Theoretical Issues in Generative Linguistics

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"An Interview with Professor Noam CHOMSKY"

Introduction

Chomsky is an eminent linguist beyond compare in the twentieth century (20th C.). He was able to create a new vision to language described as an entity with various aims and as a particularity belonging to human beings only, by correlating language with mind. For language, according to Chomsky, is the mirror of mind.

Since this is a fact, language must be studied from a logical mathematical angle so as to discover the intrinsic particularities in linguistic competence and determine language universals and universal principles supposed to exist in every human language.

Within this generative programme, the language variations and nuances between one language and another become limited parametric variations resulting from the experiences and the environment. However, these parameters do not take an infinite form but must be limited. Thus unlike the classical structuralist schools, the essential aim of the linguistic research (within the generative grammar programme) is to succeed in setting a complete grammar to language competence by defining universal aspects and explaining the variations from a parametric view.

For this reason and since the scientific knowledge is unceasingly renewed, relative and not steady, Chomsky's scientific theory is being continuously renewed and developing in a considerable and influential manner. This matter of fact is neither a deficiency of a handicap nor a failure of the theory as some linguists erroneously state, because the progress in understanding data and explaining phenomena is a natural and an obvious concern in every scientific discourse. This concept is supported by many great philosophers. Popper, one of the most illustrious epistemologists in the 20th C., for instance, is convinced that the scientific theory is falsifiable and that falsification is a decisive criterion in distinguishing between the scientific and the nom-scientific.

Hence, the theory which is not falsifiable can't be –according to Popper- Scientific (psychology, metaphysics, astrology...). These are false sciences because they don't stand on concrete realities and thus can't be rejected.

As for the scientific theories (in which the physical theory comes first), they are falsifiable and threatened by falsification because they stand on experiments and are precise hypotheses on definite experiments data.

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As a result, the scientific theory, within which we find the linguistic theory, becomes a system of hypotheses on some definite facts and these hypoteses are subject to contradiction and falsification.

We conclude from this, then, that the gradual developments of the Generative Grammar theory is an obvious matter and completely harmonious with the nature of the scientific discourse.

The dialogue we have with the famous American linguist Noam Chomsky, which we present to the readers, is certainly an important scientific document. He reveals his opinions on several questions that have long occupied the minds of those interested in transformational linguistics.

These questions concern what is related to some of the epistemological bases of the theory, to what is related to the Arab grammar heritage and Chomsky's relation with it (and this is an important point which some have dealt with in a precipitous manner which led them to put on unthoughtful judgments that lack credibility), others concern the pure technical side of the theory such as the critics directed to the transformational grammar by some linguists.

These are some of the basic axes the interview is about and which we give the readers the opportunity to discover.

To conclude, I would like to thank the scholar Chomsky who manifested his admiration to the questions which he found interesting and thoughtful, and am grateful to him as he modestly accepted to answer and help us in this

work. I would also like to thank Mr Youcef BOUZIANE and Mr Hicham TIZAOUI for their assistance, revision and helpful suggestions.

Abdelkader LOUKAH: I personally believe in the existence of a Chomskyan revolution in linguistics that resembles the Galilean one. This is due to the fact that you have introduced a new approach to language based on scientific grounds. For instance, you have pointed out, since 1957, that induction is not the main procedure in linguistics and that what is important is the explanation of the phenomena. This means that observation is not of great importance in any scientific discipline including physics.

What are, Professor Chomsky, your comments on this?

Noam Chomsky: My feeling is that the term "revolution" is very much over-used. There have been a few genuine "scientific revolutions", rarely associated with a single individual (maybe never). The Galilean revolution is real, but it covers a century of very important work that changed our whole view of the world. The "cognitive revolution" of the 1950s, as it is sometimes called, was important, but in large measure it revived and extended insights that were developed in what we might call "the first cognitive revolution" of the 17th centtury. I do not really think the term "revolution" is appropriate for the developments of the 1950s, though the changes in perspective that they brought about were significant. The field of generative grammar was part of this "second cognitive revolution". It revived and renewed many traditional ideas, most of them long forgotten, and presented them in a new framework, in part, one that had been made available by advances in the formal sciences. This approach was a sharp departure from prevailing structuralist and behavioralist currents, but in many respects it was a return to approaches to language and mind with a rather traditional cast. My own view is that

empirical work in languages of very diverse typological range, new questions, and sometimes reasonable answers. In that sense, it has been a success. Whether it will whithstand further critical analysis, we will see. My personal view is that it will not, and the more recent "minimalist program" that I and others have been attempting to develop is based on the intuition that many of its fundamental assumptions are dubious, perhaps wrong.

