§ 1 Traditionally government relations between sentence constituents have been one of the main concerns of grammatical theory. This classical subject had already been pursued by the reflection of the grammarians of antiquity. During the last century, however, a great deal of evidence on this problem has been gathered from languages belonging to various families. New light has been shed on this problem by typological research, whose importance has grown in recent years. But what seems worth noting is the preeminence of this issue in the literature of modern theoretical linguistics. In different models and terminologies (categorial grammars, dependency grammars, valency grammars, functional grammars), we always find the same idea of a hierarchical organization of the sentence, i.e. an organization in which certain elements pilot or control others, according to particular conditions. We cannot discuss here whether this means that such different grammatical models are each merely notational variants. This is a vexed question and one which could only be resolved on a metatheoretical level. It is difficult, however, not to draw the conclusion that government relations have progressively coincided with syntax proper. The hypothesis which will be put forward here is that government relations, in the most general formulation

(1) Given a text $T$ and a set $\mathfrak{S}$ of categorial types mapped into it, there is a subset $U \subset \mathfrak{S}$ such that for every $x \in U$, $x$ controls a string $z$ of items given in the linear form of $T$.

are only a special case of grammatical relations among sentence constituents. Obviously we know another kind of grammatical
relations, coordination relations, which differ from government relations. Though these have for a long time been recognized by linguistic theory, they have never occupied a central role in it. Traditional grammatical speculation referred to a syntactical organization with coordination relations as "parataxis", whereas it referred to a syntactical organization with government relations as "hypotaxis". Both historical and stylistical research agree upon claiming that the first is typical of a simple grammar, the latter of a more complex one. In particular, historical research has shown that para-tactical organizations characterize socioculturally low language levels. A well known case in point is that of the so called Vulgar Latin, in which the principal kind of syntactical arrangement is parataxis. From a different approach, field work in modern sociolinguistics has confirmed the connexion that obtains between parataxis and socioculturally low language levels. On the other hand, psycholinguistic studies on language acquisition and development have singled out a connexion between parataxis and the early stages of syntax acquisition. However, to return to our hypothesis: we shall not be concerned mainly with discussing coordination relations of the type expressed by the conjunction operator. Conjunction can be considered a relation between two equi-hierarchical items (or, if we want to use a generative notation, between two equi-hierarchical nodes of a tree-graph). Insofar as a concept of equivalence in hierarchy is referred to, it can be said that coordination is but a special case of control. We intend to examine a type of grammatical relation in which not only a government relation may not be assumed between a given n-ple of items in T, but no syntactic relation whatsoever. An alternative formulation of this point could be given in terms of constituency. It has recently been observed that for certain languages (cf. the case of Wali or Wai) constituent analysis leads to indeterminate result. The same characteristic seems to hold for some types of spoken texts in modern Indo-European languages. Thus the grammatical relations mentioned above can be found in sentences in which constituent analysis gives an indeterminate result. For this reason we propose to define this kind of relationship as indeterminate relations.

§ 2 Let us examine some examples of indeterminate relations. Let us take as the first case to be analyzed the widely discussed phenomenon of topic-comment (T—C) structure. A sentence like

(2) \textit{Thomas Moore, I have never heard of him}

has a typical cleft structure, consisting of two blocks, \textit{Thomas Moore} and \textit{I have never heard of him}. Which link relates the first to the second? In the functional paradigm it is assumed that \textit{Thomas Moore} functions as a topic, whose meaning can be expressed as 'what is being spoken about', whereas \textit{I have never heard of him} functions as a comment, whose meaning can be expressed as 'what is being spoken'. This characterization is really a semantic, not a syntactic one. It is easy to see that constituent analysis does not fit the whole sentence; this is to say that the T—C structure may well go beyond the boundaries of the sentence, considered as the maximal domain into which distributional dependencies can be defined. If one tackles the problem using the argument—predicate model (or, which is the same, the valency model), it is easy to see that one of the arguments of the predicate is only partially and indirectly filled. As a matter of fact, the second place of the predicate is occupied by a proform, which, as is well known, constitutes a textual loss of information. Nevertheless, the coreference relation between \textit{Thomas Moore} and \textit{him} allows for the recoverability of information. Therefore we could represent this by the following diagram:

![Diagram](image-url)

The predicate \( a \) has as its arguments \( x_1 \) and \( x_2 \). Now, it is clear that \( z \) is in the relation \( R \) with \( x_2 \), for \( x_2 \) is a bound variable controlled by \( z \); \( x_1 \) and \( x_2 \) are respectively in the relation \( G_1, G_2 \) with the predicate \( a \); furthermore, a relation \( H \) links together \( x_1 \) and \( x_2 \). \( z \) and \( a \) are not in any overt relation and the same holds for \( z \) and \( x_1 \). The treatment of similar structures by the generative paradigm has undergone several changes. According to an earlier solution (cf. Ross 1967), (3) would have been generated by mapping into
form. Absence of syntactical relations between the topic (which, note, can be a sequence of elements \(x_1, x_2, \ldots, x_n\) with \(x_n \neq 0\)) and the comment is even greater in the canonical type of T—C structure. Examples of it are provided by the so called “topic prominent” languages. Consider the following sentences:¹¹

(5) Nei-xie shùmu shù-shēn dā (Mandarin)
 those tree tree-trunk big

‘Those trees (topic), the trunks are big’

(6) Nei-chang huǒ xīngkui xiaofang-dù lai de kuài that-classifier fire fortunate fire-brigade come adv. quick

ptc.

