Chomsky's London

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Semantic externalism is the view according to which proper names and other nominals have the capacity to refer to language-independent objects. On this view, the proper name 'London' is related semantically to a worldly object, London. Chomsky's long held position is that this relational conception of reference is untenable. According to his internalist framework, semantics should be restricted to the examination of the informational features of I-language items. Externalists reject this restriction by saying that without employing the relational notion of reference, it would remain entirely mysterious how we can talk about our perceptible environment. This paper offers a novel argument for externalism. The basic idea is that external reference proves to be indispensable even for Chomskyans who regard our talk about the environment as irrelevant for the purposes of semantics.

Keywords: Nominal reference; externalism; invariantism; internalist semantics: indispensability.

1. *The semantic value of 'London' is not London*

Chomsky emphasizes in several of his later writings (e.g. 2000, 2013, 2016) that the standard externalist semantic theory of reference is untenable. Chomsky's main contention is not that semantics as a serious scientific enterprise is impossible *tout court* or that the technical term 'reference' is entirely meaningless. The problem lies rather in a lethal combination of two general linguistic points of view: externalism about semantics and invariantism about reference. Semantic externalism is based on a world-oriented perspective that goes beyond the mental states and processes of language users. Those who adopt this perspective assign worldly objects and events to expressions as their semantic

values. Proper names and other nominals are supposed to be related causally, historically or functionally to their referents which, in turn, are thought of as existing at least partly independently of the mental. The other point of view, invariantism about reference, is a natural companion of semantic externalism. If reference is conceived as being a certain kind of relation between expressions and language-external objects, then a second plausible hypothesis is that reference-apt nominals are related either to a unique individual or to a specific type of object. Accordingly, invariantism amounts to the claim that, vagueness and ambiguity aside, referential relations remain constant in all possible contexts of use. It does not really matter what is asserted about the unique bearer of a proper name, the name refers to *that* bearer in all of its contextual applications. And it does not matter in which sentential structure a particular nominal appears, it will refer always to the *same* type of object.

The combination of these ideas fits into a venerable tradition from Russell to Kripke, not to speak about some more recent developments in truth-conditional semantic theories.[1] Moreover, many of the research results of this tradition proved to be easily compatible with the hypotheses of other data-driven sciences that are devoted to investigate the cognitive and neurological basis of language.[2] If this is indeed the real situation of research, and there is a growing body of semantic-independent evidence that many items in the nominal domain have a stable relational structure, then it is hard to evade the question: what are Chomsky's theoretical reasons for rejecting this tradition? Are there persuasive arguments that force us to give up combining externalist and invariantist theories of reference entirely?

In an often-cited passage of his book *New Horizons in the Study of Mind and Language* Chomsky seems to offer such an argument:

> Referring to London, we can be talking about a location or area, people who sometimes live there, the air above it (but not too high), buildings, institutions, etc., in various combinations (as in *London is so unhappy, ugly, and polluted that it should be destroyed and rebuilt 100 miles away*, still being the same city). Such terms as *London* are used to talk about the actual world, but there neither are nor are believed to be things-in-the-world with the properties of the intricate modes of reference that a city name encapsulates. (Chomsky 2000: 37)

The first sentence of this passage reminds us that such ordinary proper names as 'London' can be used colloquially to refer to more than one object. Instead of being related to a unique referent (i.e. a city), 'London'

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[1] Reference fixing is today one of the most intesively investigated issue in this field. See, for example, the contributions of Dickie (2015) and Gómez-Torrente (2019) to this theme.

[2] See, among others, the individual volumes of the Springer Series on *Studies in Brain and Mind*. To mention one of these studies, Calzavarini (2019) points out that the question whether humans have referential capacities can, in principle, be decided on the basis of neuroanatomical data.

appears to be a systematically polysemous expression. It is thus best conceived as a means which offers multiple assertoric possibilities for ordinary usage: we may talk about a location, about a certain set of citizens, about various institutions and buildings that belong to a local government etc. by applying one and the same expression. If this is so, as it appears to be, then the question 'What is *the* referent of 'London'?' is utterly misleading. We should allow for more than one potential referent for this name, and, as Chomsky's example nicely illustrates, there is no need to invoke distinct conversational contexts for demonstrating this claim. Different referents may occur even in a single sentential/predicative structure. Although it is far from being a knockdown argument against external referential invariance, the polysemy argument clearly shows one thing, namely, that without a careful analysis even the most simple and most plausible examples of this semantic phenomenon remain unpersuasive.[3]

