Against a non-process-based definition of competence

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Chomskyan syntacticians have always insisted that the aim of transformational generative syntax is emphatically not to describe the causal processes that lie behind the production of a sentence, as originally prescribed by Chomsky himself. It is asked whether we ought not to abandon this arbitrary dictate. It is shown how the dictate has allowed the current instantiation of Chomskyan syntax, the Minimalist Program, to uphold a model that is incompatible with a realist, process-based understanding of how grammar works. Furthermore, the dictate has allowed generative syntacticians to ignore psycholinguistic evidence that should otherwise bear strongly on their theorizing. It is suggested that abandoning the Chomskyan non-process-based definition of competence could reopen the door to explorations in syntax that revert to the generative semantics of the 1960's and 1970's, rather than Chomskyan interpretive semantics.

Keywords*: competence, performance, transformational generative grammar, generative semantics, interpretive semantics, scientific realism*

1. General considerations

Ever since the middle of the twentieth century mainstream transformational syntax has subscribed to the dictate that in studying syntax the aim of investigators is not to describe the process by which language, say, a sentence, is produced, but rather to assess the competence of a speaker as it exists, as it were, in a snapshot in time:

> *A generative grammar is not a model for a speaker or a hearer…When we speak of a grammar as generating a sentence with a certain structural description, we mean simply that the grammar assigns this structural description to the sentence. When we say that a sentence has a certain derivation with respect to a particular generative grammar, we say nothing about how the speaker or hearer might proceed, in some practical or efficient way, to construct such a derivation. These questions belong to the theory of language use – the theory of performance. No doubt, a reasonable model of language use will incorporate, as a basic component, the generative grammar that expresses the speaker-hearer's knowledge of the language; but this generative grammar does not, in itself, provide the character or functioning of a perceptual model or a model of speech production* (Chomsky 1965: 9).

This dictate issued by Noam Chomsky in his view entails a key distinction between what is termed *competence* as opposed to *performance.* But note that this dictate is not, in fact, that which necessarily distinguishes between competence and performance, according to a common, contemporary understanding of these terms. Thus competence, the inner stored system of mental grammar can, in contrast to Chomsky's view of it, be seen to entail processual or causal aspects while still being distinct from performance, the more superficial cognitive mechanisms that execute the application of these inner grammatical representations.

Chomsky's dictate mandating a non-causal, non-processual system of inner grammatical representations has governed the party line of Chomskyan generative syntax from its beginnings through its evolution into *Government and Binding Theory* (GB) down to its current mainstream form as *Minimalism*. Thus, observe Chomsky's own comment in *The Minimalist Program* (1995: 380, note 3) coming about three decades after the above quotation:

> *Recall that the ordering of operations is abstract, expressing postulated properties of the language faculty of the brain, with no temporal interpretation implied. In this respect, the terms output and input have a metaphorical flavor, though they may reflect substantive properties, if the derivational approach is correct.*

This attribution of complete temporal abstraction to the notion of competence goes hand-in-hand with Chomsky's corollary that the purpose of a grammar is essentially to be able to generate all and only the grammatical strings of a language (Chomsky 1957: 49). Unfortunately, however, strict adherence to the dictate entailing only non-processual competence has resulted in theories of syntax that are notably *incompatible* and at odds with anything that could ever resemble a scientifically *realist*,[1] process-based model of how syntax and semantics function.

