

A Brief Sketch of the History of Linguistic Description: Shift and Continuation on “Scientific”

Kenji Ishihara

I

Language has been considered and analyzed from a variety of viewpoints by many philosophers, logicians, thinkers or grammarians. The more diverse and complicated each field has become today, the more attention has been being paid to language itself. What way is the best to know about language is the great concern of those interested in linguistic subjects. There are so many approaches that it is hard to decide which to take; each has good and weak points. To look back at history may sometimes make little or nothing, but as far as the linguistic history is concerned, to do so can be valuable, because it may have one notice what have been crucial or controversial points. The following is part of the note of what the writer has known and thought in reading the linguistic history. It should be admitted that this is a tentative study note halfway in the process of obtaining broad and comprehensive linguistic views.

II

Grammatical description has experienced a variety of changes since the ancient Greek and Rome. Like a living creature language itself changes little by little in the course of time, its characteristics becoming more and

more different. As for English, for example, the present one is syntactically grasped by such a specific pattern as subject + verb + object, but the same is not the case with Old English where word order is freer, and so naturally the grammatical descriptions of the two are not similar. The reason for the change in grammar lies not merely in the change of its object itself as in English but also in that of cultural, intellectual circumstances which underlie the description. In today's technological age anything scientific is regarded as very important and seems to have priority over whatever else. The same sounds true of linguistic description; scientific grammar, for instance, should be systematic, comprehensive, objective, precise, and so on. H. Sweet says, "Grammar being itself a science, affords a training in scientific methods generally" (Sweet, p. 5).

Linguistic description cannot help reflecting cultural backgrounds at the given time. That of the ancient Greeks, for example, reveals their disposition to speculation or logic. Plato thinks that language is in itself something naturally born, consistent and logical with the intrinsic harmony between sound and meaning. He advocates that the proposition (*logos*) consists of the topical part (*onoma*) and the predicating one (*rhema*). This dichotomy, a fundamental idea leading to later views of logic, philosophy, linguistics, etc., is of great significance in terms of the representing way of some event or phenomenon, and is the origin of such a sentential analysis as subject + predicate or noun phrase + verb phrase. However, since Plato's linguistic view is not distinct from the logical one and is not based on the recognition of linguistics as an independent field, descriptive limitation is inescapable as witnessed typically in his inappropriate etymology: "*Aer* (air) . . . may be explained as the element which raises (*airei*) things from the earth, or as even flowing (*aei rhei*) . . ."

(Waterman, p. 15).

Aristotle, who considers language from broader viewpoints than Plato, thinks that language is not of the nature of system or logic but of custom or agreement. In addition to Plato's "onoma" and "rhema," he introduces "syndesmoi" (something like conjunction or preposition) linguistically very important because it has the "grammatical meaning" distinct from the specific meaning owned by "onoma" and "rhema." Aristotle, denying the thought prevalent before that language falls within the range of logic or philosophy, made a large contribution to putting forth the linguistic direction. His words about "syndesmoi" reveal his firm recognition of grammatical categories: "it is a sound without a meaning, capable of forming one significant sound or phrase out of several sounds, each having a meaning of their own . . ." (Dinneen, p. 83). The meaningful difference between "onoma/rhema" and "syndesmoi" has been inherited in H. Sweet's "form word" and "full word" or in C. C. Fries' "structural meaning" and "lexical meaning," as we know it.

As so far seen, the intellectual circumstance in Greek is of the kind of logic or philosophy, so linguistic descriptions by Plato and Aristotle are not free from notional or speculative. Language is in general considered differently from the standpoint of form, function, and/or meaning, of which form has been regarded as the most clear and objective. D. Thrax (c. 100 B.C.), for example, bases his classification of parts of speech on form. He sets linguistic units based on the formal difference and decides meaning corresponding to the units, defining all (except "syndesmoi") syntactically or morphologically. Thrax, though the first to have made analysis based on form, is not free from flaw like others as is exemplified in his definitions of the word or sentence (though their discussion has still

not been complete now): "the smallest part of a sentence, which requires composition" ; "a combination of words that have a complete meaning in themselves" (Dinneen, p. 99). The word is defined in terms of the sentence, but the definition of the latter itself has two problems: the first is that "a combination of words" does not include what is called the sentence-word (because of the speech put out of consideration); the second is the difficulty of understanding the implication of "a complete meaning." Besides, he regards grammar as technical knowledge of the language prevalently adopted by poets or writers, and the critical consideration of poetry as the most noble part of grammar. So it can be said that for Thrax grammar meant nothing other than an instrument for appreciation or criticism of the Greek literature.

