

Mind, Language, and the Limits of Inquiry

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This paper explores a very general philosophical and methodological theme in Noam Chomsky's work – the scope and limit of scientific inquiry in the study of mind and language. It is a conspicuous fact about Chomsky that accompanying the vast and driving intellectual ambition of his program in what he conceives as the *science* of linguistics, is a notable and explicit modesty about the extent to which he thinks he has given, indeed the extent to which one can give, scientific answers to fundamental questions. This modesty in terms of *breadth* of coverage is in a sense the other side of, and therefore indispensable to, the *depth* of what he has achieved in the area he has covered.

In his work, he seems to offer at least two different sorts of reasons for us to be made modest about ourselves as inquirers. First there is a modesty implicit in his guardedness about claiming for semantics what some other philosophers have claimed for it, and what he himself has claimed only for syntax understood in a broad sense viz., that there is in some interesting sense an explanatory theory to be offered which can be incorporated into the science of linguistics. Second, there are reasons for modesty having to do with the fact that either because of our conceptual limitations or because of faulty formulations of questions, we are in no position to give serious and detailed answers to them. This paper restricts itself to the former question. The sequel to this paper, authored by Carol Rovane, takes up the second question, and is also published in The Cambridge Companion to Chomsky.

I

For Chomsky, scientific inquiry into language and into the human mind is possible if it can assume that what is being studied are the 'inner mechanisms' which enter into the study of thought and expressions and behaviour generally. As he says: "The approach is 'mentalist' but in what should be an uncontroversial sense. It is concerned with 'mental aspects of the world' which stand alongside its mechanical, chemical, optical, and other aspects. It undertakes to study a real object in the natural world – the brain, its states, and functions – and thus to move the study of the mind [and language] towards eventual integration with biology and the natural sciences" (Chomsky 2000a: 6). Though eventual integration with

biology is the goal, it is a distant goal. In the interim scientists work with the data and the theoretical resources available to them, at a level of description and explanation which it allows them. They have the scientific goals of describing and explaining the language faculty which is present in the entire species as a biological endowment, but at a level of description and explanation which in the interim is bound to be a cognitive and computational level, with the properties of internality, universality, innateness, domain-specificity, among others, all of which Chomsky's own successive theories of grammar over the last few decades have exemplified.

This deep commitment to internalism is presented as being of a piece with what Chomsky says is the naturalistic intractability of semantics as standardly conceived, which relies heavily on reference and more generally on the relations our words and concepts bear to objects, properties, and states of affairs in the *external* world. Two main reasons emerge for this scepticism from a number of interesting remarks over many essays. First, we have extremely rich and diverse conceptions of the things our words refer to, and that infects reference itself, making it a highly mediated and contextual notion. This thwarts scientific generalizations about reference from ranging over all speakers of a natural language and even perhaps over a single speaker at different times. And second, there is no reference without speakers *intending* to refer, and intentionality in general is not a fit subject for naturalistic treatment. Let's look at each of these in turn.

In stressing agents' rich and diverse conceptions of the things they refer to, Chomsky resists a normative as well as a social understanding of the notion of reference. He repeatedly rejects the intuitions urged by both the proponents of twin-earth thought experiments as well as socialized variants of it such as Burge's highly fortified example about his protagonist's arthritis. And he concludes, rightly in our view, that there is no theoretical compulsion to insist that the term 'water' used on twin-earth and earth must always have different meanings and reference (for example, even for speakers here and there, who know no chemistry), nor to insist that the term 'arthritis' on the lips of Burge's medically ignorant protagonist must mean and refer to what the doctor's term in his society means and refers, rather than to a wider class of ailments. Social and other external relations do not force a uniform norm of meaning and reference of a term on all speakers of a language, such that all departures from it necessarily amount to mistakes. For some departures, instead of thinking of them as violations of a norm, we can think of them as individual

('idiolectal') meanings and references, tied to local contexts of use.

There might be two different referentialist responses to this appeal to the diverse conceptions of things to which we refer with our terms.