However, one can ask if we must continue to abide by this dictate that so severs the doing of syntax from a realist understanding of how grammar actually works. What binds us to this seemingly arbitrary notion that originates only with Chomsky and the independent scientific merit of which is dubious? Thus far this dictate has functioned as the loophole that has been used by syntacticians as an excuse for the fact that we don't yet have a transformational, generative syntactic theory that provides a model of how human language functions which can account for the causal relations involved. Thus many a syntax professor has been heard to explain that syntax does *not* consist in trying to construct a model of what we are actually doing when we utter a sentence – our apparent aim in syntax is emphatically *not* to describe how a sentence is produced in the brain (professors of the University of Toronto and York University Linguistics departments, e.g., Elizabeth Cowper, Alana Johns and Daniel Currie Hall, p.c.). But why should we continue to exalt this prescript? Perhaps if we were to abandon Noam Chomsky's dictate that a generative syntax is not supposed to model how language functions in a causal, processual manner we would be free at last to discover how we get from thoughts to words, that is, how human syntax truly works. While discovering how syntactic processes are computed in real time at the *micro* level of cells and chemicals in our brains – the less moderate form of realism referred to by Seuren as *hardware* realism (2004: 61) – does not have to be the goal of syntactic theory, at the very least the product of our investigation should be *compatible* with causal, processual models in the more general realist sense. Surely if any process model is of necessity *irreconcilable* with our syntax we are on the wrong track and in error.

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[1] A *realist* scientific theory attempts to elucidate the surface, observable facts of some phenomenon with reference to an underlying reality, seeking to explain causally how the underlying reality leads to the coming about of the surface facts. An *interpretivist* theory, on the other hand, merely attempts to find regularities in the surface phenomenon without attempting to understand how an underlying reality (if one is assumed to exist) causes their manifestation (cf. Seuren 2004: 61-62).

The above characterization of competence is necessarily to be distinguished from a broader understanding of the notion and is only one of the diverse aspects of Chomsky's own definition of it. Thus, competence also entails the knowledge underlying language that is divorced from things such as memory limitations and speech errors and repairs, and which assumes an idealized speaker in a uniform speech community. Chomsky himself explicitly ascribes such characteristics to the notion of competence, and in addition distinguishes between competence as "the speaker-hearer's knowledge of his language" as opposed to performance as being "the actual use of language in concrete situations" (Chomsky 1965: 4). This much can be easily accepted; however, expunging in addition all causal processes from the notion of competence as Chomsky does is what has played such a large part in contributing to the aforementioned deficit in contemporary generative syntactic theory.

Note that as mentioned above there is a distinction to be made between the difference between competence and performance, on the one hand, and between a static, non-process understanding of competence proper as opposed to an understanding that allows for this inner stored system of mental grammar to display process-based aspects, on the other. Thus, to say that the definition of competence – "the formal properties of our proposed linguistic representations" according to Bresnan and Kaplan (1982: xxii) – should entail notions of process is not to argue against distinguishing between competence and performance. The latter is defined by Bresnan and Kaplan (1982: xxii) as "the cognitive processes that derive and interpret [competence] in actual language use and acquisition". As one anonymous reviewer has pointed out, numerous authors have attempted to explain apparently grammatical (competence-based) phenomena in terms that are rooted in performance.[2] The present paper, however, is not suggesting that competence phenomena ought necessarily to be accounted for or supplanted by performance mechanisms but rather that Chomsky's understanding of competence needs to be broadened so as to allow it to be defined in a causal, processual manner.

Furthermore, the precise intention behind Chomsky's non-process-based definition of competence remains unclear. Jackendoff (2002: 56) attempts to characterize it this way:

> *A hearer presumably constructs [a sentence] first by deriving a phonological structure from the auditory signal and then using that to arrive at the syntactic and conceptual structures. But a speaker presumably starts out with a meaning to express and develops a syntactic and phonological structure from it. So although the structure is the same, the hearer and speaker produce its parts in different orders. This is, I think, the essential*

[2] Hawkins for instance has suggested that performance considerations such as parsing efficiency might account for what might otherwise be attributed to grammatical parameters rooted in a competence system (see, e.g., Hawkins, 2009). Sag et al. (2009) provide evidence that supports a processing/performance-based account of subjacency effects over a grammar/competence-based one. And O'Grady (2001; 2005) attempts to account for syntactic phenomena such as phrase structure design and pronoun interpretation this way. Thus O'Grady explains their characteristics chiefly with reference to underlying performance-related pressures -- primarily the drive of the mental processor to reduce the burden on working memory -- rather than according to principles of grammar.