Although such an idea developed through Plato, Aristotle and Thrax that linguistic analysis should be different from philosophy or logic, its purpose was not genuine consideration of language itself but accurate comprehension or criticism of literature; recognition of the independence of linguistic description was not founded. What is fatal to them is their thought that Greek is the best and the most logical, no attention being paid to other languages. Unlike the Greeks, the Romans are the first to come to learn other languages. They appreciated highly the Greek grammar and applied it to Latin without modification. As for parts of speech, M. T. Varro (116-27 B. C.) did not base their classification on meaning but on form or specific use in a given sentence, that is, inflection, use or the relation of words in the sentence, giving four word classes such as noun, verb, participle and adverb. His classification putting weight on form or use is highly valued as is so in Fries. More significant is his linguistic philosophy, neither analogy (like Plato) nor anomaly (like Aris-

title); he believes in the intrinsic regularity of language and admits the irregular aspect of human mind. In this respect, he had very flexible linguistic attitudes.

III

In general the linguistic description based on the formal standard is considered to have much grammatical value because of its clarity and objectivity, but since language is an expression of some combination of meaning and form through certain rules, consideration of meaning, though hard, should or can not be made little of. What is problematic as for meaning, however, is that because of having much to do with something mental, the description based on it may hardly obtain the same objectivity as does that based on form, for meaning cannot avoid subjectivity as the field of inner speculation goes.

Priscian, 6th-century Latin grammarian, put weight on meaning in the sorting of parts of speech and presented eight kinds, thinking that there was no better way than to depend on the specific meaning of the word. However, his procedure is not strict but practical because his explanation is based on not only meaning but form/function: 1) noun determined by meaning, 2) verb by form/function, 3) participle by form/function, 4) pronoun by form/function, 5) adverb by function/meaning, 6) preposition by function, 7) conjunction by function, 8) interjection by form/meaning. Noun, for instance, is notionally explained as having the feature of substance or property and as giving man or objects commonness or particularity, whereas participle, though functioning the same way as noun, is formally defined as having the two categories, noun and verb, because of case and tense. Although criticized for lack of explanatory consistency,

his categorization deserves high estimation as being an origin of traditional grammar in Europe.

The standpoint of attaching great importance to meaning was also taken by the Scholastic philosophy in the 12th century. It, as a unification of Christianity and the Greek culture or art, not only served to clarify or systematize the Christian principle but also contributed as a unifying principle for the medieval art. A fruit of its linguistic thought is “*grammatica speculativa modistae*,” where thorough consideration was given to such problems as the classifying standard for parts of speech, the relation between grammatical and logical categories, and so forth. That the speculative grammar by “Modistae” thinks highly of meaning is recognized to see the words of Siger de Courtrai (c. 1300), for example, that the purpose of grammar is to consider expressions of concepts of mind in well-formed sentences. Their grammar regarded as “logicization” of grammar aims at not merely presenting grammatical descriptions but reinforcing them by explanation. Believing in a sort of mechanical relation between properties of objects and ways of their recognition or representation, they sought for universal grammar by focussing on logic for language universal, as is typically expressed in the words by R. Bacon (1214-1294): “*Grammatica una et eadem est secundum substantiam in omnibus linguis, licet accidentaliter varietur*” (in all languages grammar is essentially the same, though accidentally different) (Robins, “Some Continuities,” p. 20). What is remarkable in their approach is syntax. “Noun + Verb” is regarded as a base which functions as subject and predicate and from which other constructions are derived. As we understand, this idea is very common in current linguistic approaches. Through such a syntactical description the independence of adjective, for instance, was obtained, which proves method-

ological validity of the grammar. "Modistae" tried to establish universal grammar through logical analysis of parts of speech, which were thought to be a unit or standard to denote or categorize the real world. One of their drawbacks had much to do with this point; that is, some believed in the parallelism between the structure of the material world and that of the mental one, regarding them as equal to the structure of Latin.

Like the approach of "Modistae" to universal grammar by recognition of logic as lying behind language, it is the 17th-century "Petites Ecoles de Port-Royal" that believed thought to be common in all humanity and pursued the relation between language and thought by concentrating on reason. As is seen in the explanation of "Dieu invisible a crée le monde visible" as consisting of the three judgments: "Dieu est invisible; il a crée le monde; le monde est visible," their emphasis is on the linguistic double-sided aspect that the expression looking simple can be complicated at the level of conceptualization or judgment, whereas such an expression as looks intricate can be plain at the level of thought; in other words, it is about the very feature of language — the diversity in the relationship between form and meaning or between representation and concept. Their approach N. Chomsky has appreciated very much as we know it.

The development of comparative linguistics was induced by the concept of Indo-European family touched on in W. Jones' speech "On the Hindus" in 1786. In addition, the direction of later linguistic studies was determined by the epoch-making discovery of phonetic laws by R. K. Rask and J. Grimm. Rask emphasizes the import of the grammatical agreement in comparative studies in linguistics without overemphasizing the lexical agreement as frequently done before, because the former is hardly influenced by the mixture of languages. Grimm, who recognized Rask's ex-

panded and systematized idea, says of a pattern in language that although language seems to be an assemblage of unrelated change, it constitutes a pattern under the control of some recognizable force. The linguistic study as a science demanded by Rask and Grimm should be accumulative and impersonal — accumulative because scientific progress can be made not abruptly but accumulatively based on estimation, analysis or criticism of the achievements so far reached; impersonal in that the adopted method can lead to a general theory possible for anybody to prove. Their approach is nothing but a steppingstone for historical comparative linguistics or structural linguistics.

