On Nexus-Substantives

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0 **introductory** Generative grammars of the Chomskian school may be regarded, at least in part, as a rigorous formalization of features already implicit in traditional grammars. It is often the case with a traditional grammar that its theory is constructed unsystematically without an explicit reference to the constructing process, while a meticulous effort is made in a generative grammar to provide the explicit rules which are to account for the full range of structural information available to the mature user of a language.

With varieties of traditional grammars, it may well be doubted whether generative grammarians have found a traditional grammar of some particular kind especially amenable to their analyses, though their cry for "return to traditional grammars" is evidently raised against the modern structuralistic "taxonomic" grammars. At all events it may safely be asserted that by the analysis of abstract nouns by Jespersen, who is undoubtedly a tradtional grammarian, is heralded the transformational grammar of English nominalizations.

In my notes here presented on abstract nouns, Jespersen's conception of abstract nouns as nexus-substantives will thus first be analysed, and on this analysis will next be formulated a transformational grammar of abstract nouns which are conceived as a kind of nominalization, and lastly a semantic analysis will be made of abstract nouns as a subcategory of nouns, which may lead us to some problems of a methodological importance.

1 **Jespersenian conception** The notion of nexus-substantives, as Jespersen conceives them, is introduced primarily to account for the inadequecy of the tradtional category of "abstract nouns." Now, in his grammatical system, a "nexus" as opposed to a "junction" is a term to designate any combination of words implying predication, thus constituting a broader category which includes many phrase-structures besides sentences and clauses. The term "nexus-substantive," therefore, is coined to stress the nexus quality of some nouns or substantives : by classifying "arrival" as a nexus-substantive, he wishes to regard the noun as implying the nexus relation that an entity arrives or arrived.

This conception is significant from a syntactic as well as a semantic point of view ; a syntactic formulation may lead to a transformational description, while as a semantic implication may be mentioned a sharp criticism of the classical notion of abstract nouns.

Nexus-substantives are further subdivided into verbal and predicative nexus-substantives ;

the subdivision apparently rests upon derivational histories of constituent morphemes of nexus-substantives. Verbal nexus-substantives are formed from verbs by adding various affixes : zero ("love"), mutation ("sale"), consonantal change ("belief"), and derivative endings (-age, -al, -ion, etc,). From predicatives (i. e. adjectives or substantives) are formed predicative nexus-substantives by means of derivational suffixes (-doom, -hood, -ness, etc.).

His chief syntactic concern is with the way how what in an original sentence would be its subject or object will reappear in connexion with the nexus-substantive, with a concomitant change of modifiers. The subject-verb-object construction in the original sentence becomes the modifier - head construction in the newly made nexus-substantive ; the original nexus-relation changes into a superficial junction-relation. This involves the important syntactic consequences that primaries (according to his rank theory) are made into secondaries by being put in the genitive or equivalently made into prepositional adjuncts ; hence the classical distinction between subjective and objective genitives. Ambiguities arising from uses of subjective or objective adjuncts are discussed, and it is also to be noted that he recognizes active and passive senses in some nexus-substantives ("his education" $S^2X^b=O^2X^a$) As the nexus-substantive construction has the apparent form of a junction, tertiaries (i. e. adverbials) in the original sentence are concomitantly made into the secondaries which function as the adjuncts of the substantive ; "she is extremely young" SVP(32) : "her extreme youth" $S^2$2X.

Apart from the ordinary nexus-substantives, Jespersen refers to gerunds and agent-nouns as classes akin to nexus-substantives. The English gerund which is diachronically a nexus-substantive shows some of the peculiarity of a nexus-substantive, but, at the same time, as a consequence of the historical development, behaves differently from orbinary nexus-substantives (e. g. in having an object or subject directly attached to the gerund). Agent-nouns are similar to nexus-substantives in that they have corresponding verbs and they implies nexus-relationship, though they are semantically and syntactically fairly different as is shown by a transformational analysis.