> *difference between competence theories and processing theories. Competence theories are concerned with what the total structure is for either speaker or hearer. Processing theories are concerned with how the structure is built in real time, so they naturally bifurcate into different theories for the speaker and the hearer*.[3,4]

But who is to say, without independent justification, that the "total structure for either speaker or hearer" can in fact be divorced from "how the structure is built in real time"? And as Seuren (2004: 64) also wonders, what exactly does Chomsky mean to say with a comment like that in the second quote above that "the terms output and input have a metaphorical flavor"? Moreover, Chomsky himself at times strays from his own strictly defined notion of competence, or at least, leaves one confused as to whether he really intends to pursue a model that is completely abstract and atemporal. Thus Lenerz (1998: 110) has this to say in regards to Chomsky's MP:

> *This (derivationally conceived) computation takes place as a logical structure outside time and space (cp. p. 380, note 3). The question remains to what extent one can speak here of a description of the biologically given human language faculty, which can only be a concrete system bound in time and space. The abbreviation C_{HL} ("computational system of human language"), occasionally used by Chomsky, is therefore at least problematic, as long as the unclarity persists regarding the connection between the logico-deductive descriptive system and the concrete biological-mental system. One also wonders what could possibly justify the imposition on a logical system outside time and space of both economy criteria and the specific criteria derived from the performance systems A-P [Articulatory-perceptual system] and C-I [Conceptual-intentional system] that are external to the computation system, which, in the end, only mediates between them.*
> (Translation by Seuren 2004: 63-4)

In spite of such confusion engendered by Chomsky's definition of competence, transformational syntacticians continue to allow his non-process competence dictate to hinder the acknowledgement of fundamental flaws underlying theories such as GB and the *Minimalist Program* (MP). This also holds them back from seeking to establish a model that is at least compatible with moderate scientific realism.

2. Empirical considerations

2.1 *The necessarily derivative nature of case conflicts with the notion of "numeration" in the MP*

It can easily be seen that Chomsky's latest syntactic theory, the MP, has not led to an understanding of grammar that is at all compatible with a realist, processual model, as an example can demonstrate. One aspect of the MP that makes such a claim particularly evident is how it treats the phenomenon of Case and how this relates to its notion of what is termed the

[3] Note that if, as Seuren (2004: 83-85) suggests, comprehension proceeds via a *reconstruction-by-hypothesis* method, the differentiation underlying such a portrayal would be moot.
[4] Note that Jackendoff, unlike the present author, is using the term 'processing' to essentially mean 'performance'.

numeration. In the MP the numeration is the starting point for each derivation and consists of a list of all the lexical items that enter into a derivation *fully inflected*, along with an index for each one signifying how many times each lexical item appears in the numeration (Chomsky 1995: 225-238; Hornstein et al. 2005: 68-71). Each potentially Case-bearing lexical item enters the numeration with its Case already specified; in fact, according to Chomsky (1995: 237), the Case for each Case-bearing item gets specified as it is selected from the lexicon and deposited into the numeration. This pre-specification of Case is in fact an indispensable aspect of the MP model. Itallows diverse surface forms of Case to manifest in the phonological representation while being able to dispense with the representational level of *Surface Structure* (SS). SS was the level at which at which in GB, the version of Chomskyan syntax that preceded the MP, Cases were necessarily *assigned* to non-Case-marked DPs. Thus, now in the MP these already pre-assigned Cases merely have to be *checked*, either overtly or covertly, by the level that is understood to interface with the semantics, that of *Logical Form* (LF) (Chomsky 1995: 197; Hornstein et al. 2005: 111-112).