W. von Humboldt, contemporary with Rask and Grimm and as much influential in the later linguistic research, looks upon language as an active phenomenon "*energeia*" (action), not mere "*ergon*" (production), and advocates what is called the linguistic field theory that in grasping culture it is significant to see how a language builds up the nation's world view. The linguistic-historically important point is that his standpoint of putting linguistic function (symbolized by *energeia*) over form (*ergon*) must have exerted great influence on F. de Saussure. Besides, also significant is the fact that his idea of "*Innere Sprachform*" was inherited and developed as language relativity in E. Sapir and B. L. Whorf. On top of them, Humboldt has much to do with structuralism in light of: his synchronical and analytical way of research without leaning toward diachrony; his negative attitude toward the classical and scholastic universal grammar; and his inductive procedure to gain grammatical rules from specific facts of each language. He writes:

Denn wenn auch . . . das Studium der ganzen Sprache selbst der höchste Gesichtspunkt ist, so geht sie [diese Gattung der Sprachforschung] dennoch zunächst von den in ihr übrigen Denkmälern aus, strebt, dieselben in möglichster Reinheit und Treue herzustellen und zu wahren und sie zu zuverlässiger Kenntniss des Altertums zu benutzen. (For even if the study of whole language itself is the highest point of view, this branch of language research starts first from the monuments remaining in the language, and strives to edit and maintain them with maximum purity and fidelity, and to use them for reliable knowledge of antiquity.) (Leitzmann, p. 173)

IV

Here is some discussion about the relation between what is called “scientific” and the age background. Something scientific does not take place suddenly but comes out as a result of many trials and errors so far made and under the great influence of intellectual environment at the given time. E. F. K. Koerner (p. 690), for example, mentions that it would be impossible to understand Dante or St. Thomas with ease unless one knows the nature of the “climate of opinion” lying under each age, and that the concept of progress in Schleicher and Darwin resulted from the then prevalent climate of opinion, concluding that epoch-making researchers extremely conscious of the intellectual climate current at the age gather as many ideas as possible and integrate them into comprehensive and overall theory in a rigid way not proposed by any contemporaries. Considering linguistic theories from such a viewpoint as this, it seems possible to read the flow (cyclic as progress, regress, revival or disappearance) of linguistic theories as a product of the background of the particular time.

The linguistic study approach, inductive as mentioned above, taken by

Rask, Grimm, Schleicher, etc. is based on the strict method which relies on facts, not on a priori, non-positive concepts, and which is underlain by objective accuracy. This direction was furthered by the people of "Junggrammatiker," who aimed at making linguistics a natural science by adopting the methodological model from Newton and the "organic analogy" from Darwin. As is typically seen in A. Leskien's (1840-1916) words: "Die Lautgesetze kennen keine Ausnahme" (the sound laws know no exception), their axiom is that, under the given time and space and the same condition, the same sound has the same function. They emphasized methodological rigidity and actual linguistic phenomena, standing, as is remarkable with H. Paul, against the mere description of specific language situations without historical perspective. They have been, on the other hand, criticised for having lost sight of the whole image of language structures by paying too much attention to the details as is said that they dissolved language into atoms. The attitude is nothing but one of the necessary results of the 16th or 17th century English empiricists like F. Bacon, J. Lock, D. Hume, etc., as Bacon, for example, says, "Man . . . can act and understand no further than he has observed, either in operation or in contemplation, of the method and order of nature" (Bacon, p. 998).

As it has been said above that development of science or thought has great connection with the intellectual climate at the given time, Saussure's linguistic theory is one of the products of the time. The climate was E. Durkheim, sociologist, who suggested the possibility of rendering sociology a social science independent of anthropology or psychology and took the methodology of regarding the social fact as a thing. The social fact in him is any kind of action which can exert external constraint on the individual and which comes to be felt less as he/she adjusts to it. Language

as a social fact is inheritance from other speakers, not production of our own making, and so it has generality to a linguistic community and constraint to the individual therein (Dineen, pp. 192-195).