The *first* would be to say that despite the diverse conceptions that speakers have, they all *intend* to use a term as others do; they all intend their use of a name like 'Hesperus', or a natural kind term like 'water', to refer to what others, especially the experts, in the community refer to. Or (a somewhat different account) they may *intend* to refer to that thing which was named by the originary baptismal reference-fixing event, or instances of that substance which have the same scientific nature as the substance picked out in the originary, reference-fixing event. These intentions give uniformity to the reference of these terms for all speakers who use them, so no dreaded contextuality arises from the diversity of conceptions speakers might have of the things they refer to. Over many essays (some are found in his (2000a)), Chomsky addresses all these accounts and has trenchant things to say against them. First of all, he points out, the *data* leave underdetermined whether one should think of reference as having this uniformity or think of it instead as being much more contextual and individual. Certainly data about deference among speakers towards experts in the community does not necessarily point to a socially constituted notion of reference because it can be handled quite easily within the idiolectal approach to reference by simply pointing out that the reference of an individual's term changes once one learns from experts and defers to them. And then, he points out, quite apart from data not forcing the issue, none of the *theoretical* or philosophical motivations philosophers have had for stressing such a uniform and decontextualized notion of reference, is compelling either. He patiently addresses such motivations (eg, that only such a notion will account for theory-change as being distinct from meaning-change, and for how one may learn about the world – and not just about what is intended by the speaker – from others' usage of terms) and shows that these things are all easily accounted for within an individualist approach.

But even putting those criticisms aside, his point remains that these accounts achieve their uniformity and transcend particular contexts only by relying on the intentions of speakers and – intentionality being what it is – that puts them outside what is naturalistically tractable in a theory. In fact, both Kripke and Putnam who favour this form of referential semantics are careful to make no claim to a *theory* of reference, leave alone a naturalistic and scientific account

of it.

But there is a *second* referentialist response which, realizing the naturalism-thwarting element of the first's appeal to intentions, does not appeal to intentions in its account of meaning and reference. This is the view, owing first to Dretske and much refined and developed by Fodor, which ties reference to causal covariances between mental tokens of a type in the language of thought and objects or properties in the world (Fodor 1975, 1998; Dretske 1981; Frege 1892). On this view, the rich and diverse conceptions of things that speakers may have of the objects referred to are irrelevant because the causal relations posited are uncontaminated by such mediating conceptions. And so the sorts of intentions appealed to by the first response in order to finesse these conceptions of things are unnecessary. There is no question, in any case, of appealing to intentions to refer since we do not and cannot have intentions towards terms in the language of thought, we can only have them towards words we vocalize. Since neither intentions nor conceptions of things play any role, these relations between a term (concept) and an object or property in the world may be the basis of *universal* laws which hold for all speakers who possess the concept and who stand in causal relations with the object or property in question. In fact Fodor (1990) sometimes himself describes the aspirations of such a naturalistic semantics in Newtonian terms. In a sense, this second challenge to Chomsky is the more interesting one because it accepts one half of his overall view (the naturalism and the scientific aspirations for linguistics) and resists the other half (the internalism, or the claim that it is *only* internalistically described phenomena which are scientifically tractable). This referentialist response holds that reference *is* scientifically tractable, and therefore there is a respectable naturalistic version of semantics, as well as syntax.

Despite the fact that Chomsky does not explicitly say so, we suspect that he would be unimpressed by this response which, while it does in a very general way allow for naturalism (purely *causal* covariances), it does not offer any specific suggestions for naturalistic inquiry, no specific research programmes, no specific hypotheses, no design for specific experiments to test hypotheses. There is only an assertion that the subject of reference has very austere causal covariances underlying it which involve no conceptions, intentions, etc, and that it provides no obstacles to naturalism and the search for general decontextualized scientific laws in the study of semantics. Chomsky's successive theories of universal grammar, all of which restrict themselves to syntax broadly

understood, are rich and detailed. Fodor's naturalistic referential semantics is, by contrast, little more than a suggestive idea. It seems very much the suggestion of a philosopher straining to make claims for reference that lie within science, but with no real sense of what science must actually then do in this area of study.