The second sentence of the passage acknowledges that 'London' may be used to refer to language-external objects, but it rejects the assumption according to which these language-external objects have a real existence. Note that the qualification 'language-external' ought to be understood here as a mark of ontological status: if an object is external to language according to its ontological status, it must exist outside the mind. So what is rejected is the assumption that there is a determinate object (or there are determinate objects) outside the mind to which 'London' may refer in our referential talk. While this may sound for some as a sheer contradiction, this is not at all the case. The crucial element in the argument is the (age-old) distinction between *uses* of names for referring to objects and *names* referring to objects. One can see the referential use of names for our daily purposes as wholly unproblematic and at the same time deny that names are devices of reference according to their very nature. Language users are skilled enough to refer to the external world by using the proper name 'London' but from this it does not follow that there really is something in the external world that answers to their referential practices. For this being the case, Chomsky suggests, London as an external object of reference would have to possess apparently incompatible properties. For example, *is a location* and *functions as the centre of government* denote categorially different predicative properties, the first being a property of spatiotemporal objects, the second being a property of abstract artefacts. Yet we can rather easily construct a sentence in which these two properties are predicated simultaneously about the (putative) referent of 'London'—*London lies on the river Thames and functions as the centre of government*—without evoking any sense of conflict or anomaly. This shows, again, that in everyday usage names may re-

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[3] Defenders of referential invariance may argue that 'London' uniquely and invariantly refers to a city, but this name might occasionally refer to other objects through the intervention of certain metonymical processes. For an argument of this type, see Vicente (2019).

fer to objects that have incompatible properties but these usage data do not entail that there are objects that exhibit incompatible properties.

The central idea behind this example is that the externalist viewpoint in semantics must be accompanied with an extravagant ontology: if one takes nominal reference to be a kind of word-world relation, then one must populate the world with such weird objects that are, say, concrete and abstract at once. One immediate consequence is that the semantic value of 'London' is not and cannot be London. As mentioned above, Chomsky rejects externalist *cum* invariantist approaches to reference without claiming that semantic theory as such rests on a fundamental mistake. What is, then, the alternative picture about semantics?

Chomsky's opinion is quite precise in this regard. In order to make progress in understanding human language, linguistics in general and semantics in particular should define itself as a branch of naturalistic inquiry. This means, roughly, that linguistic research ought to apply the standard methods of natural sciences, and the explanatory models of linguistics should introduce only well-defined terms into their theoretical vocabularies. For such terms that are infected by human interests and unreflective thought, there is no place in a serious language science. According to Chomsky, all terms that are somehow associated with the hypothesis of *English as a public language* belong to this latter category. Thus, 'assertion', 'referring name', 'language-external object', and many more similar terms that are dependent on the legitimacy of the term 'public language' loose their explanatory power in a genuine naturalistic enterprise. What remains is the replacement of these "obscure" externally anchored terms with their internal equivalents. Chomsky argues forcefully in many places that the only viable alternative to the externalist tradition is to see language as an internal property of an individual. Seen from an externalist point of view, languages can be identified with classes of observable objects, phonetic and graphemic strings. If an approach to a natural language focuses on such public external objects, the target is called an E-language. In contrast, an internal-individual language—an I-language—should not be thought of as an object in the sortal sense of the word. It is not something that is represented in the mental sphere of an individual in the format of Fodorian Mentalese or of a shared, internalized language code. Rather, it is a provisional state of the mind/brain of a particular individual. And as such, it is part of the general biological makeup of the individual. It is worth stressing, however, that internalism does not lead to a solipsistic conception of language. Although I-languages are mind/brain states that are realized in distinct individuals, there are significant similarities between these states. Among other things, I-languages have a common biological base which guarantees that they share several biological/functional properties.