A. L. : *Gazdar, in his "Generative Grammar", published in Lyons (1990), assumes that the GPSG and LFG theories are the models that have fitted the parsing of sentences in computer. This means that other generative models, including yours, have failed in this way.*

What is your reply to Gazdar who some linguists take to be your alternative, and what about GPSG model?

N. C. :GPSG and LFG, like other theories of language, have to be judged on their merits. The study of parsing tells us nothing about these matters. There are very efficient parsers bases on these models, and also on principles-and-parameters ("GB") models: the "universal parsers" developed by Robert Berwick and his associates, for example. Apart from the factual error, Gazdar's discussions of these issues are marred by a serious conceptual confusion. He has based his conclusions on the assumption that parsing is "easy and quick". It has long been known that this is untrue, unless reduced to a tautology: "for those expressions that are easily and quickly parsed, parsing is easy and quick". There are many well known categories of expressions that are not easy to parse: garden path sentences, to take one case that has inspired a good deal of study.

When confusions are cleared away, we face the usual problem of evaluating alternative theories, and in this case, discovering just how and where they differ: to

a considerable extent they appear to be almost notational variants, though there doubtless are differences, which it would be interesting to identify and examine.

The well-established natural sciences and the more peripheral and new sciences (like linguistics) are rather different in their practices, in this regard. In the older sciences, it is generally recognized that there will be differences of opinion about poorly understood matters, and one seeks to find the answers to questions that arise.

Practitioners of the newer sciences often feel that they are required to fight "wars" against usually imaginary opponents. This is a childish waste of time, in my opinion.

A. L. : *Maurice Gross speaks about "the failure of Generative Grammar" ("Language" n°55). I noticed that he defends Harris's theory. D you think that Gross has neither well understood the nature of Generative Grammar, nor how does this model deal with data? And how do you explain the fact that the major attacks on G.G come from France?*

N. C. : I read Gross's article with interest. It contained no substantive arguments, as far as I could see, or relevant data. I have therefore never referred to it. To my knowledge, others in the field have disregarded it on the same grounds.

The general situation in France is a separate matter. Generative grammar reached Europe through France in the 1970s, when Richard Kayne, after receiving his Phd from MIT, began to teach at Vincennes. The university in Vincennes had been established in the hope that third world and radical students would leave Paris and not bother privileged elites, as they had been doing in the 1960s. As a result, Vincennes was less closely monitored than is generally the case in the extremely hierarchic, authoritarian, and insular French cultural system. In this case, Kayne was able to teach courses in generative grammar, which were attended by most of the

finest young linguists in Europe, and elsewhere too. They returned to their own countries, and they and their students established lively and exciting research and teaching programs, by now, over most of Europe, and well beyond, in fact. France, however, largely immunized itself from these developments. French linguistics largely kept to the cultural and social norms that have seriously damaged French science and general culture for some time, in my opinion. To take a different example, long after Darwinism was routinely accepted in the advanced industrial world, it had only a limited presence in France-though this narrow opening allowed the work of great biologists. The same has been true in many other areas. The sources of the curious characteristics of France culture since World War II are worth discussion but that is a separate matter that I cannot address here.

Your conclusion is correct, however. France is the only European culture where the grip of authority has been so severe, efficient, and oppressive that generative grammar has been kept under a virtual ban. And as noted, this is far from the only case.

A. L. : *Professor Mohamed Awraghi (From Rabat University) had informed me that, during a meeting, the famous linguist Youssef Aoun claimed that he studies with you the classical Arabic Grammar. What have you precisely read in this field, and can we believe that some of your ideas are influenced by the early Arabic Grammar?*

N. C. : Youssef Aoun was indeed a student at MIT, who did outstanding work here, and has continued to do so since he left. He is now Dean of Humanities at the University of Southern California, and continues to do fine work, on Arabic in particular.

In my own case, I came to linguistics in part as a result of an earlier interest in Semitic grammar. As an undergraduate student at the University of Pennsylvania from 1945, I studied with the great Italian Arabist Giorgio Levi Della Vida, and we became good friends; I was pleased to be able to visit him in Rome in later years, after he had retired and returned to Italy, which he had left, as a vigorous opponent of Fascism. Later I studied with the distinguished Arabist Franz Rosenthal. Among the works I studied were, of course, early Arabic grammar. I also had independent acquaintance with Hebrew grammar from the medieval period, at first through the work of my father on David Kimhi. I also studied Semitics with E. A. Speiser and other scholars.

I have no doubt that my ideas were very much influenced by this early exposure to classical ideas. The first work I did was a study of morphology and phonology if Hebrew, which borrowed considerably from historical Semitics, quite consciously. As I only discovered later, this work also resembled an approach to language that had been extensively developed in classical Indian grammar, Panini in particular. But the linguistics of the period was almost completely divorced from these traditions, even on the part of linguists who were familiar with them, in another corner of their minds. An interesting history, yet to be old properly.