Emphasizing the difference in language between its social aspect and individual one, whose idea derived from Durkeim, Saussure put forth the dualism of "langue/parole" as an effective linguistic description. He thinks language works as a link to unify thought and sound and that its substance lies not in the physical material (*substance*) (sound, for instance) but in the function (*forme*) produced from the network of oppositional relations among individual elements, as is succinctly said: "language is a form (*forme*) and not a substance" (Saussure. p. 122). In addition to his dualism such as substance vs form, language vs speech, synchronism vs diachronism, syntagmatic vs associative, etc., interesting is his explanation of the arbitrariness of language that language as a sign made up of signifier and signified is relative as well as absolute; in other words, a sign not absolutely arbitrary can relatively be motivated. He thinks, therefore, that rules or restrictions can be set because of language, though very much arbitrary, having the possibility of being motivated. Here one can see that this problem of arbitrariness vs motivation has much to do with Plato's or Aristotle's problems with the nature of language as touched on above. So one can say that controversial points arise over and again beyond time and space. One of Saussure's fundamental problems was how to establish the way to treat linguistic facts. It may be impossible for any science to study concrete substance completely because of limitless individual features or characteristics being involved. So he thinks that, to make linguistic study scientific, it is necessary to have a temporary simplification of data: for example, to get such an object that an accurate definition can be given to,

or to make abstraction from concrete features of the object. Above all, what Saussure wanted was the independence of linguistics by founding semiology.

O. Jespersen, almost contemporary with Saussure, is given somewhat different evaluation from other traditional grammarians. While he insists on the importance of form as a grammatical criterion, he gives sharp analyses based on function and meaning, as is typically understood in: "his book" as 1^21 (noun as secondary + noun) vs "his arrival" as 1^2X (noun as secondary + nexus-substantive). That he sharply grasps notional aspects of language can be recognized in his description of "I found the cage empty" as $SVO(S_2P)$ (indicating that O (= the cage empty) consists of S different from "I" and P(edicative)), and of the structurally ambiguous sentence like "They are flying planes" as SVO and $SVP(21)$ (P (= flying planes) as secondary + primary). Because of such an approach, he has been partly appreciated and evaluated by Chomsky (this will be touched on later).

The years from the 1930's to the first half of 1950's saw the development of structural linguistics. Its difference from traditional grammar may be listed up as: 1) the idea of meaning, 2) the descriptive and explanatory attitude toward linguistic phenomena, 3) the unified level of analysis, 4) the application of logic, etc. As for 1), in traditional grammar, meaning is an instinctive reaction to the whole relation of words or lexicon, and the grammatical analysis mostly starts with meaning, applying grammatical terms to specific words or word groups, whereas in structuralism, meaning in L. Bloomfield, for example, signifies the distinctive meaning whereby to know which sound feature is the same or different in terms of meaning. So, unlike traditionalism, the analysis of an utterance does not start with

the understanding of meaning. 2) has connection with 1), for the structuralists' attitude to restrict meaning to distinctive one reflects their conviction that they execute the scientific methodology. Regarding 3), Bloomfield asserts the import of form as the consistent explanatory criterion such as order, modulation, phonetic modification, and selection. With respect to 4), such a view is seen that a declarative sentence is basic because of the subject-predicate pattern, others being deviant.

It is said that the flaw of traditional grammar lies not in its procedural method but in its lack in the comprehensive theory directing grammatical analyses to practice, or that the grammar is nothing but a random assemblage of morphological or syntactical rules. As for the weak points of the grammar, such are listed as: 1) the illogicality of the grounds of rules, 2) the restriction of grammaticality to within specific rules, 3) the limited range of consideration of only European languages, 4) the ambiguous distinction between morphology and syntax, etc. Shortcomings of structuralism, on the other hand, are that it: 1) gives heavier weight to description than to explanation, 2) makes little of psychology, 3) lacks in comprehensiveness, 4) analyzes spoken and written words by the same level, etc. It cannot be denied that structuralism, though having such drawbacks as above, has great value as a scientific method since it has tried to objectify or rigidify analyses and explanations by adopting such scientific methods as observation, experiment, fixation of rules, etc.

V

As has been touched upon so far, the description by structuralism has attained high scientific quality, and to guarantee the quality it has been necessary for the description to be systematic. What is systematic in-

volves definite patterns in which definite rules can be recognized. This has been seen through linguistic history: in ancient times, Varro emphasized linguistic regularity; Panini, 4 or 5th-century B.C. Indian grammarian, formulated the result of his observation or study, describing grammar by 4000 laws (sutras); in medieval times, Modistae grammarians declared that language and the world should consist of a finite number of elements and could be properly united by a limited number of rules; Saussure's semiology adopted abstract application of the language system, and so forth.

Ivić writes: "Hjelmslev was the first linguist to see and to point out that one of the great tasks of linguistics in the future will be the creation of a metalanguage, a logical instrument for scientific definition" (Ivić, p. 176). L. Hjelmslev tried to put a formal definition which could lead to a theorem to describe linguistic patterns regardless of sound or meaning; in other words, he tried to clarify the language system with numerical expressions by considering relational patterns which would realize linguistic regularity. Linguistics to him is that which studies relational patterns of language without knowing what relational things ("relata") are like. He thinks that any process has a corresponding system, whereby the process can be analyzed and described by a definite number of premises and that any process can be analyzed into a limited number of elements repeatable through various combinations. So the purpose of linguistic theory to him is to test the thesis that a system is inherent in a process; a constancy in a fluctuation. In addition, the linguistic description based on such a way, he demands, should be "to the highest degree precise and scientific, clear and logical, 'like algebra'" (Ivić, p. 177). Unlike the structuralism's viewpoint of induction, he regards it as not guaranteeing consistent, simple descrip-

tion because it gets from fluctuation to accident, not to constancy; he preaches the independence from experience and the generality making possible the application of theory to experiential materials. In this connection, he is quite different from other structuralists.