Such pre-specification of Case entails that Case is in no way seen to be a *derivative* phenomenon in the MP, dependent on the syntactic arrangement of items that surrounds it. This is in fact stated explicitly by Chomsky (1995: 237): "It is hardly plausible that Case and phi-features of book are determined by its position in a clausal configuration…Case and phi-features are added *arbitrarily* as a noun is selected for the numeration [emphasis mine]".[5] However, though phi-features do not derive from a syntactic configuration and are inherent to a noun, it is clear from a look at Case as it functions in a context known as *exceptional Case marking* (ECM) in English that it is necessarily a derived phenomenon that depends on the grammatical geography it finds itself in and thus cannot adhere to a lexical item pre-specified. Thus, in sentences (1) and (3) below, the masculine pronoun *he*, which functions as the agent and subject of the verb *go*, displays the nominative Case. In sentence (2), however, the masculine pronoun with the same semantic role and once again occupying the subject position of the clause with the verb *go* – but this time in a slightly different configuration – surprisingly displays the accusative Case. As the Case of a DP here clearly differs depending upon its syntactic context and the syntactic constituents that abut it, it can be seen that Case is a derivative phenomenon as far as the syntactic derivation goes and cannot be prespecified. Thus, in real time Case must be selected at a point that follows whatever enters the derivation as its starting point. One can only conclude that Case must derive from and not directly feed the structural syntactic manipulation that goes on during a derivation. Thus, at least GB (Chomsky 1981) was more on the right track in positing Cases that are assigned as a result of syntactic computation, rather than pre-assigned and merely checked later either overtly or covertly.

[5] Chomsky justifies this position by pointing out that nouns can be used in isolation in which case their Case and phi-features will be "fixed one way or another, though there is no structure" (1995: 237). Note though that while the phi-features of a noun in isolation don't imply any particular clausal structure, a certain syntactic structure is implied by the Case of a noun in isolation. Thus, if one says "*him*", in the accusative Case, as opposed to "*he*", in the nominative, in isolation the default implication is that the accusative pronoun constitutes a syntactic object that is missing a subject; likewise, genitive "*his*" in isolation evokes an undetermined possessive construction of some sort.

(1) ***He*** is going to the movies on Saturday.
(2) I expect ***him*** to go to the movies on Saturday.
(3) I expect that ***he*** is going to the movies on Saturday.

It would be impossible for the computation to 'know' which Case to assign to which nominal *before* further syntactic manipulations take place -- the only way it could "know" this if there were another, entirely separate, computation that preceded the main syntactic computations from which the numeration itself could be derived. But such a scenario would amount to in essence having an entirely distinct, *pre-syntactic syntax* that took place before the "main" derivation – a far from efficient or minimalistic situation!

Another example demonstrating the necessarily derivative nature of Case is found in languages like Latvian, where the Case on a nominal occurring with a preposition differs depending on the preposition; moreover, in Latvian the same preposition will assign a different Case depending upon whether the nominal is singular or plural. This shows that Case is a derivative marking that occurs depending upon the structure of multiple words in concert, and couldn't be "known" by the syntax ahead of the concatenation of the entire prepositional phrase and hence couldn't be pre-assigned in a numeration.

It is obvious furthermore from split-ergative languages that nominals can't enter the derivation with their Cases prespecified, as any given nominal won't be able to 'know' which Case it is supposed to surface with until other aspects of the combined syntax have been determined. Thus, in a language for instance where the Case marking on verb arguments might follow an ergative-absolutive pattern if the verb is in the perfective aspect, but a nominative-accusative one if the verb is imperfective, the Case of certain nouns couldn't be determined until the aspect of the verb is established. Thus, once again, it is clearly seen that Case is a derivative phenomenon with respect to the syntax and that nouns cannot enter a derivation with their Case pre-specified. If Case is to be seen as being selected by the numeration in a realist sense there must necessarily be a separate syntax at work, not presently accounted for in the MP, that derives the numeration in the first place, which would essentially leave much of the rest of the syntactic computation described by the MP more or less redundant.