What is more important with respect to our initial problem—the natural-seeming semantic relationship between 'London' and London—is that I-languages are held to be abstractly characterizable sys-

tems that perform computational operations on syntactic items. Let us suppose that in order to use 'London' competently, one must possess an I-language item *london'*. If *london'* is a lexeme, then, according to the current Chomskyan background syntax, it is an atomic mapping of sound and meaning. If it is a more minimal syntactic object, then, perhaps, it is a category-neutral root. Either way, *london'* must provide some legible information to the articulatory and the conceptual interface systems of the mind/brain of individuals. We can say that, in the Chomskyan framework, the proper task of semantics is to investigate how the information at these interface systems enables the individual to *use* 'London' for talking about various aspects of the language-external world (Chomsky 2003b: 294–295).

In sum, within the internalist framework of linguistics, semantics should be conceived of as a form of syntax. This reinterpretation entails a narrowed domain of investigation in the sense that semantics must be restricted to the examination of the elementary informational properties of I-language items. The analysis of the nature of word-world relations—that is, the analysis of the mechanisms of nominal reference—falls outside of this domain. Which means, in turn, that semantics as a genuine naturalistic inquiry does not, and should not, incorporate substantive theses about the ontology of the mind-external world (Collins 2009: 56–57).

2. *Ineffective externalist responses*

Proponents of externalism might think that the "deontologization" of semantics is too a high price to pay to solve the problem generated by the incalculable referential behaviour of 'London' and other nominals. It could be argued that if one denies that there exists a relation between nominal expressions and objects that have a language-independent ontological status, then it remains peculiar or mysterious how we can talk about anything at all that is outside of our mind/brain. This kind of objection is not unfamiliar in the literature on reference. An eminent example is Burge (2003), who defends the traditional externalist standpoint in the following way: "I see no reason to think that there is anything scientifically wrong or fruitless in studying language–world relations, or with taking them to be part of the formal structures elaborated in semantical theory. Like aspects of the theory of perception, this aspect of semantics is not internalist, even in Chomsky's broad sense of internalist" (Burge 2003: 466). Silverberg's (1998) earlier counter-argument to Chomsky's internalist framework seems to be of the same type as that of Burge as he has said that "our perceptual abilities provide a basis … to our ability to refer to particular things and to indicate classes of things, even if our conceptions of these things and classes contain significant error" (Silverberg 1998: 231–232).

To posit a direct justificatory link between the theory of perception and semantic theory may appear to be a good argumentative strat-

egy in this context for two reasons. First, it is commonly assumed in cognitive science and epistemology that, under normal circumstances, processes of perceiving carry sensory information about objects that are external to our mind/brain. If perceiving is essentially a *relational* process, and our talk about the external world is closely and multiply intervowen with the informative content of these processes, then we might surely assume that out talk about the world has also a relational structure. Relationality in language may be taken, in the end, as a property that is inherited from direct sensory contacts with the world. Second, during perceiving how things are, individuals maintain a rather complex relationship to their environment. Presumably, the theory of perception has enough resources to specify which of the elements of this relationship are causally determined. On this basis, one can give a precise explanation for why a given individual in a given perceptual circumstance is in a particular perceptual state. And given that perceptual states are internal states of individuals, one can further argue that environmental causal factors are constitutive with respect to a certain range of internal states. This can be taken to show that some specific internal mind/brain states of individuals, including I-language states, would not exist without persistent environmental inputs.

It is questionable, however, whether this kind of argumentative strategy can be applied successfully against the central theses of Chomsky's internalism. For it is surely not part of the internalist framework that semantics should be entirely decoupled from the perceivable world of language-external objects. Undoubtedly, there are some passages in Chomsky's recent work that can be read in an opposite way. Such an impression may arise, for example, when he talks about science in general, and says that the scientific enterprise can be regarded as making use of our *innate* "cognoscitive powers", which are only marginally influenced by the environment.[4] This sounds as if the the proper aim of science were to disentangle our internal and innate capacities. But the crucial point lies elsewhere. That the internal mind/brain states of individuals may be determined externally is so obviously correct that it would be irrational to deny it. Chomsky mentions three factors that are relevant in this regard: (i) the human genetic heritage, which functions as a biological basis for language acquisition, (ii) environmental information that give an individual shape to I-languages, and (iii) certain cognitive and physical edge conditions without which I-languages were impossible (Chomsky 2007: 3). But none of these three external factors shows that I-language items *must* be endowed necessarily with world-related information. In fact, something like the opposite is the case. The objection levelled by Burge, Silverberg and others assumes that if there is such a thing in language as (inherited) external relationality, then it has an immediate explanatory relevance for the semantic properties of internally generated I-language items. In fact, beyond a