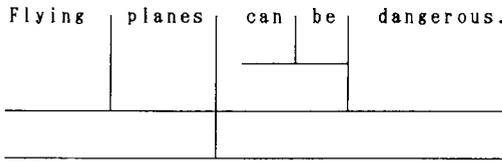
We can say structuralism has listed up as scientific procedures: 1) observation, 2) formation of hypotheses, 3) extrapolation of patterns to predict new phenomena, 4) verification of predictions and determination of accuracy, and has criticized generativism for its relying on mind or intuition, while generativism has insisted that the possibility of objective observation is not always *sine qua non* to science. Put differently, the former believes that science begins with the analysis of data to bring about hypothesis models; the latter insists that the hypothesis does not need to be the product of objective procedures but rather it can derive from scientists' reasoning or imagination. Therefore, in the latter, science is a theory or hypothesis. From this point of view, the history of science can be said to be that of modification of hypotheses. The difference, above all, between structuralism and generativism lies in the definition of science.

The object of generativism has been the clarification of competence and language acquisition. What has been emphasized as for the latter is the innate grammar, or the intrinsic linguistic ability, that is, the active aspect of man's linguistic ability which has been being clarified based on rationalism not on empiricism. The former — clarification of competence — deals with the ability to generate and comprehend the sentences not heard before. Chomsky's dualism of competence and performance is different from that of Saussure's "langue and parole" mainly in that, in Saussure, "langue" is a lexicon socially accumulated by memory, and free, spontaneous linguistic activities like sentence constructions belong to

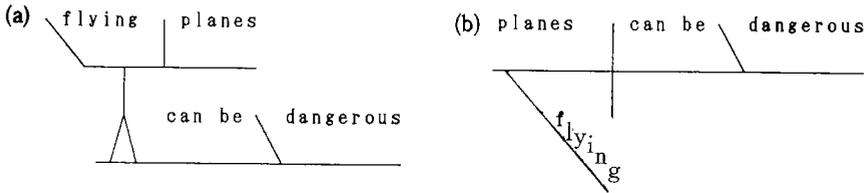
“parole,” whereas, in Chomsky, sentence constructions are based on intrinsic grammatical rules capable of generating infinite sentences and are not those which belong to free, irregular “parole.” In short, competence in Chomsky contains dynamism, whereas “langue” in Saussure does not so.

Since language is the embodiment of specific relationships between form and meaning, its consideration naturally has much to do with human mind. In the grammar of Modistae, for example, parts of speech are classified based on the manner of mental understanding, as is said of the aim of grammar that it expresses concepts in mind in well-formed sentences. Sapir, unique of the pioneers of structural grammar, explains that the fundamental scheme in language structure represents concepts through sounds according to psychological linguistic patterns. Though stating in 1957 that nothing other than formalism has the ground for producing the strict, effective and manifestative theory about language structure, Chomsky largely deals with semantics in 1965, regarding as theoretical the mentalistic linguistics using performance as data provided by introspection to determine competence. His characteristic point is that he considers linguistic intuition to be an important key to explain linguistic rules, for language is a behavior under the control of such rules, that is, a part of the speaker’s unconscious psychology, which is not directly approachable but is made accessible by intuition.

Beside the dualism of competence vs performance, that of the deep vs surface structure (of which the theoretical framework has experienced various changes, though) has surely helped quite a lot to explain the arbitrary relationship between form and meaning. Although impossible to describe appropriately in the IC analysis in structuralism:



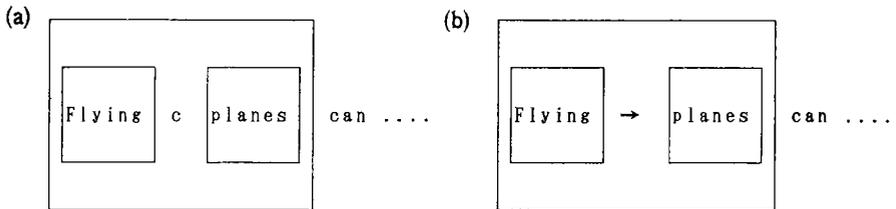
the often-quoted ambiguous sentence "Flying planes can be dangerous" can be described properly in many ways as meaning: (a) To fly planes can be dangerous; (b) Planes that are flying can be dangerous. For example, in the Pence-Emery diagram, it would be:



in Jespersen (*Analytic Syntax*):