2.2 *Flaws with the 'random generator' model call for a return to the semantics-driven syntax of generative semantics*[6]

Of course, another approach, one not compatible with a realist causal, processual model of language production from thoughts to speech, would assume that nominals can enter a derivation pre-specified with their Cases because surface structures are *not*, in fact, to be seen as the output

[6] As one anonymous reviewer has pointed out, not all aspects of generative semantics are necessarily desirable; in particular, its derivations typically resulted in syntactic trees that were overly large and cumbersome (see for instance the (in)famous representation to the sentence *Floyd broke the glass* by George Lakoff and Haj Ross, moderately elided in Harris (1993: 214)). As the same reviewer points out however, syntactic derivations in the MP are also often inordinately complex. The one very desirable characteristic of generative semantics that is the present focus is its premise that semantics underlies and precedes the syntactic computation. This is in contrast to the Chomskyan interpretive semantics view, according to which the semantics is interpreted from the syntax only at the end of the syntactic derivation.

of syntactic computations upon semantic input. Rather surface speech is to be regarded as the end point of derivations that begin with what Seuren (2004: 46-49; 149-161) terms a *random generator*: syntax and semantics must operate on an output that already contains the basis for a sentence, the origins of which are entirely random and arbitrary. This is in fact the approach entailed by contemporary Chomskyan syntactic theory, including that of the MP, and ultimately made possible by the competence dictate that forbids competence theorists to be concerned with how a sentence is actually produced in terms of a process. Thus, in the MP, the numeration must necessarily be seen as the product of this kind of a *random generator*. This is, furthermore, of course the inescapable conclusion of Chomskyan *interpretive semantics* (IS), as opposed to the *generative semantics* (GS) view of the 1960's and 1970's. The IS position holds that a syntactic product needs to be *interpreted by* the semantics only by the end of a derivation. GS on the other hand holds that semantic information is what drives the computation which yields a surface syntactic output (cf. Newmeyer 1986: 81-138; Harris 1993). It is clear that a view in which semantics drives the syntax is better suited to model the actual causal mechanisms at play in generating language, which can only be ignored as long as Chomsky's non-process-based competence dictate stands.

As one anonymous reviewer has pointed out, it should be noted that an increasing number of works written from a Chomskyan Minimalist perspective actually diverge from their master with regard to the conception of the numeration as consisting of a collection of phonologically specified lexical items. Such works in fact display treatments that resemble those of GS in that they begin with an input of non-phonological features and adopt the late insertion of phonological exponents. A number of such treatments (see, for example, De Belder & van Craenenbroeck 2014; De Belder & van Craenenbroeck 2015; Kramer 2016), however, adopt a Distributed Morphology (DM) framework (Halle & Marantz 1993; Harley & Noyer 1998; Harley & Noyer 1999) in which the derivation starts off with only syntactic features, leaving all semantic features of roots, for example, to be filled in after the syntactic derivation has ended (Harley & Noyer 1998: 7-14; Harley & Noyer 1999: 3-5). This means that in this view the syntax generates a complete sentence – including the positions to be filled in by roots – first, before the entities that are denoted semantically by the roots are even considered. In fact, in many DM treatments the decision to insert any semantic root lexical items is essentially left to free choice (Harley & Noyer 1998: 7, 10; Harley & Noyer 1999: 5; De Belder & van Craenenbroeck 2015: 650).[7] While such a system is compatible with a Chomskyan IS random generator model, displaying, as Seuren says, the "production of thought through language" (Seuren, 2004: 27), it is utterly incompatible with a realist model that reflects the process whereby an input of thoughts is translated by the syntax into a linguistic output.

[7] Note that some more recent work in DM differs slightly from this conception in positing that roots are in fact individuated prior to the syntactic computation, but not semantically. Thus in Harley 2014 (225-227; 242-247), for instance, roots are pre-identified with an abstract index. One author, Daniel Siddiqi, did briefly purport in 2009 (18-20) to embrace a DM model in which roots come semantically pre-individuated, which would in fact be compatible with a GS view. However, he has since abandoned this view and opted instead for a model that is compatible with the pre-individuation of roots by means of abstract indices (invited talk given at Morphology in Montreal-Ottawa-Toronto (MoMOT) 3, November 17th, 2018).