But even putting this important qualm aside, there is another worry much more on the surface of what Chomsky does explicitly say in the many passages where he speaks of our *ordinary* concept of reference: he is bound to ask of Fodor's naturalistic version of 'reference', why is this an account of reference? Why is it not to be seen as giving up the idea of reference for causal covariances? He may not have anything against such a naturalization (Chomsky does not in general feel any qualms about changing the subject from commonsense to science), so long as it is not claimed that it is reference that we are still talking about. There must be some common features, some shared structure, between reference as ordinarily understood and reference as naturalistically understood in these terms, which makes it clear that the notion is indeed preserved more than nominally.

What makes Fodor particularly interesting as an interlocutor is that he explicitly argues that something deep *is* preserved. His notion of meaning and (intentional) content is based exclusively upon the notion of denotation or reference. (As he says at the beginning of his (1990), "The older I get the more convinced I am that there is no more to meaning and content than denotation".) And, in turn, meaning and content are what go into the explanations involved in what he calls 'granny psychology', the psychology which cites content-bearing states in the explanation of intentionally described behaviour. One's intentional contents, contents specified in that-clauses (the belief *that water quenches thirst*, say) are individuated strictly by the referents of the component terms, such as the term 'water'. Reference, *even after it is naturalistically characterized* in terms of the causal covariances that hold between our mental tokens of 'water' and instances of a substance with a certain chemical composition, *continues* to contribute to contents of intentional states such as the one just cited which (in intentional psychology) explain actions of ours in the world, such as drinking water when we are thirsty, etc. And it is part of his claim that this psychology, the psychology whose states are expressed and understood by the grannies of the world, is not to be 'eliminated' at all for *another* psychology, which makes no mention of intentional content. Rather granny psychology *approximates* the truth (or truths) eventually captured in full naturalistic dress when one sees through its chief

notions (content, meaning, reference) to what underlies them – the causal covariances.

We have here the real target of Chomsky's scepticism. What he is rejecting is the idea that when we come up with these universal laws based on causal covariances – granting for the moment that these are the deliverances of an interesting scientific research project, which is doubtful – we have come up with something that is in *any way* interestingly *continuous* with intentional psychology as understood in common sense.

Chomsky says many things that make it clear that he would be sceptical. Here are two related arguments that support his scepticism. He does not formulate these arguments in just these terms, but it seems to us that they drive his doubts.

First argument. We are considering a naturalism about reference which also claims that reference plays a vital and exclusive role in the attribution of intentional content and generally in intentional psychology. Now, any view of reference (of our terms or of the concepts which those terms express) should be compatible with the following constraint on the commonsense attribution of intentional content to a subject: If a subject believes something with an intentional content or expresses that belief with that intentional content by uttering a sentence, and that belief (or assertion) is merely false, i.e., if the speaker is merely misinformed about something in the world, it should still follow that he is quite rational in having that belief with that content (or in making that assertion). In other words, *merely being misinformed does not bring with it irrationality or incoherence*. For example, suppose someone is misinformed about the chemical composition of water and he says, "Water is not H₂O" (or has a belief with the content that water is not H₂O). Now if the reference of the term (or concept) 'water' is given by the causal covariance between his relevant mental tokens and instances of H₂O, then it strictly follows that he is thinking something inconsistent. But this man is merely misinformed in saying or believing what he does. He is not irrational and logically incoherent. Thus the naturalistic view of reference violates a basic constraint on our commonsense understanding of reference and its role in intentional psychology. A naturalistic psychology based on such an understanding of reference which violates this constraint therefore *fails* to be continuous with ordinary intentional psychology, such as it is.

It should be apparent that this argument echoes, indeed that it more

or less is, Frege's argument for sense. Chomsky appeals explicitly to Frege and uses the term 'perspectives' instead of 'senses'. Frege and Fregeans go on to spoil this famous argument and this important constraint on which it is based by demanding all sorts of *further* things of the notion of sense: viz., that senses are abstract objects to which our thinking is related, that to be this they must be expressed in a shared language, etc – all claims of which Chomsky is critical. We come back to that in a moment.