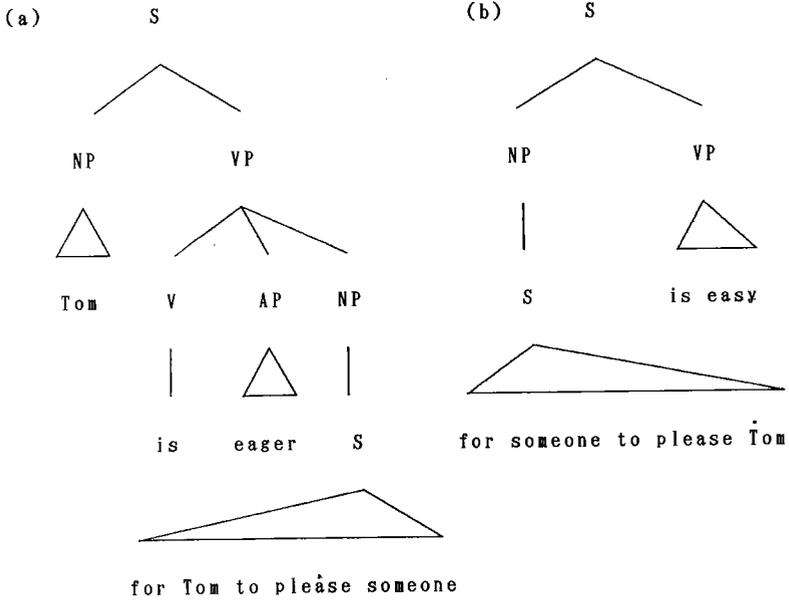
- (a) S(GO)VP ("G" standing for gerund) (b) S(2I)VP

in W. N. Francis:



("c" in (a) signifies the relation of verb-complement; "→" in (b) that of modifier-modifiee.) The sentences "Tom is eager to please" and "Tom is easy to please," however, can not properly be described except in Jespersen as SVP(2_pI) and S(O)*VP(2_pI*), respectively. It is our understanding that the problem has been discussed well in generative grammar in

terms of the two structures of different levels:



Indeed generative grammar, which has become so prevalent because of its great explanatory potentiality, has clearly described various grammatical phenomena unnoticeable before, but it must go the long distance to reach perfection as has been witnessed in its change in description. This, however, cannot be avoided because the grammar is a theory which sets a variety of working hypotheses that should continue to be modified for betterment.

VI

Human history is in a sense like a procession toward scientific achievement and so is the history of linguistic description, as is understood from

the foregoing. Many have tried to make their work as scientific as possible, insisting on its scientific nature according to the criterion of their own or of their age.

Grammar is largely classified into traditional, structural and generative, though subclassified in many ways. The one who is remarkable in traditional grammar in terms of scientific description or great influence over other grammarians, is Jespersen. He begins his *Language* with "History of Linguistic Science" and writes of science needed for linguistic description: "science, of its very nature, aims at larger and larger generalizations, and more and more comprehensive formulas, so finally to bring about . . . 'unification of knowledge'" (Jespersen, *Language*, p. 98). Or he mentions his endeavour has been "to make [his] contribution to a grammatical science based . . . on sound psychology, on sane logic, and on solid facts of linguistic history" (Jespersen, *Philosophy*, p. 344). His *Analytic Syntax* is the very result of realization of his aims. Unlike the traditionalist's general trend toward word grammar, where each word is analyzed rather independently, he pays more attention to syntactic structures. In this sense, the book can be said to be really the first to approach the problems of the larger patterns descriptively. He thinks highly of the symbols introduced therein resembling (he thinks) those used "to make mathematics [or logic] exact and more easy to manage than was possible with the unwieldy word-descriptions used formerly" (*Analytic Syntax*, p. 3). E. A. Nida regarded as unwarranted Jespersen's explanation of "the doctor's arrival" as nexus (substantive) and "the doctor's house" as junction (Nida, p. 10). Chomsky, on the other hand, defended Jespersen's idea as a telling example on the level of descriptive adequacy, though internally unmotivated on that of explanatory adequacy (Chomsky, "Current Issues," p. 63). As is symbol-

ically revealed in Nida's later change in the tone about this point, some of Jespersen's ideas have been so much meritorious as to assist his successors in obtaining a deeper insight into the inner nature of language.

Although partly estimated highly by Chomsky, his methods are in general not free from criticism for lacking in consistency in either diachronical or synchronical, or in explicitness in definitions, or for leaving too much to the reader's inference or intuition. So, from the standpoint of the rigidity of methodology, Bloomfield is surely more scientific as is seen in B. Bloch's eulogy on him: his "greatest contribution to the study of language was to make a science of it" (Bloch, p. 92). But the structuralist's physicalism touched on earlier was not able to surpass its limitation, leading to the "Chomskyan Revolution."