2.3 *Performance considerations incompatible with a non-process competence dictate invalidate the phase theory of the MP*

Holding tightly to Chomsky's dictate that the aim of syntax is not to discover how in a temporal, causal sense speech is produced also allows contemporary transformative syntacticians to ignore evidence that could otherwise be brought to bear on the subject from other disciplines such as psycholinguistics. Take, for instance, the notion of *phase* and concept of *derivation by phase* found in the MP. According to Chomsky (2000; 2001) (see also, Hornstein et al. 2005: 346-362), the product of a linguistic derivation is spelled out phase by phase, starting with the most embedded phase. A *phase* is taken to be a unit of syntactic structure that is inspected for convergence; if it converges the phase is spelled out and the derivation proceeds but subsequently as per Chomsky's *Phase Impenetrability Condition* (e.g., Chomsky 2000: 108; 2001: 13) the computation may not access whatever is inside the inner domain of the phase.

However, according to Labelle (2007: 6), psycholinguistic research has shown that syntactic processing takes place "left to right" and not "right to left" as in Chomsky's phase-based theory. She argues that short-term memory constraints simply would not allow language users to spell out a series of phases and store them in memory until the final one is reached and then articulate or process them in reverse order:

> *…whether from the point of view of the speaker or of the hearer, the computational system doesn't treat sentences starting from the most embedded phase in a language like English. Instead of saying: Who said that Mary gave a book to Paul? speakers don't spell-out something like the following (brackets added to make clear the approximative derivation): [v*P phase1 gave a book to Paul] [CP phase2 that Mary] [v*P phase3 said] [CP phase4 who]? It will not do to assume that speakers can keep in memory all the phases already planned, waiting for the most external phase to be completed, before spelling them out in the reverse order. The capacity of short term memory is simply too small for that.*

Once again, we see that the decades-old dictate enjoining syntacticians to abstain from describing causal relations underlying the production of sentences is at work. Unfortunately, here we see how it can lead adherents of the MP to ignore crucial performance-based considerations that would otherwise bear significantly on their model.

3. Conclusion

Perhaps we ought to jettison the Chomskyan dictate that it is not the aim of the syntactic enterprise to seek compatibility with an instantiable, process-based model. Such a move might necessarily lead to a realistic re-evaluation of the supposed merits of IS, as opposed to a GS view, as a next step. Seuren (2004: 169-190) revisits Chomsky's arguments dating as far back as the early 1970's that supposedly necessitate accepting that some aspects of meaning must be contributed in the syntax at the surface level rather than at the deep structure level and shows that

they are faulty.[8] Such arguments would have been the only thing that could possibly be used in defense of a random-generator syntax.[9]

As Pieter Seuren says, since it's obvious that a random language generator is not found in the brain, Chomskyan interpretivist syntax must necessarily be regarded as an example of scientific instrumentalism. However, at the end of the day, in order to come up with a realist model of how speech is actually produced that can causally explain the inner workings of language, a GS analysis, rather than an IS one, is required, with meaning driving speech. As Seuren puts it:

> *All [Chomsky's] theory of language and grammar does is provide for a purely algorithmic account of how a potentially infinite array of different sentences can be built up from a finite collection of primitive elements, but how sentences built up in this manner can be seen to express thoughts is left totally unexplained.*
> *In none of its successive varieties does the Chomskyan random-generator concept of grammar contain or imply anything like an account of the notion "expression of thought through language". On the contrary, it invites the utterly unintuitive notion "production of thought through language". (Seuren 2004: 4; 27)*

But if this is the case, of what benefit in the overall scheme of things is it to explore, in addition to a realist model, a non-causally based instrumentalist, IS analysis, like that Chomsky presents? It essentially only points us to an *alternative* way a sentence *might* be constructed if language was other than it was; thus, what positive contribution does it ultimately make towards the science of understanding how language works? To arrive at this goal while pursuing Chomsky's model one would have to necessarily construct two distinct versions of syntax. One of these would necessarily be *incompatible* with realism, therefore, not reflective of the actual mechanisms at play. This is ultimately the consequence if one holds to Chomsky's insistence that the goal of syntax is not to describe how we actually produce language in terms of a causal process.