Second argument. To repeat, we are considering a naturalism about reference which also claims that reference plays a vital and exclusive contributing role in the attribution of intentional content and generally in intentional psychology. Now, any view of reference (of our terms or of the concepts which those terms express) should be compatible with the following constraint on the attribution of intentional content to a subject: If a subject believes or desires something (say, believes that drinking water will quench his thirst or desires that he drink the water in front of him), and there are no familiar forms of psychological obstacles such as self-deception or other less interesting psychological obstacles such as that it is simply too submerged in his thinking, then he knows what he believes or desires. Of course, self-knowledge does not hold ubiquitously of our beliefs and desires precisely because we have many beliefs and desires which we repress or which are too submerged in our psychologies, etc. But we can assume that if these psychological obstacles and censors are not present, then awareness or self-knowledge of the intentional states would be present. Its presence could not be denied by anything but such *internal psychological* obstacles. It could not be denied by philosophical fiat, it could not be denied because Fodor has proposed a certain theory of reference. Let's take an example. Suppose someone is ignorant of chemistry, in particular of the chemical composition of water. And suppose he says (or believes) "Water quenches thirst". If the term or concept 'water' in that assertion or belief has the reference it has because of the causal covariance which holds between the mental tokens of the relevant mental type and instances of H₂O, then this subject believes (says) something of which he is quite unaware, i.e., he believes that a substance with a certain chemical composition quenches thirst. He could not possibly be aware of what he believes since he knows no chemistry. But not knowing chemistry is not a *psychological* obstacle of any kind. It is just ignorance about the world. On this view of intentional psychology, this subject in order to gain self-knowledge of what he himself thinks, would have not to overcome repressions, self-deceptions, and other psychological obstacles, he would rather have to learn *more chemistry*, learn more about the

chemical composition of substances in his external environment. Thus, the naturalistic view of reference violates another constraint about our commonsense understanding of reference and its role in intentional psychology. Again, in violating this constraint, a naturalistic psychology, based on such an understanding of reference, therefore, *fails* to be continuous with intentional psychology, such as it is.

Both these arguments are implied by Chomsky's attitude towards reference as it figures in our *commonsense* understanding.

The first, Fregean argument requires that the notion of reference be embedded in the context of various conceptions of an object to which the speaker intends to refer, just as Chomsky has all along explicitly insisted. The conceptions are not separable from the object to which the speaker intends to refer. It's the object, under those descriptions or conceptions, to which the speaker refers. Chomsky tends to assimilate any view which denies this embedding as the "myth of the logically proper name". One function of embedding reference in conceptions is to make rational sense of the speaker who is merely misinformed (in the cases we are discussing, misinformed about various a posteriori identities, e.g., the identity of Hesperus with Phosphorus, or of water with H₂O, etc). Without this embedding, the constraint on intentional psychology that requires that a notion of reference keep continuity with that psychology is violated.

The second argument is only *implied* by some things that Chomsky says. In the first argument, an agent's conceptions of things, or what Frege called senses, were seen to be essential to understanding reference, and to the intentional psychology of agents to which the reference of terms (or concepts) contributes. It is essential, as we said, because without it, someone who was merely misinformed about identities would be viewed as being self-contradictory. What philosophers call "Frege puzzles" about identity are based on this. Someone who does not know that Hesperus is Phosphorus may think that Hesperus is bright and Phosphorus not bright, and we know that the person is not contradicting himself. So we have to introduce senses or conceptions of things ('perspectives') as individuating his concepts and terms, rather than reference, in order to make him come out as rational. But, how would we have to view him if we thought he *was* contradicting himself? The idea would have to be that since both terms referred to the same planet, and since (as Fodor's naturalism insists) reference, not senses and conceptions, individuates terms and concepts (in this case, singular

terms and singular concepts, but as we saw the point applies equally to 'water'), he must have two contradictory thoughts. He would not of course *know* that he was contradicting himself. It's not as if he knows that Hesperus and Phosphorus are the same object and he is perversely saying knowingly contradictory things about them. Rather, he would be unaware that he was thinking and talking about the same planet, but he *would* be talking about them, and that is why he would be contradicting himself. Self-contradiction in an agent can be made tolerable only if it is accompanied by such lack of knowledge of his self-contradictory thoughts. Thus if senses are left out of the individuation of concepts and the contents of an agent's thoughts, and if individuation of concepts was seen as a matter of reference, the ensuing self-contradiction in his thinking would be tolerable only if it is explained by saying that his ignorance of astronomy would amount to an ignorance of his own thoughts, his own intentional (in this case, self-contradictory) psychology. Senses or 'perspectives' (unlike reference) therefore make sure not only what the *first* argument demands of them, viz., that people merely misinformed (about identities, in this case) do not come out as having contradictory thoughts, but they also make sure that those thoughts are self-known to the agent. This latter task of senses is what the second argument demands as a constraint on thoughts.