A. L. : *Being interested in the theory of classical Arabic Grammar, I notive that some hupotheses made by some Arab grammarians take the form of some universal generalization. In this context, Zajjaji (H. 4ᵗʰ century) in "his work entitled" iLaLu nnahwi علل النحــو states that the parts of speech are V (verb), N (noun), and P (preposition) and that these parts are supposed to exist in every human language.*

Do you think that such generalization is accurate, and is it possible to take it to be universal? On the other side, I think that your "On Nominalization" supports, in some degree, such a view. How do you deal now

with parts of speech as a crucial issue?

N. C. : Ideas about the universal parts of speech go back to the origins of recorded thought about language, in classical India and Greece. The ideas you mention fall within these traditions. As far as we now understand, they seem to be more or less accurate, though one would not phrase them quite the same way in contemporary terms.

A. L. : *I noticed that some occidental researchers interested in historical development of linguistic thought, usually don't pay attention to Arabs. I think that it is illogical to reject the participation of Arabs in the development of linguistics, and their influencial works on this field. I think that a linguist such as Alkhalil Ibn Ahmed Al Farahidi (H. 2ⁿᵈ century), the founding father of Arabic grammar, and the teacher of sibawaihi, has so largely influenced the history of linguistics that we can compare him to Panini.*

What is your own view on this point?

N. C. : It is quite true that the work of the great Arab grammarians is very little known. But it is worth bearing in mind that the same is true of Indian, Greek, Scholartic, and Renaissance grammar, and even the philosophical grammar of the 17ᵗʰ and 18ᵗʰ century that developed as part of the scientific revolution that established modern science. I personally studied Sibawayhi as a student, but that was completely divorced from any work I was doing in linguistics. But that is not as strange as it may sound, considering that students of linguistics of my generation also did not even study Otto Jespersen, whose very outstanding work dates from early in this century (as, at last, has been recognized, within generative grammar).

There is a good deal to say about these matters, but they would carry us in complicated directions, which I cannot try to explore here.

A. L. : *In the Arab grammatical heritage, there are striking characterics that mark it; I mean the divergencies and controversies between grammarians, and the rational aspects that dominate their analyses.*

Hence, we can find different versions dealing with just one question. There are two schools-others assume more-in the traditional Arabic grammar: Bassra and Kufa, which adopted different methods in analysis, sometimes in terminology. Although they all agree in taking the notion of Government "a:mil العامل" as an essential condition, they differ in conceiving governors i, e those that are weak, and those that are strong, and also differ in conceiving the Government relations. Do you think that such property, the rational property, and controversies occasioned, are fruitful, taking in account the state of recent genarative grammar where we find many versions and argumentations?

N. C. : I do not think that any general answer is possible. There was also considerable variety in Western grammar over similar periods. One has to look closely, case by case. Unfortunately, the field of history of linguistics is not in a very healthy state, in my opinion, not only with regard to Arabic grammar.

A. L. : *It is well known that the scientific research requires the existence of a method; without an accurate one, the research remains absurd. This means that the researcher in any discipline goes from previous conceptions that help well to precise the data under consideration: this is what we deduce from the diversity of theories that work on the same subject. However, I notice that some linguists change their methods in a striking manner.*

What about the necessity of method, Professor, Chomsky?

N. C. : I do not really agree. I know of no "scientific method". The science

departments at MIT, for example, have no courses on methodology. A person whose mind is alive will surely not believe today what he or she believed 10 years ago; if they do, either the field is dead or the person has abandoned constructive work. If someone shifts from one framework to another (say, from LFG or EST to the Principles and Parameters framework, or from the latter to the Minimalist program, or from that to whatever tomorrow will bring), that is not a change of "method", but a shift of understanding and belief. These frameworks are not "at war". They are differing ideas as to how we should approach questions that are very poorly understood. They are also not fixed. They are constantly changing, as more is learned. Sensible people are not adherents of one or another doctrine. They are not medieval knights, holding high the banner of some king or Deity. That is not a sensible or constructive way to view these topics, in my opinion.

A. L. : *There is a question of great importance, that raises many problems. It relates to what is called VP as a maximal projection. The VP is supposed to exist in all human languages; no parameter value makes it optional in the existing theory. There is just the head parameter which differenciate between the head first languages and the head last languages. This parameter says nothing about whether it is possible to dispense with such projection, at least in some languages. In the light of Arabic data, it seems to me that there is no accurate realistic arguments that support the existence of VP in such language. How do you deal with this question today, Professor Chomsky?*

N. C. : I have no doctrine on the matter. I am open to hearing arguments one way or another, and the results will turn out as they may.

