian might respond that the language that the Martian speak, despite sounding an awful lot like English, *is not English*' (Laurence 2003, 91).

*Reply:* Granted. The price, however, is high, since intuitively the Martian speakers speak English. After all their language sounds and functions exactly like English. A theory that cannot explain the similarities between the Martians and us Earthlings loses some of its initial attraction.

*Objection:* The Chomskian's theoretical goal is to explain our ability to acquire and use a language, and that 'is something about us—namely, the psychological capacities and representational resources we have underlying these abilities' (Laurence 2003, 92). And that something about us 'will thus characterize the nature of languages and linguistic properties' (Laurence 2003, 92).

*Reply:* Granted. Psycholinguistics about us is not psycholinguistics about the Martians. It does not follow, however, that if you succeed in giving a theory of how the human language processor manages to represent a grammar, that you have characterized the nature of grammars. We can distinguish two senses of 'grammar': (i) the grammar as a description of a part of a speaker's language processor (ii) the grammar as a description of what we and the Martians share. The Martian Argument teases linguistics and psycholinguistics apart, showing that if you accept that the Martian speakers speak English,

then you have not necessarily explain the nature of grammars even if you have a theory of the human language faculty.

*Objection:* Language is like a natural kind, where languages are to be individuated not in terms of their phenomenal properties, but rather in terms of the psycholinguistic processes and structures that produce them. If language is a natural kind, then the possibility of the Martian scenario is as irrelevant to the linguist as the possibility of there being a substance that in all its macro-properties resembled water, but which had different microstructure, would be to a chemist's theory of water. The linguist can safely ignore the logical and perhaps nomological possibility of Martian English (Laurence 2003, 92).<sup>5</sup>

*Reply:* It was an empirical discovery when Lavoisier discovered that water has the chemical micro-structure (give or take some impurities)  $H_2O$ . This was a discovery about the external world and not about us. When Kripke and Putnam argued that a natural kind term like 'water' by necessity picks out  $H_2O$  in all possible worlds, given that a sample of  $H_2O$  originally fixed the reference of the term 'water' in our language, we learned something about how our language functions (Kripke 1972, Putnam 1975). The chemical microstructure of the liquid we call water is, of course, independent of our minds, but what it is to be water, so entitled, is not. Part of the appeal of Putnam's famous twin-earth fable, where the only difference between earth and twin-earth is that twin-earth water has a different chemical microstructure than earth water, is that our linguistic intuitions side with Putnam; twin earth-water is not water. That was a discovery about our language and us.<sup>6</sup>

But Putnam was aware that it is not always the case that we regard things with different microstructure as being of different kinds. Putnam's example is the case of jade, where the term 'jade' applies to the two minerals; jadeite and nephrite, which have quite different microstructures (Putnam 1975, 241). The jade example is a good antidote to the water/ $H_2O$  case. The appropriate analogy to draw is between Martian English/Earthling English and the case of jade, and not to the identity of water and  $H_2O$ . Why? First; our intuitions on

<sup>5</sup> Laurence has a similar argument later in Laurence 2003, 97–99. Nothing new follows in this argument as it unfolds on these pages.

<sup>6</sup> 'Us' in this sentence is not meant to refer to only us the philosophers, but also normal language users. For empirical support of this being the case, see Keil 1989.

the Martian scenario clearly sides with Devitt and Sterelny. Secondly, and perhaps more important, current linguistics would not be able to distinguish Earthling English from Martian English. The linguist Radford writes:

... a grammar of a given language is *descriptively adequate* if it correctly describes whether any given string (i.e. sequence) of words in a language is or isn't grammatical, and also correctly describes what interpretation(s) the relevant string has (Radford 1997, 4).

Clearly, a grammar that is descriptively adequate for Earthling English would also be descriptively adequate for Martian English.

The linguists' methods of individuating grammars will identify Martian English as English. By the lights of today's linguistic practice the Martian speakers in our example speak English and so there is nothing in the Martian Argument that calls for any dramatic change in the way linguists practice their profession. This is tantamount to saying that we do not have any scientific reasons for thinking that linguistics is a part of psychology i.e. that linguistics is psycholinguistics.<sup>7</sup>

*Objection:* If we allow the Martian Argument to count as a counterexample to the Chomskian understanding of language, then all kinds of silly counterexamples would also count (Laurence 2003, 93). Everything from Block's famous conversation machine to parrots that mimic English, a valley echoing your voice and tape recorders would count (Block 1980, 19–24, Laurence 2003, 96). But this makes a parody of what linguistics is about, better then to stop before the slippery slope gets you and deny that the Martian Argument has any bite towards the Chomskian position on grammars.