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[4] See, for example, Chomsky (2003a: 41).

gesture towards perception, it is hard to find clear evidence that this is indeed a plausible assumption. According to the internalist view, semantic "theory" sees only the syntactically computable features of lexical items: *london'* is seen as a package of formal features that can be transferred to the interface systems in successive phases of derivation. The issue whether the surfaced item, 'London', is related in its interpretation to a worldly object, falls outside the scope of semantics proper.

As mentioned above, Burge and Silverman are not the only representatives of this questionable critical interpretation. Kennedy and Stanley (2009), in their otherwise excellent paper, raise the following objection against Chomsky's treatment of 'London':

> One class of example that Chomsky gives concerns sentences like 'London is a city in England.' According to Chomsky, native speakers will tell us that this sentence is actually true. But Chomsky thinks it is quite clear to all that the city of London, the standard semantic value of the noun phrase 'London', does not exist (Chomsky 2000: 37). We certainly do not accept his reasons for thinking so. Nevertheless, even if we did, this would not give us a reason to reject semantic theories that assign to the sentence 'London is a city in England' truth conditions that require there to be a genuine entity in the world that is actually called 'London'. It would just give us a reason to conclude that none of the non-negated sentences containing the word 'London' are true. (Kennedy and Stanley 2009: 586–587)

As Stoljar (2015) rightly observes, Kennedy and Stanley here misinterprets what Chomsky is saying. They suggest that, according to Chomsky's opinion, London, the city, does not exist. This is not quite correct. Chomsky never contends that there is no such thing in the world as London. In fact, he emphasizes just in the quoted passage that *London is not a fiction*. What does not and could not exist in reality is, according to him, a determinate naturalistic object, which can be taken to be the contextually invariant referent of 'London'.

There is a second misinterpretation in Kennedy and Stanley's line of thought. Chomsky says that native speakers judge the sentence 'London is a city in England' as true. Note, however, that this contention is based on an empirical conjecture about how speakers *use* that sentence. Disturbingly, Kennedy and Stanley take this example as if it concerned the semantic status of the name 'London'. It is not so. At least, it is not so according to an I-language based model of semantics. In that model, 'London' has no semantic status at all.

King (2018) seems also to misunderstand Chomsky's London example. King claims that it is not lethal for an externalist semantics that speakers can use a particular proper name for referring to distinct types of objects. The adequate externalist response to this problem is to relax the strong invariantist condition on reference (King 2018: 781–782). The essence of King's proposal is that one should attach multiple polysemous meanings to names. If 'London' can be used for referring to a location, then one ought to say that it has a meaning *London1*. If

'London' can also be used for referring to a certain set of citizens, then one ought to say that it has another meaning, a meaning, which may be called *London2*, and so forth. This multiplicity does not generate puzzling beliefs or other opaque attitudes in speakers, argues King, since they are fully aware that *London1*, *London2*, etc. are related to different objects. Moreover, one might assume that *london'* possesses exactly so many internal semantic features that are required by these diverse external objects. If one thinks that the observable multiplicities of meaning must somehow be mirrored at the I-language level, this is a reasonable assumption. Yet it is not completely clear, how this proposal would solve the original problem. Recall that internalism rejects public usage as a reliable data source for semantics because ordinary "usage facts" are highly opaque phenomena, and thus the term 'public language' cannot be precisely and coherently defined for scientific purposes.[5] In this regard, King's proposal seems to rest on a problematic argumentative step: we are invited to draw a conclusion through a backward inference from public usage to I-language semantics. After all, given the scientifically intractable character of public languages, it might have been better for King to avoid premising his argument on facts of ordinary usage.

3. *Departing from the inside-out direction*

I do not wish to claim that all of the extant externalist responses to the London example are ineffective; there might exist a powerful counter-argument to Chomsky's internalism that has simply escaped my attention.[6] I want, however, to call attention to a hitherto (so far as I can find out) undescribed way of defending the traditional doctrine of semantic externalism. The kind of defense I have in mind need not be motivated by arguments from perception or from other epistemically significant relations to the environment. And it also does not need to be based on arguments that attribute significant explanatory value to the observable behaviour of speakers. As we have seen above, Chomskyan internalists can hope to gain easy victories in debates, where they are confronted with critical challenges that they reject as scientifically irrelevant or inappropriate from the start.