What is it about senses which ensures that they will carry out this second task, that they will see to it that our intentional psychology, i.e., our intentional states, are self-known to us (unless, of course, there are psychological obstacles to it)? As we just saw, to make things tolerable, one is forced to say that one fails to know what one thinks if what one thinks, or elements in one's thinking, such as one's concepts, are individuated by objects (such as, in these examples, planets or cities to which our concepts refer). To put it in terms of language, one can fail to know what one is saying if the meanings of one's terms are specified in terms of objects. So if senses are to avoid the problem of leading to lack of self-knowledge of one's thoughts, they must precisely *not* be like the sorts of things which *are* the source of the problem, which can lead to lack of self-knowledge. To put it in a word, senses cannot be like planets and cities, they cannot themselves be *objects* about whose identity we can be misinformed, thinking for instance that there are two senses when there is only one, as we might do with a planet or a city. If they were objects, we would not be able to see them as solutions to Frege's puzzles about identity. They would be subject to similar puzzles themselves. Thus there are no such things or entities as senses or thoughts to which we are related in our thinking in the way that Fodor and other referentialists think we are related to

objects such as planets and water in the world. However, Frege, unfortunately, thought that senses *are* objects, abstract ones. But senses can only do the job they are asked to do by him in the first argument, they can only do the job that Frege himself wanted them to do (to solve Frege puzzles about identity), if they also do the job they are asked to do in the second argument, which is to make sure that they and the concepts and thoughts they individuate are self-known to the agent. And they can only do this latter job if they are not themselves objects. For if they were objects one might be confused into wondering whether some sense of ours was the same as another just as one might wonder if Hesperus is Phosphorus, or water is H₂O?

It is *this* insight – that thoughts are not objects – which Chomsky explicitly articulates against Frege, and in doing so he implies the force of the second argument given above. He cites much earlier thinkers in support of the insight, saying: "The basic assumption that there is a common store of thoughts surely can be denied; in fact, it had been plausibly denied a century earlier by critics of the theory of ideas who argued that it is a mistake to interpret the expression "John has a thought" (desire, intention, etc.) on the analogy of "John has a diamond". In the former case, the encyclopedist du Marsais and later Thomas Reid argued, the expression means only "John thinks" (desires, etc.) and provides no ground for positing 'thoughts' to which John stands in relation." (Chomsky 1966, 2002, 1993:18).

The insight can now be *generalized* to make the point that is needed against the project of naturalizing intentionality by individuating thoughts and concepts in terms of the external objects and substances with which we stand in causal relations.. Thoughts are not objects, as Chomsky following earlier eighteenth century critics is pointing out. We have just seen that there are no internal or abstract objects such as senses. So Frege's insight of our first argument about the need for senses, conceptions of things, perspectives on things, etc (which Chomsky endorses) would be undermined if we thought that senses were themselves objects. The second argument ensures that it is not undermined in this way, by posing a constraint which cannot be met if we take senses to be objects. But the claim is more *general* in its significance than that. Our concepts and thoughts are not individuated in terms of internal objects, but equally they are not individuated in terms of external objects either. What the referential semanticist offers, when he tries to finesse an agent's conceptions of things, is precisely this externalist individuation. He tries to make the contents of our

thoughts depend on nothing but the external objects with which the concepts which compose them stand in causal relations. In saying this he falls afoul of the two constraints which we identified in the two arguments above, which define our ordinary common sense understanding of meaning and reference and intentional psychology. Falling afoul of them makes clear that the continuity with granny psychology that Fodor himself seeks would go missing.

And Chomsky's interesting point here is that at a *general* enough of level of description of the mistake, *both Frege and Fodor* are making the *same* mistake, they are both in their different ways individuating thoughts in terms of objects. That they are doing so differently, in terms of internal and external objects respectively, should not distract from the fact that they make the same mistake at the more general level.