In sum, perhaps there would be much merit in reconsidering the accepted dictate of Chomskyan linguistics that transformational syntacticians are not to attempt to discover the causal, processual aspects of how the syntactic system inside the mind functions. Otherwise, as Labelle (2007: 7) says, we are "pretending that what we are doing is describing the computational system for the human language…while what we are really doing is constructing a linguistic system independent of psychological and biological concerns."

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[8] Seuren argues that there is no reason to accept that focusing strategies, for instance, have to be seen as deriving from the surface structure. He suggests that they are in fact better accounted for as originating from cleft structures present in the underlying semantic structure. He likewise shows that presuppositions and assignment of operator scope, two other phenomena Chomsky argues are surface-derived, are best seen as deriving from deeper semantic structure (2004: 169-190).

[9] Moreover, as Seuren (2004: 150-151; 169-170; 172-174) points out, in the MP there is no feeding line from the surface, Phonological Form (PF) of an utterance to its Logical Form (LF) (i.e., its semantic form) (unlike in the MP's predecessor, GB, where the surface structure directly fed LF). For this reason any aspects of meaning that are contributed at this surface level could not be fed into the LF regardless, so such arguments could not be used to defend the MP version of a random-generator model.

Upon reflection it becomes clear that considerations of performance ought to bear upon the construction of generative syntactic models of linguistic competence. This obvious fact is obscured by Chomsky's dictate eschewing the inclusion of causal factors in his stated definition of competence. As Seuren (1996: 5-6) has noted,

> *Relevant hard results of psycholinguistic experiments have to be respected by the linguist…An interesting and fruitful dialogue will then come about between linguists and psycholinguists against the double backdrop of psycholinguistic and linguistic theory formation.*

As one anonymous reviewer has pointed out, numerous psycholinguists have shown how performance-based criteria can be used to evaluate alternative linguistic theories (see, for example, Sedivy's account of the 'parsing wars' over *garden-path* versus *constraint-based* models of syntactic representation and processing (Sedivy 2018: 289-306). Moreover, serial models of speech production in psycholinguistics typically display compatibility with a GS-type conception of syntactic representation, according to which the semantics drives the computation and feeds the syntax, as opposed to an IS model of syntax and semantics where a syntactic input ends up 'interpreted' semantically at a later stage of the derivation (e.g., Bock and Levelt's model (Bock and Levelt, 1994: 946)). Such information shouldn't be disregarded by competence researchers. Furthermore, Jackendoff (2002: 57-59) identifies Chomsky's stance of rigidly separating his notion of competence from that of performance as seeming to have hardened over the years and points out that this is unfortunate. Surely, we should take our cue from such sentiments and revise our models accordingly; such action, however, might necessitate finally letting go of Chomsky's firmly anti-causal definition of competence.

At the end of the day, transformational generative syntacticians need to cease staunchly upholding the Chomskyan dictate that forbids studying the processual, causal mechanisms that necessarily underlie how a sentence is actually produced. Otherwise, we risk expending our efforts towards an enterprise that is ultimately redundant from the point of view of scientific realism and considerations of performance.

Abbreviations

DM – Distributed Morphology
ECM – Exceptional Case Marking
GB – Government and Binding Theory
GS – Generative Semantics
IS – Interpretive Semantics
LF – Logical Form
MP – Minimalist Program
SS – Surface Structure

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