*Reply:* Though there is more than one way to Rome not all of them lead there. It does not follow from the Martian Argument that a tape recorder speaks English if we grant that the Martian speakers do. Presumably tape recorders and valley echoes can at best be said to have language competence in a derivative sense of it. Tape recorders and echoing valleys do not speak English, because they do not produce English sentences in the right way. But notice that the sentences

<sup>7</sup> Notice that Chomsky himself opposes the essentialist semantics of Kripke and Putnam (Chomsky, 1995). I do not wish to enter into this debate here. See Abbott for a debate of Chomsky's view and a defence of the identity of water and H<sub>2</sub>O (Abbott, 1997).

produced by such devices are still sentences in English, or so it seems, even though the producers of the sentences do not speak English. A tape recorder cannot tell me anything, tape recorders are not in the business of telling or asserting, but the sounds coming from a tape recorder though can still be English sentences. As most linguists would understand their work answering the question 'Is the sentence heard on the tape recorder grammatical or not?' is part of linguistics, regardless of how it was produced (even if it was spoken by a Martian). These latter points seem to have escaped Laurence.

Furthermore, whatever it takes to be a true language user, whatever the Chomskian says about the Block machines, parrots, valleys, tape recorders short of appealing to the Competence Thesis, in order to distinguish them from true language users (like, for example, pointing to these systems' lack of language creativity), the defenders of the Martian Argument can appeal to the very same things in order to distinguish the Martians from these other systems. One can use a 'parasitic' strategy to counter the conflation of Martian speakers with these other types of as-if language users. This objection's focus is wrong, since the issue at hand is whether the language the Martians speak is English, not whether they speak a language at all.

*Objection:* According to Laurence language acquisition and processing is the central explananda of linguistic theory. The data from such research is a rich source for potential confirming or refuting evidence. However only in the Chomskian account of what grammars are, is such data allowed to be relevant and since such evidence confers explanatory power on linguistic theory that gives us reason to favour the Chomskian view (Laurence 2003, 94 and 95).

*Reply:* Could someone be born knowing English innately? Or could we learn a language like Spanish by talking a pill without going through the usual channels of language acquisition?<sup>8</sup> If that is possible, then in what sense is language acquisition at centre stage of linguistic theory? The grammar of Spanish will not tell how it was acquired nor should that matter much to a linguist trying to figure out the grammar of Spanish.

What about language processing? Evidence about how we process languages might or might not be helpful when formulating grammars for our languages. There is no *a priori* exclusion of any evidence from

<sup>8</sup> Chomsky at one point thought the latter was possible (Chomsky 1980, 92-93).

theorizing about the grammar of, say, English, but neither is there any *a priori* guarantee that evidence from psycholinguistic studies will be relevant for linguistics. This leaves us with a picture of linguistics that is not of a discipline drained of explanatory power, closed to any sort of evidence for the correctness of a particular grammar or in any other way a diminished enterprise.

*Objection:* Generality is not always a good thing for a scientific theory. 'What is *the point* of construing linguistic kinds so that they apply equally to normal human English-speakers, Martians, Block's beings, even parrots and valleys?' (Laurence 2003, 96). One could of course have such a theory, but it would be of no explanatory value. Better then to discredit on theoretical grounds the Martian Argument and other dubious examples.

*Reply:* It should be clear by now that to lump the Martian speakers, Block's beings, etc. into one category of counterexamples is mistaken. The question then becomes why we should construe linguistic kinds so that they apply equally to normal human English speakers and Martian speakers, and one might add, what would a theory along those lines explain? The answers are easy. The reason for construing linguistic kinds that apply equally well to normal humans English speakers and Martian speakers is that in the lights of the defenders of the Martian Argument, the two are of one kind linguistically speaking. And by doing so you end up, if you succeed, explaining English grammar.

#### 4. In conclusion

The Martian Argument throws doubt upon the viability of the Chomskian Competence Thesis and Laurence's arguments fails to mitigate its force. Even Laurence concedes the following:

Perhaps some future science of language or communication will be interested in more general properties than properties connected to our ability to process and acquire natural language (Laurence 2003, 99).

Curiously enough, there is a science that is very similar to what Laurence describes and that is current linguistics. Computer linguists, for example, would be surprised to hear that they are not working in linguistics when they try to build machines that are supposed to communicate in (some approximation of) natural language with human language users. Most linguists it seems study general formal properties

of language rather than questions of how we acquire or process language. We have, of course, no guarantee that the practice of current linguistics will not change as psycholinguistics in all its facets come to maturation. Perhaps future linguistics will come to regard grammars as analogous to the water/H<sub>2</sub>O case and disanalogous to the case of jade. Perhaps. There is no *a priori* argument that rules out that possibility. But as for today the Competence Thesis seems too strong.<sup>9</sup>

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