2 **a transformational grammar** Within the framework of a transformational grammar, nexus-substantives may be considered as falling under a wider category of transformation, named "nominalization." The nominalization transformation is a generalized transformation which operates on two strings and embeds one into another ; in a nominalization a matrix sentence and a constituent sentence combine to make a new sentence, the latter being embedded into the former. It is to be noticed here that the constituent string inherits the structure of a noun phrase from the replaced element in the matrix string.

Schematically, if we represent the structural description (SD) of a matrix string by : (X_1, X_2, X_3), the structural change (SC) which is brought about by the nominalization transformation T_e will be represented as : $X_1-X_2-X_3 \longrightarrow X_1-N_t-X_3$,
where " — " is a concatenation sign, X_2 is a noun phrase, N_t is the embedded string which is produced from the constituent string (see below), either X_1 or X_3 (but not both) may be null.

First of all it must be recognized that the embedded string N_t itself is a result of a

(singulary) transformation: N_t is the transform which is produced by the operation of the nominalizing affix (nom) on the constituent string. Varieties of nominalizations may be distinguished by peculiar behaviours depending on different noms; factive nominals with noms ("that", "wh-"), infinitive nominlas with nom "to", gerundive nominals with "-ing", and finally nexus-substantives with various noms.

Let us confine ourselves to the transformations Tn's producing nexus-substantives. A nexus-substantive transformation, to use the terms and symbols above, is a kind of generalized transformation which replaces some component X_2 of the matrix string M by the transform N_t of the constituent string C, where both X_2 and N_t have the same phrase-structure ; they are NP's ; (to be more precise, X_2 must contain a determiner, see below).

It is now evident that much of the Jespersenian syntactic interest centers about the structural changes within the string which are brought about by the singulary transformation producing the transform N_t which is to replace X_2. We are thus led to the description of the singulary transformations within the constituent strings.

The most general formula of the singulary transformation T_n will be given as :

(1) SD : (NP, Aux, VP)

SC : $x_1-x_2-x_3 \longrightarrow x_1+S-nom+x_3$

where S is a genitive affix; nom is a nominalizing affix ;

Aux develops into tense (modal) (aspect) by a phrase-structure rule.

Of course it is assumed here that a later obligatory transformation, in anticipation of morphophonemic rules, exchanges the nom and the immediately following verb base.

Going into a more detail, we can make a further subdivision by means of VP structures x_3 (that is, by the subcategories of verbs) :

(2) $x_3 = V_t-NP'-Z$ (i.e. the verb is a transitive ; Z is an arbitrary string)

SC : $x_1-x_2-x_3 \longrightarrow x_1+S-nom+V_t-P-NP'-Z$

where P is a prepostion, often "of", but sometimes some other preposition ; cf. various examples of P's given by Jespersen.

e.g. he−s+have−en+hate−the old man ⟶
(he has hated the old man)

he+S−nom+hate−for−the old man
(his hatred for the old man)

(3) $x_3 = V_i-Z$ (i.e. the verb is an intransitive with no predicative following)

SC : the same as (1)

e.g. you−ϕ+will−depart−tomorrow ⟶ you+S−nom+depart−tomorrow
(you will depart tomorrow) (your departure tomrrow)

If V_i is followed by P−NP to complete the sense (e.g. "he objects to the plan'), the whole V_i-P-NP may be analysed as a V_i, fitting into the formula (thus, he−s+object −to−the plan ⟶ he+S−nom+object−to−the plan). This fact defines a subcategory of V (say "V_p") ; cf. Lees' V_x.

(4) $x_3 = V_{cop}-Pred-Z$ where V_{cop} is a copula verb ; Pred is a predicative in Jespersen's terminology.