A. L. : *The Subject is taken, according*

to the "Barriers" model to be specifier of I (inflection). Other linguists (Kuroda (1988), Sportish & Koopman (1988)) suggest that the original position of the Subject in the clause is -and must be- preverbal. Such view seems to be somewhat problematic with regard to Arabic. There are many arguments that support the fact that Subject in Arabic isn't extracable, and can't occur in preverbal position because preverbal position is a Topic position rather than a Subject one. Let's take, for instance, the following example:

(Zaydun hœl ja:a) (زيد هل جاء)

Zayd (nom Qu. Particle came (3rd pers. Sing. Masc)

Did Zayd. Come?

The NP "Zaydun" in this sentence can't be taken as the governee of the Inflection, because an overt complementizer occurs between the verb and the NP under consideration. Such complementizer blocks any government relation holding between the verb and the initial NP.

This explains well the ungrammaticality of the following example where the object / a governee of the verb had been moved accross such complementizer functioning as a blocking category:

* (Zaydan hœl darabta) (زيدا هل ضربت)*

Zayd (acc) Qu. Particle hit-you (past, 2nd pers. Sing. Mas.)

This is on the one hand, on the other hand, I noticed that you have abandoned, in your recent works, the "Topicalization" issue; but, I believe that your paper entitled "On wh-movement" (published in Akmajian & Wasow (1977)), remains very useful and would solve many problems in Arabic dealing with this matter, what is your opinion on these remarks, Professor Chomsky?

N. C. : I tend to agree with the proposal that subjects are introduced within the VP, then raised to specifier of inflection (SPEC-IP) (sometimes; in some languages they remain in the VP and something else appears in SPEC-IP). A completely separate question

is whether the subject is pre-verbal, either in its VP-internal or VP-external position. There are theories (e.g., Kayne's asymmetry theory) that hold that the subject is always pre-verbal in underlying structure. Others do not. Again, these are not dogmas that lead to wars, rather theses that underlie research programs. This is empirical science, meaning that nothing is definitively established, ever. It may be that subjects are not extractable in Arabic; the same has been argued for most Romance languages (e.g.n by Rita Manzini). It is impossible to comment outside of an intricate theoretical framework. Within such framework, the questions are productively pursued. Outside them, the phenomena we observe mean very little. That is true of any scientific work beyond the most primitive stage. It is true of the study of language as well.

I cannot comment on the proposal you raise without consideration of a much broader range of theoretical issues, something that would be inappropriate here.

A.L. : *Youssef Aoun proposes to dispense with the ECP in favour of an other approach based on Generalized binding. Others like Lasnik & Saito (1984) propose to reduce the ECP to only one Clause, that is the antecedent government. What is your interpretation of such a problem?*

N. C. : I can only repeat the same comment. I have my interpretation of complex material, others interpret it differently. For me to express my views without explaining them would be useless and pointless. But to explain them would require going well beyond the scope of a brief answer to a question.

A. L. : *Bouchard (1986) points out that subjacency principle could be rejected, and that its effects may be explained in an other way i.e. on the basis of the "Binding nodes". And I presume that Kayne (1981) was the first to mention that we can dispense with subjacency principle. Do you accept such proposition?*

N. C. : I do not think that there has been any successful alternative proposed to the subjacency principle, though there are many unsolved problems related to it. But again, to go into the matter would require going far beyond the scope of this discussion.

عبد القادر لقــــاح

[Annex ملحـــق]

On falsification and scientific theory

> *Due to the great importance of the letter I received from Professor N. Chomsky as an answer to mine, and due to its relation with the raised questions in the interview, I saw it necessary to add it herewith, so as to clarify more concretely his point of view concerning falsification.*
>
> May 23, 1995

Dear Mr. Loukah,

Your comments on change and stability of theories are certainly appropriate. The fact that a theory undergoes constant change doesn't demonstrate that it's on the right track, but a failure to do so does demonstrate that it's not a theory at all—just some kind of terminology or classification scheme. That follows just from the fact that we know so little about virtually anything, so any attempt at explanation, if at all production for research, will soon be subject to change either on empirical grounds or because more interesting insights emerge about principles.

However, I wouldn't take Popper's remarks too seriously. It's hard enough to find a theory that isn't falsified overwhelmingly. In the natural sciences, apparently disconfirming evidence is standardly --and rationally – put to the side in the hope that it'll be unterstood some day, if the theory at least offers some light somewhere. Merely to give a current example, the Hubble telescope has found that the universe is apparently only half as old as its oldest stars, and that the only plausible hypothesis that had been put forth about a postulated 90% of the mass of the universe (« dark matter », called that because it can't be detected and no one knows what it is) seems to be completely untenable. Physicists are going back to the drawing boards, but not withdrawing the partially confirmed and deeply explanatory theories they already have.

Sincerely
Noam Chomsky