The character of the debate about 'London' (and London) can be changed, however, when one takes into closer consideration how in-

[5] Though it is a side issue here, let us note that it would be quite important to understand in what sense linguistic theories are dependent on the reliability of their data sources. For a systematic treatment of this issue, see Kertész and Rákosi (2012).

[6] Since this paper focuses primarily on the problem of reference, I do not want to discuss the recent turns in the debate about copredication. Of course, one cannot examine the phenomenon of copredication without touching the possibilities of nominal reference. On this, see Collins (2017), Gotham (2017), Liebesman and Magidor (2017, 2019), and Ortega-Andrés and Vicente (2019).

ternalists make use of their *own* arguments. One interesting aspect of Chomsky's argumentative strategy is that in order to deny that London is the semantic value of 'London', he seems to be compelled to accept that under certain circumstances 'London' has to stand for London, the city, and for *nothing* else. Such an invariantist figure of speech must be legitimate even according to his strict naturalistic standards of scientific reasoning. For if it were ambiguous or otherwise misleading to say that 'London is a city in England', then it would also be pointless to claim that London cannot function as an invariant semantic value for 'London'.

There are two inter-related reasons for this. First, names are specific nominal items in the sense that they can become part of a natural language only under relatively transparent conditions. When a newly introduced name is intended to stand for a settlement, there must be an appropriate sortal object, a highly populated area, that somehow can serve as the unique bearer of the name. And similarly, when a newly introduced name is intended to stand for a location, there must be an appropriate sortal object, typically a geographical space, that somehow can serve as the unique bearer of the name. It does not really matter in which way the intended bearer of a new name is accessible in the context of name-giving. In cases where it can be identified unproblematically with perceptual means, there is no need for linguistic intervention. In other cases where direct perceptual identification is impossible, the intended bearer should be identified by applying descriptive sentences. What is important is the (relative) epistemic clarity of the name-giving situation: in order to attach a name to a particular object, one should be aware both of the uniqueness and of the sort of the object in question. Probably all ordinary proper names acquire such a privileged sortal value due to the originating act by which they are introduced into the lexicon of a particular speech community. It would certainly be surprising, if it turned out that, instead of focusing on a single object, 'London' has been introduced by a group of speakears conjunctively for standing for a settlement *and* a location *and* a set of people *and* many other sort of things.[7]

Second, in denying that 'London' has an invariant semantic value, one cannot but presuppose the sortal referential capacity of the name which figures in the act of denial. That is, in order to make the nega-

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[7] As a referee points out, it is not mandatory to see name-giving as providing a deciding evidential support for externalism, because introductory acts can also be construed internalistically. Hinzen (2007) could be cited as an example in this respect. Hinzen's main contention is that external name-giving presupposes the pre-existence of individual concepts, and individual concepts are accomplished by narrow syntactic processes. From this it follows that name-giving is an internal process regarding its informational sources. Of course, one can follow this argumentative path but then the burden is to explain the possessing conditions of the individual concept LONDON without involving mind-external factors. It is not clear to me whether Hinzen's internalist approach can overcome this burden.

tive verdict—'The semantic value of *London* is not London'– a non-ambiguous scientific claim, the object language term 'London' should be taken as having a pre-established external significance. Without making this presupposition, without implicitly granting that there is a privileged value attached to the name, one cannot even consistently formulate such a claim. The most plausible candidate for this value is, of course, the object that has been selected for and identified in the original name-giving situation. So, in spite of all protests, the internalist approach to nominal reference must take at face value the 'London'/London uniqueness relation *prior* to making any verdict about the I-language features of *london*.[8]

Note, however, that what is at stake here is *not* primarily the questionable status of public language. One can find a rather close analogy to this situation in the literature on basic logical inferences.[9] There the question is: how can one explain the phenomenon of inferential validity. If it is known, for example, that from *A* and *If A then B* one may safely infer *B*, then there must be some kind of explanation of why one can confidently rely on this rule of inference. The difficulty is that the most straightforward explanation of this fact deploys the same rule of inference in an indispensable way. The derivation of the conclusion from the premises starts from the assumption of the two premises, then it follows the step of modus ponens, and the process of derivation ends with a twofold deployment of conditional proof.[10] Since this series of steps includes the target of the explanation—*A* and *If A then B*, then *B* –, the derivation of the validity of the rule proceeds in a circular manner. One possible view concerning the source of this particular difficulty says that basic inferential validity is presuppositional in the sense that the logical enterprise is committed to certain transitions between sentences in the form of rational trust.