The remarkable point in Chomsky is his assertion of the dualism in linguistic structures and the parallelism in methodology between linguistics and natural science. He estimates highly the analysis by Arnauld and Lancelot of dual characteristics of an expression, deep and surface, as slightly mentioned above. This structural dualism is also realized well by Jespersen, as typically shown in his description of "Activity produces happiness" as $S (XS_2^0 \infty) VO^r (X_2S_2^0 \infty)$ — "X" stands for nexus-substantive, raised ciper "o" for "latent," " ∞ " for "generic," and raised "r" for "result" (Jespersen, *Analytic Syntax*, p. 128). Indeed Chomsky's analysis based on the dualism has explicitly explained the structures of various sentences such as "Tom is easy/eager to please" or "I persuaded/promised/expected/wanted the doctor to examine Tom," but part of his historical explication to make definite his dualism, especially deep structure, has been considered somewhat ungrounded as is pointed out by E. Coseriu, for example, with regard to Chomsky's misleading identification of

Humboldt's *Innere Sprachform* with deep structure, saying sarcastically that such identification is realized by "Noam von Humboldt" (Coseriu, p. 97).

One of the weakest points of the idea of deep structure lies in the thought put forth in Standard Theory that it determines entire meaning, with the result of the change in its nomenclature and quality (as "base structure, initial phrase marker, D-structure," etc.) along with the theoretical procession. Chomsky explains deep structure as "common to all languages . . . a simple reflection of the forms of thought" (Chomsky, *Cartesian Linguistics*, p. 35), but if the deep structure, for instance, of "I regard Tom as pompous" and "Tom is regarded as pompous by me" or that of "Das Kind schenkt dem Vater eine Krawatte" and the sentences with other two possible arrangements, is asserted to be the same, its identity is of the extra-linguistic kind, not of the language-universal one as mentioned by Chomsky. For the sentences with active and passive forms or those in different word orders differ from each other in meaning, nuance or expressive value.

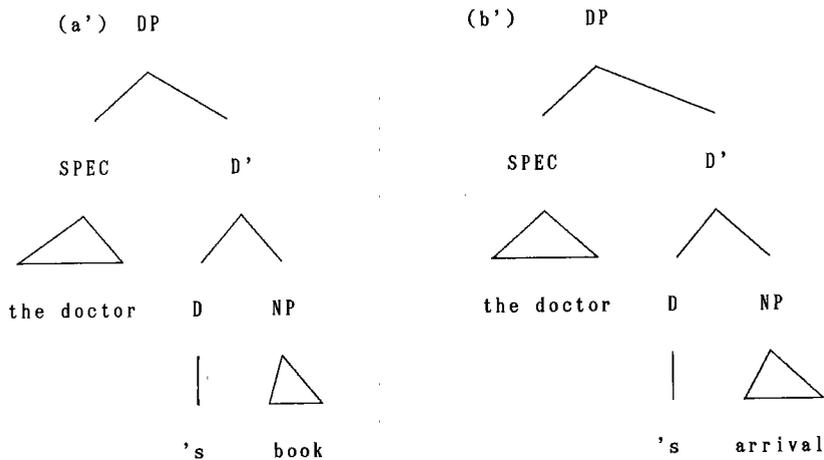
The shift in the idea of deep structure undergone with the theoretical development of generative grammar is reflection of the abstract nature the grammar has. The conditions which make something scientific will be: (1) definite aim; (2) explicit, comprehensive hypothesis or theory for (1); (3) testable, rigid methodology for (2); and (4) idealization. Chomsky has tried to make linguistics an empirical science, which necessitates idealization and formalization, as is shown in Chomsky's words: "an ideal speaker-listener, in a completely homogeneous speech-community" (*Aspects*, p. 3); "a formalization of features implicit in traditional grammars" ("Current Issues," p. 55). These idealization and formalization have led to the idea of deep structure of abstract nature and to its shift.

As Chomsky says: "Idealization and abstraction are unavoidable in serious inquiry" ("Questions," p. 171), the process from one hypothesis to another in generativism has been that of the deepening of abstraction in formalization. Phrase structure rules or schemata in the X-bar theory are examples of it. By the schema:

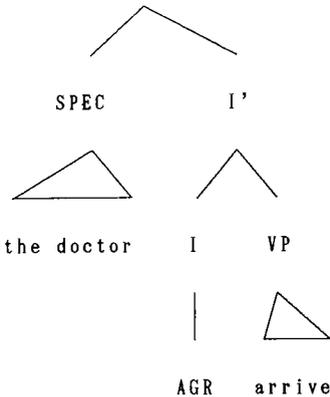
$$X'' (= XP) = X''(\text{SPEC}) X'$$

$$X' = X(\text{HEAD}) X''(\text{COMP}) \quad (\text{Ando et al., p. 21})$$

the similarity of (a) "the doctor's book," (b) "the doctor's arrival," and (c) "The doctor arrives" can be explicitly revealed as in:



(c') IP



In Jespersen (1924) and Chomsky (1964), the difference between (a) and (b) was strongly insisted, but the X-bar theory has made it possible to grasp more abstractly and comprehensively the fundamental similarity between phrases and clauses. Without the deepening of abstraction in formalization, it would hardly be possible to attain such a linguistic description. The description of “Tom is easy to please” has changed from (a) through (b) to (c) as shown abbreviatedly with labeled brackets (The fuller study of the description here lies outside of the scope of this paper):