All this is related directly to Chomsky's stance on the subject of reference. Frege, in insightfully exposing the flaws in the idea that concepts are individuated in terms of the external objects posited by the referentialist, introduces the importance of the idea of an *agent's conceptions of things*, but he does not rest with that insight; he goes on to spoil it by viewing these as internal and abstract objects. And on the other side, the naturalistic referential semanticist, also insightfully acknowledges that *conceptions of things would not be the sorts of things that could be naturalistically treatable* (Fodor is explicit about this), but then does not rest with that insight; he goes on to spoil it by individuating thoughts in terms of external objects with which we stand in causal relations, and which he thinks confer naturalism upon reference. Thus the point made by Chomsky (and Reid and du Marsais) can be generalized to say that thoughts are not to be individuated in terms of objects at all, external or internal, and once we do so, we can rest with the two insights that were respectively observed by both Frege and the referential naturalist, and then spoiled by them, when they would not rest there. We have already italicized them above. They are 1) there is no understanding reference to things without there being conceptions of things that particular speakers have of the things to which they intend to refer, and 2) conceptions of things are not naturalistically treatable. These, as we have seen, are the very insights that Chomsky has all along insisted on in thinking about referential semantics.

Having argued that reference to things is not the sort of thing that comes unaccompanied by the intentions and beliefs (conceptions of things) of speakers, he argues that reference must therefore really be understood as part of the *use* of language. It is not part of the

description of the language organ or faculty, of the mechanisms and internal cognitive system that enable the use of language. It is rather part of a description of what is enabled, which goes much beyond a description of the enabling apparatus, involving such things, as we said, as a person's intentions and his richly conceived understanding of what the objects around him are, none of which can be the object of 'theoretical understanding' and 'naturalistic inquiry', but is rather illuminated by wider forms of understanding which it would be just confusing and conflating to call 'theoretical' or 'scientific' or 'naturalistic'. Since the *use* of language has traditionally been seen to fall within pragmatics, Chomsky boldly proposes the revisionary classification of placing reference not in semantics at all, but in pragmatics. He says, "It is possible that natural language has only syntax and pragmatics;" and then he adds, quoting an earlier work by himself which he says was influenced by Wittgenstein and Austin, "it has a 'semantics' only in the sense of the study of how this instrument whose formal structure and potentialities of expression are the subject of syntactic investigation, is actually put to use..." (2000a: 132) This redrawing of the traditional boundaries of the trio of syntax, semantics, and pragmatics is by no means arbitrary. The entire earlier discussion of the nature of reference provides the methodological motivation. Given the fact that the central notion of semantics, reference, is caught up with intentionality and the use of language, and given the fact (to put it in his words) that "general issues of intentionality, including those of language use, cannot reasonably be assumed to fall under naturalistic inquiry" (2000a: 132, 45), then it should go into a domain which unlike syntax is avowedly non-naturalistic in the descriptions and explanations it gets: pragmatics.

Philosophers have tended to make the contrast between pragmatics and semantics rest on the distinction, not between those areas of language where intentions are and are not involved respectively, but rather between those areas where non-linguistic intentions are involved and those where linguistic intentions are. For philosophers, notions such as reference and truth-conditions which govern semantics need not eschew intentions. After all one may have an intention to use a sentence with certain truth-conditions. This would be a linguistic intention, unlike an intention to use a sentence to get people to believe something, or do something, etc. For philosophers, it is only the latter which fall outside of semantics and in pragmatics. But it is a mark of Chomsky's deep commitments to a scientific and naturalistic understanding of linguistics that he allows it (and nothing else) to drive his basic classificatory criteria of the various areas of the study of language. Since for Chomsky

intentions of any kind are unsuitable for a scientific and naturalistic treatment, the philosopher's attempt to distinguish semantics from pragmatics by appeal to two notions of intention misses the mark. They both fall in pragmatics, and all the rest is syntax, which is now (compensatingly as a result of the *narrowing* of linguistics to only two broad areas) itself to be thought of *more broadly* than philosophers have thought of it, to include some areas of a naturalistically and internalistically treatable semantics in which no notions of reference or of intentionality occur at all.

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(This paper is the first half of a paper authored by Akeel Bilgrami. The second part of the paper whose author is Carol Rovane was also published in the McGilvray edited volume, entitled [The Cambridge Companion to Chomsky](#))