Issues of rational trust aside, it is not hard to state an analogy between contested semantical and logical phenomena: external referential invariance appears to be indispensable for basic semantic explanations in the same way as inferential validity appears to be indispensable for

[8] If this or something similar is the correct way of understanding nominal reference, then the following question arises: how can 'London' be used to refer to so many sort of things? It is worth stressing that identifying privileged semantic values for names is compatible with many proposals about our referential practices. It can be argued, for example, that 'London' might change its value due to pragmatic processes like meaning modification or reference-shift. Such pragmatic processes are rather complex and supposed to involve many contextual factors.

[9] For more on this, see the debate between Boghossian (2003) and Wright (2004, 2018).

[10] Wright (2004: 173) presents the derivation in the following manner:

1	(i)	P	Assumption
2	(ii)	If P, then Q	Assumption
1,2	(iii)	Q	(i), (ii) Modus Ponens
1	(iv)	If (if P, then Q), then Q	(ii), (iii) Conditional Proof
	(v)	If P, then if (if P, then Q), then Q	(i), (iv) Conditional Proof

basic logical explanations. To repeat, external referential invariance, as it is taken here, is not a marginal semantic assumption that can be suspended as soon as one leaves behind the suspicious dimension of public language. Rather, it is an inherent, *sui generis* capacity of nominals that cannot be considered as a secondary reflex of a more specific or more fundamental semantic capacity. It is hard to imagine how one can cast doubt on the existence of this capacity without undermining the intelligibility of those parts of semantic theory, which are dependent on the exercises of that very same capacity. In light of this, one can pose a touchstone question that all parties of the debate must answer:

> *The Question of Explanatory Indispensability.* Is there any coherent way to deny the possibility of external referential invariance without applying nominals that have the capacity to refer invariantly to a particular external object?

Traditional externalists are in a position to answer this question with a resolute 'no'. They hold that reference as a basic dyadic relation between words and the world must, on pain of intelligibility, be presupposed in semantic theorizing. They also hold that there are no available strategies to suspend this presupposition. This is so because all opposing arguments must at some point involve constitutively the relata of certain dyadic external relations. Externalists are not absolutists in the sense that they do not claim that every nominals must exhibit this dyadic property in every possible context.[11] That would obviously be an unreasonable demand. Names of failed posits of scientific inquiry such as 'phlogiston' or 'ether', character names of literary fiction such as 'Sherlock Holmes' or 'Hamlet', metaphors and other forms of figurative language illustrate quite well how wide the range of possible exceptions is. Thus the claim of the externalist is a modest one, namely that in basic semantic explanations one has to presuppose that *some* nominals have a relational semantic structure even in cases where one makes an attempt to deny the mind-external existence of the objects of this very relation.

Of course, one might try to say, following Chomsky, that there is no such object in the world, which corresponds to the intricate modes of the reference of the name 'London'; and therefore the presupposition in question is a mere illusion. So the Question of Explanatory Indispensability should be answered with 'yes'. But this would not work. If it is *not* somehow presupposed that 'object', 'world' etc. have the capacity to refer to something language external, then the argument from the intricate modes of reference cannot be interpreted as a coherent reply.

Are there other strategies to answer the Question of Explanatory Indispensability with 'yes'? There appear to remain only two options.

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[11] This idea is clearly stated in Borg (2009: 41), where she says that externalism "is the theory that *for at least some expressions*, what they mean is determined by features of the agent's environment, but this clearly leaves room for other types of expression in natural language whose meaning is determined in other ways."