SC : $x_1-x_2-x_3 \longrightarrow x_1+S-nom+Pred-Z$

e.g. he−s+be−competent−for teaching ⟶
(he is competent for teaching)

he+S−nom+competent−for teaching
(his competence for teaching)

Some important obligatory and optional transformations which operate upon the above transforms will be mentioned next :

*Genitive periphrasis : corresponding to (2), (3), (4) above, the following three transformations (obligatory when x_1 contains an inanimate noun, optional otherwise) can be introduced.

(2)′ $x_1+S-nom+V_t-P-NP'-Z \longrightarrow$

$Det-nom+V_t-P-NP'-P'-x_1-Z$

where Det is a determiner ; $P'-x_1$ may be placed before $P-NP'$ especially when P′ is 'by'.

e.g. the Bolsheviks+S−nom+seize−of−power ⟶
(the Bolsheviks' seizure of power)

the−nom+seize−of−power−by−the Bolsheviks
(the seizure of power by the Bolsheviks)

It is very rare, Jespersen points out, that both P and P′ are "of" ; though it is usually the case that Pis "of" and P′is "by", P′may sometimes be "of" and P some other preposition, which Lees' equation does not generate.

(3)′ $x_1+S-nom+V_i-Z \longrightarrow Det-nom+V_i-P-x_1-Z$

P is usually "of", but some other preposition.

e.g. science+S−ϕ+advance ⟶ the−ϕ+advance−of−science
(the advance of science)

This transformation is obligatory because x_1 is inanimtae.

(4)′ $x_1+S-nom+Pred-Z \longrightarrow Det-nom+Pred-of-x_1-Z$

e.g. the man+S−nom+great ⟶ the−nom+great−of−the man
(the man's greatness) (the greatness of the man)

*Passive nexus-substantives: corresponding to (2),

(2)″ $x_1+S-nom+V_t-P-NP'-Z \longrightarrow NP'+S-nom+V_t-by-x_1-Z$

e.g. the Tories+S−nom+expel−of+he−from power ⟶
(the Tories' expulsion of him from power)

he +S−nom+expel−by−the Tories−from power
(his expulsion by the Tories from power)

Naturally there are no passive nexus-substantives corresponding to (3) and (4).

*Modification : When the VP structure x_3 contains an adverb Ad which modifies the verb (V) or the predicative (Pred) and which is morphologically analysable as : $Ad-A-A_d$, where A is an adjective and A_d is an affix converting A to Ad, then the following structural change will be obligatory :

(5) SC : $x_1-x_2-x_3 \longrightarrow x_1+S-A-nom+[^{V}_{Pred}]-Z$

where Z is VP minus V (or Pred) and Ad.

e.g. he−s+deny−her words−flat-ly (he denies her words flatly) ⟶

he+S−flat−nom+deny−her words ⟶ (applying (2))

he+S−flat−nom+deny−of−her words (his flat denial of her words)

When Ad is, however, unanalysable as $A-A_d$, the above change does not occur ; Ad is unana-

lysable especially when it is an adverb of place or time.

e.g. we−past+stay−here ⟶ we+S−ϕ+stay−here (by (3))
(we stayed here) (our stay here)

On the transformational analysis made so far, we may sum up the distinguishing characteristics between ing-nominals (gerunds) and ordinary nexus-substantives as follows :

i) the general formula (1) itself is not applicable to ing-nominals, because the whole Aux (i.e. both tense and aspect) is deleted in ordinary nominalizations while the aspect component (have+en) (be+ing) may remain in ing-nominals.

ii) (2) does not hold in ing-nominals, because -ing+V_t is immediately followed by NP′ without an intervening P.

iii) S in "x_1+S" in ing-nominals is deletable when x_1 is not pronoun.

iv) while the position of "x_1+S" in ordinary nexus-substantives can be filled by "the" or other determiners, in ing-nominals it cannot.

v) (5) does not hold in ing-nominals (thus, "his denying her words flatly")

Agent-substantives, as Jespersen calls them and symbolizes by Y, implies a nexus relationship; they may be regarded as containing "noms" which are affixed to the verb bases to make transforms. Some modifications, however, will have to be required of the transformation formulae to account for agent-substantive transformations (cf. Lees, T 47-48, and GT 9).