- (a) [s[NP[s[NPsomeone][VP[vplease][NP Tom]]]][VP[vbe][APEasy]]]
- (b) [IPE[VP[vbe][APEasy]][[IP PRO[VP[vplease][NP Tom]]]]]
- (c) [CP[IP[NP Tom][VP[vbe][APEasy]]][[CP O_i[IP PRO[VP_{t_i¹][VP[vplease]t_i^o]]]]]}

Like Jespersen’s analysis of this sentence as S(O)*VP(2_pI*), it may not be so hard to grasp what is meant by (a) with slight training. However, the degree of difficulty increases with (b) and (c), whose meanings are almost impossible to understand if not with technical knowledge. What is used here for description is, as it were, meta-metalanguage (m-metalanguage) —

metalanguage of a higher degree because of its complete disconnection from extralingual objects as diagrammatically shown in:

	form	meaning	
		sense	reference
(1) m-metalanguage	$[_{CP}[_{IP}[_{NP}Tom]][_{VP} . . .$	S_1	(2)
(2) metalanguage	"Tom" is S, "is" is V, etc.	S_2	(3)
(3) object lan.	Tom is easy to please.	S_3	(4)
(4) extralingual			

("sense" and "reference" are semantically translated as *siji* and *igi* respectively; "Tom" in (2) for example is a name of the word "Tom" in (3), and refers to "Tom" in (3) through S_2 in (2) (Ootsuka and Nakajima, p. 704).)

Not a few criticisms have been given due to the opaqueness brought about by the estrangement between the m-metalanguage (1) and object language (3). The description by generativist's methods, on the one hand, seems like at best a metaphor, at worst completely contentless, but, on the other, receives enthusiastic support as from D. Lightfoot, saying: "the abstract level must now carry much of the weight of inquiry People who make that claim [that generative research is unempirical or a form of metaphysics] are repeating errors made in the reception of Mendel's laws at the end of the last century" (Lightfoot, p. 93). About the linguistics which relies on the native speaker's judgments, intuitions, and individual reactions for the judgment of well-formedness, Robins states that it "is not a wholly empirical science, . . . but rather in the realm of personal

psychology" (Robins, "Linguistics Today," p. 10).

Since the history of linguistic description seems to be advance in scientization of language, some aspects of generative grammar have been discussed rather in detail so far, for the change in description in the grammar appears to be a condensation of the history of scientific description of language. In this sense and in respect to descriptive and explanatory adequacy as well, generative grammar cannot be thought little of because of there being many criticisms as Newmeyer points out: "It is apparently the case that no scientific theory, even the most uncontroversially revolutionary ones, has ever generated universal assent" (Newmeyer, "Has There Been," p. 7).

VII

As W. P. Alston so aptly stated: "Thinking about language has often been dominated by the unformulated and unexamined assumption that . . . an 'ideal' language would contain no vague words" (Alston, p. 86), it is man's nature to seek definiteness, explicitness, consistency, etc. in any field, technical or general. But the following words considered profoundly by Humboldt and Sapir about language nature cannot be denied as ungrounded for linguistic science:

Die Schwierigkeit gerade der wichtigsten und feinsten Sprachuntersuchungen liegt sehr häufig darin, dass etwas aus dem Gesamteindruck der Sprache Fliessendes zwar durch das klarste und überzeugendste Gefühl wahrgenommen wird, dennoch aber die Versuche scheitern, es in genügender Vollständigkeit einzeln darzulegen und in bestimmte Begriffe zu begränzen. (The difficulty of the most important and refined linguistic investigations very frequent-

ly lies in the fact that something flowing forth from the total impression of language is certainly perceived by the clearest and most convincing feeling. But attempts fail to present it in sufficient completeness and to delimit it in definite concepts.) (Leitzmann, p.48)

The fact of grammar . . . is simply a generalized expression of the feeling that analogous concepts and relations are not conveniently symbolized in analogous forms. (Sapir, p. 38)

Besides, the object of generative grammar may have more universal value than that of structural grammar because of the former aiming at knowing the work of human mind, as is symbolically indicated in the title *Language and Mind* (1968) by Chomsky. But the criticism by non-generativists is not completely wrong that the topics taken in generativism have been described only at particular levels as touched on above, so it is not clear how the description is valuable for the clarification of mind or thought. And it can be said that until the reasonable level of neuro-physiological explanation is attained, the bases of such a linguistic description as in generativism cannot be free from speculation.

As has been seen so far, linguistic description has undergone various changes. In terms of descriptive validity, it can be said that progress has been made. But it cannot surely be said that linguistic description has proceeded along the straight line of development, because linguistic consideration is the matter of how to see language, and its object is not always new but recurrent beyond time and space, and because the variety in description derives from the duality of language itself — form vs meaning. Therefore, linguistics can be said to be both very old and fairly young, depending on how one looks at it. The history of linguistic description seems to be something like a widening spiral ever coming back on itself,

but ever increasing its diameter.

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