First, Chomsky can argue that 'reference' is an *informal* term, which has no equivalent in a serious science of language (Chomsky 2000: 31–32 and Stainton 2006: 921–922). If this were right, then the statement that 'London' refers to London' would be relegated from serious scientific discourse to informal usage. What consequences would that have for the investigation of reference? Informal usage is appropriate when one wants to talk about what language users do with nominals, or about what purposes they have if they express their thoughts by using nominals. Reflecting on these topics can surely contribute to the common sense understanding of reference. But that is all. Seen from the perspective of serious science, informal 'reference' is a vague term, unsuitable for making sufficiently clear statements about the rules that govern the core computational processes on I-language informational structures. And because it belongs to the class of vague, common sense terms, informal 'reference' is dispensable. Externalists can reject this line of thought in the same way as before. If Chomsky, or one of his followers, contends that 'reference' is an informal term, having no scientific equivalent, then this contention can have any weight only if it has already been presupposed that (i) 'reference' establishes a dyadic word-world relation, and (ii) the relata of this relation have or can have invariant external significance.

The second option for Chomsky would be to claim, that the idea of nominal reference is an *artefact* of the theory (Collins 2004). Let us imagine that internalists state their overall view in a normatively promiscuous language: while the scientifically strict part of their theoretical language is devoted to the analysis of I-language computations, the other, non-scientific part is devoted to the enlightening of the common sense aspects of language. And let us suppose that the second part has been generated as an unavoidable effect of the first part. Then it may be claimed that reference is merely a byproduct of theoretization, not a real component of I-languages. One might wonder, however, how to mitigate the following tension: if 'reference' is an artefact phenomenon, which belongs to the non-scientific vocabulary of internalism, then this term (or expression) has no identifiable semantic features (has no meaning); and if 'reference' has no identifiable semantic features (has no meaning), then it is hard to understand what kind of thing is it that must ultimately be discredited from the scientific discourse of internalism.

Now, it seems that all possible efforts to deny the indispensability of external reference for basic semantic explanations must consist of the following series of argumentative manoeuvres. First, accept the fact that nominals, *in a certain sense*, have the capacity to refer invariantly to language-independent objects. After that deny that external reference, *in that sense*, is the proper object for a serious language science. And, lastly, from the above two contentions as premises infer immediately that external reference is dispensable in a serious language science. The conclusion resulting from these manoeuvres is fallacious. Chomskyan internalists take it for granted that the first two conten-

tions are strongly motivated by the cumulative insights of generative syntax, which are themselves thought of as wholly independent from the issues of reference.[12] But, as we have seen, there is sufficient reason to be skeptical about the existence of such an explanatory independence.

4. *Conclusion*

It is important to stress what it means to answer The Question of Explanatory Indispensability with 'no'. It certainly does not mean that the internalists' approach to language as a whole ought to be seen as indefensible. That would be an overreaction. The negative answer has more moderate consequences. What should be realized, in any case, is that the internalist conception of semantics *in its present form* lacks the appropriate means for arguing against the existence of a unique 'London'/London relation. Externalist views are committed to the existence of word/world relations; consequently they are in a better position to give an adequate account of the nature of reference.

But why should one exclude the possibility that there are alternative ways of developing an internalist semantics? Why not think, for example, that I-language items can be associated with some minimal packages of relational information? Perhaps it can be shown that certain subsystems of the mind/brain interact with the conceptual interface system so that, in the case of nominals, a referential capacity is mandated for producing coherently interpretable computational outputs. This capacity could be postulated as a formal feature which must be valued at a given phase of derivation largely in the same manner as it happens with the traditional nominative feature in the course of case assignment. The only difference would be in the kind of information that the conceptual interface system transfers to generated surface structures. This adjusment, if possible, would indicate an interesting change in theoretical perspective. In this imagined situation internalists could respond with a cautious 'no' to The Question of Explanatory Indispensability without giving up their deeply entrenched view about the scientific primacy of I-languages.[13] The result would be a more powerful internalist semantics. In the end, it might turn out that Chomsky's London poses much fewer theoretical problems than it has been supposed in the past.[14]

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[12] We should keep in mind that current generative syntax is a research program, not a theory. However, this otherwise important distinction plays a minor role in the present context. For more on this, see, for example, Chomsky (2007: 4).

[13] Pietroski (2017) makes a somewhat similar conjecture regarding an externally oriented I-language semantics, but he remains unconvinced.

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