Now that the singulary transformation T_n within the constituent string C have been described, our attention will next be turned to the generalized transfomation T_e which embeds the transform N_t into the matrix string M to make a new sentence S. The "transformation-marker" here will be represented as :

(M)——————T_e——(S)
(C)——T_n——(N_t)

Clearly our nexus-substantive is the transform (N_t) which is produced by the application of T_n to (C), and T_e embeds the nexus-substantive in (M), giving (S). Given the structural description of (M) as (X_1, X_2, X_3), our nexus-substantive N_t must have the same phrase-structure as that of the replaced element X_2, i.e. that of NP. Furthermore, as N_t contains NP−S or Det and NP−S is syntactically equivalent to Det, X_2 itself should be regarded to contain Det ; occasionally, however, C contains a generic subject which may be deleted in N_t, as "honesty" in "honesty is the best policy." More precisely, every noun cannot always be a candidate for the noun constituting X_2 ; there are syntactic and semantic restrictions. Lees observes that the transforms N_t will be permitted to substitute only for those cases of singular $N_{a(bstract)}$ (such as, "probem", "trouble", "thing", "reason", "cause", "question") which in copula type sentences are opposite other N_a, but not those which are opposite $N_{c\,(oncrete)}$. That is, X_2 consists of Det−N_a, where N_a is a subcategory of nouns which may appear opposite both nominalizations and concrete nominals. This observation may lead to the view, which is perhaps in accord with Comsky's most recent view, that the matrix sentence contains a NP which dominates Det−N_a−S, and that S is to be replaced by the transform N_t and then Det−N_a is deleted.

Nexus-substantives as the transforms by nominalizations have thus inherited the phrase-structure of Det—NP from the matrix sentence and therefore can occupy any NP position in the sentence, which fact makes them the handy expressions that enable us to avoid many clumsy constructions.

3 **semantic analysis** The semantic analysis of abstract nouns may lead to various fundamental problems such as the distinction between the referential and the structural semantics, or the boundaries of syntax and semantics. With our special attention focussed upon the semantic significance of the Jespersenian introduction of the concept of nexus-substantives as the substitute for traditional abstract nouns, we will touch here on some of these problems.

Our first task will be to find out a linguistic raison d'être of the distinction between concrete and abstract. Here the question will be raised as to what we mean by "abstract." Obviously concrete nouns themselves are, in a sense, of an abstract nature ; their abstractness is evidently due to their status as linguistic signs : every thing denoted by Language is abstract, and that is why we say every linguistic sign is a"type"as opposed to a "token."We find thus "general semanticians" insisting with an almost painful reiteration that "concrete" nouns are on a high level of abstraction and that with our very act of naming begins the process of abstraction, as is diagrammed by Hayakawa's "abstraction ladder." It is indeed a matter of degree to say that "animal" is more abstract than "cow": however high we are to climb up the "tree of Porphyry," the scholastic pattern of abstraction (from "infima species", detracting more and more universals or "differentia," through "subalterns," up to the "summum genus"), we will still be in the domain of concrete nouns. The distinguishing criteria, therefore, do not lie in the mere difference in abstraction levels. And this is perhaps tantamount to saying that the "referential semantics", which is to be concerned with the relation between the symbol and the referent, does not reveal the linguistic distinction between concrete and abstract; here again is denied our dependence upon the extralinguistic reality.

In an introspectionistic terminology based on Marty-Funke, Nakajima finds the criterion of abstract nouns in their "synsemantic" nature. An abstract noun ("whiteness") as well as an adjective ("white") is synsemantic as opposed to autosemantic because they bring with themselves always the idea of things to which they belong ; the latter, however, has its instances ("white" things), while a thing which is whiteness is an impossibility. When we think of the abstract noun "whiteness," what is evoked in us is not whiteness itself, but the whiteness of some white thing. Now, as is seen above, the meaning of a concrete noun cannot be identified with its referent; nor is it to be maintained that the meaning is, as Ullmann maintains, the reciprocal relation between the linguistic sign and the mental concept ("sense"), if we do not want to commit ourselves to any sort of mentalism. Without introducing a hypothetical mental concept, we might say that the meaning of a concrete noun is to its referent what the phoneme is to its phones, or, more generally, what "langue" (or, to use the Chomskian phraseology, "competence") is to "parole" ("performance") ; thus the meaning is a theoretical construct on the plane of Language (as opposed to Speech). The meaning of a concrete noun, then, corresponds to its referent in an act of Speech, while that of an abstract noun does not. Psy-

chologically our ability of selective attention enables us to concentrate upon whiteness as if it could subsist by itself. Our idea of a "thing" which seems to inhere in an abstract noun, to follow Nakajima, is due to its "inner speech form" (or Chomskian "surface structure").

In the light of this theory the Jespersenian conception of nexus-substantives is to be appreciated as realizing this semantic nature of abstract nouns. A construction with a nexus-substantive as its head (e.g. "Desdemona's love for Cassio") is to be understood as having the semantic function of calling up the content of a judgement (i.e. the judgement Othello passes "that Desdemona loves Cassio"). The theory may be regarded as a linguistic version of nominalism ; abstract nouns, as universals, do not exist, though they have their particular instances. Abstract nouns, regarded as nexus-substantives, are very serviceable in avoiding many clumsy expressions, but, when too much emphasis is laid on their nature of substantives, they may entail a danger of leading to a Platonic reification of universals.

Nexus-substantives as treated in section 2 above are a syntactic rather than a semantic notion ; they may be defined as a category which consits of the transforms N_t's. Is it possible then that they can be defined solely as a syntactic category ? Chomsky (1965) seems to be trying to treat these problems syntactically as much as possible, thus delimiting narrowly the domain of semantics. Finding that subcategorization (such as of abstract nouns from nonns) is typically not strictly hierachic but involves rather cross-classification, he tries to analyse the symbols representing lexical categories (N, V, etc.) by rules into complex symbols which are sets of specified syntactic features, based on the analogy of phonological rules ; thus a lexical entry "sincerity" is entered in the lexicon with the syntactic features (+N, +Common, −Count, +Abstract), while "boy" has the features (+N, +Common, +Count, +Animate, +Human). These features acquire a further syntactic importance when they play a significant role in "selectional rules" which analyse the symbole (say "V") in terms of syntactic features of the frames in which the symbol appears ; "frighten" contains, among others, the feature "(+Abstract) Aux _____ Det(+Animate)", which allows "sincerity may frighten the boy," but not "the boy may frighten sincerity." To reverse the standpoint, we might say, perhaps at the risk of circularity (Chomsky rules out the possibility that the Subject may be selected in terms of an independent choice of Verb), that the syntactic feature ("+Abstract") can be determined by the frame"_____ Aux frighten Det (+Animate)" ; "+Abstract" is the feature which characterizes the subset of N's which occupy the blank position of the frame.

"Abstract" is thus a syntactically distinctive feature which dominates the coocurrence of formatives (Such as V). At the same time "Abstract" as a "semantic feature" cannot be denied. It is not contradictory, as Katz-Fodor points out, that a marker (i. e. a feature in the sense above) is common to both grammar (i.e. syntax) and semantics, and "Abstract" is indispensable both syntactically and semantically ; as a semantic marker it must be introduced to specify something ("abstractness") about the meaning of lexical entries in the lexicon. Lastly it may be added parenthetically that a transformational analysis of abstract nouns as nexus-substantives will finally cause them to be banished from the domain of the lexicon, for they can be introduced transformationally, given the verbs, adjectives, or concrete nouns which underlie them.

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