‘That fire (topic), fortunately the fire brigade came quickly’

(7) ke chi tê pé? sô dâ? jâ (Lahu)
 field this one classifier rice very good

‘This field (topic), the rice is very good’

(8) ho sô na-qhô yê ve yô (Lahu)
elephant topic nose long ptc. declarative
 marker
 marker

‘Elephants (topic), noses are long’

It is easy to see that the topics in (5)—(8) have no selectional relation with the verbs. Rather, if we analyze the relations between the topics and their respective comments in (5)—(8), their essentially semantic nature becomes clear. More precisely, it can be said that here we have a kind of textual progression by semantic contiguity. This is a well known phenomenon: we have a progression by semantic contiguity when in the global semantic representation of the text, the semantic representations of two or more lexical items in a local structure show an intersection or a proper inclusion of semantic features. Note that in (5) the most informative element in the topic sequence is taken again in the text linear manifestation (shùmu... shù-shēn), determining a so called “episegetic” progression, which goes from the general to the particular: ‘the tree’ → ‘the tree trunk’, that is to say ‘the whole tree’ → ‘a part of it’. The whole-part se.
mantic relation links together the pair ko ‘elephant’, na-qh3 ‘nose’ in (8). In these examples as well as in (7) Harwec’s concept of “ontologic contiguity”13 is perhaps useful, too. Anyway, it is also possible to have no semantic relation of contiguity between the members of a T—C structure. Consider the following examples from Korean and Japanese:14

(9) siban-in hakkjo-ga manso (Korean)
now-topic school-subject many marker marker

‘The present time (topic), there are many schools’

(10) gakkoo-wa buku-ga isogasi-kat-ta (Japanese)
school-topic I-subject busy-past tense marker marker

‘School (topic), I was busy’

Sentences (9) and (10) are typical examples of the value ‘as to’ connected to the topic. They show the most general semantic relationship between the topic and the comment; we can represent it as a narrowing of the information field of the comment controlled by the topic.15 In other words, considering the topic as the starting point of the message, “the peg to which the message is hung”, it is possible to define the topic as a function which reduces the entropy of the message. So, the T—C relation would be defined in terms of the Markov chain principle. In this way, the essentially linear character of the T—C relation is demonstrated. We may ask ourselves whether it is possible to say that the topic “controls” the comment, and what kind of control it is, if any. I think that a plausible answer to this question can be given tentatively by saying that the type of semantic relation between the topic and the comment constitutes the most general kind of control, that is to say, the most general kind of government relations. This is not inconsistent with our hypothesis of indeterminate relations. As a matter of fact, we can specify that in this most general kind of control the value of the relation can be represented as a limit, asymptotically defined.

Note, however, that the value ‘as to’ of the topic is common not only in the so called topic prominent languages, but in the subject prominent languages as well. This becomes evident when spoken levels or particular stylistic arrangements are considered. The type has been focussed by Havers in his well-known article (Havers 1926) under the designations of “isoliert-emphatischer Nominativ” and “thematischer Nominativ”.16 Extensive documentation of it is available for the Indo-European languages, both ancient and modern. In the Indo-Iranian languages the type is widespread in different areas, at different chronological stages and in different registers. Oertel found a large amount of evidence of it in the Brāhmanaś. Here I quote only a few examples (Oertel 1926, 29 sqq., 36):

(11) “manur vaivasvato rājā tasya manuyā viṣaḥ” ‘King Manu Vaivasvata, his people are men’ (CB. 13.4.3.3.)

(12) “paçavo vāg indriyanaṃ prāṇāpanau tair vā indro kāmayata sāyujyam gaccheyam iti” ‘Cattle, speech, vigour, in-breathing (and) out-breathing, with them’, Indra desidered, “may I be united”’ (MS. 3. 10. 6. [137, 13])

(13) “athaī ‘tac chariram tasmin na raso ‘sti’ ‘Now this body, there is no sap in it’ (CB. 4.4.5.1.)

(14) “athe ‘tairāḥ [āpah] peyāḥ svādyayaḥ çāntās tās tatrai vā ‘bhyaçramayad abhyatapat samatapaḥ’ ‘But the other (waters) which were drinkable, palatable, appeased, these he then toiled over, heated, thoroughly heated’ (GB. 1.1.3.)

In these examples the pendent nominative is resumed by pronouns with different case form. In (11) the pronominal resumption has the genitive inflection (“tasyā” = ‘of him’), in (12) the instrumental inflection (“tair” = tais), in (13) the locative inflection (“tasmin”) and in (14) the accusative one (“tās”).17

As regards Iranian languages, the type occurs as early as in the Achemenids Inscriptions. In the Inscriptions from Bisutūn of Darius the First one reads:

(15) “uṣjāra nama pārsa manā bādaka ayamšām maṭištam akunayam” (Weissbach 1911,§25, from which the translation ‘Einen Perser namens Uṣjāra, meinen Diener, den machte ich zu ihrem Obersten’).
Furthermore in the Avesta one reads:

(16) “vispa’stoi hujitayō yā zi āzhara yāsāca hantī yāsāca maizdā bavinti ōzhahī hīs zaosē ābahyo.hvā” (Y. 33, 10; cf. Bar., THOLOMAE 1906, 924; 931; 1821, from which the translation ‘Alle Annehmlichkeiten des Lebens, die du hast, die (früher) da waren und die (jetzt) da sind und die, o M., (künftig) da sein werden, nach deinem Gefallen teile sie aus’)

In (15) the sequence “yijdarna nāma pārsa” is resumed by the pronoun in the accusative “aṣam”. Pronominal resumption of the topic also occurs in (16) by means of the form “hīs”.18 In both Greek and Latin the type is not peculiar of literary registers, but of the “Umgangssprache”, even if the literary levels show it to some extent.19 In Greek it is documented from Homer:

(17) ιτηροί μὲν γὰρ Ποδαλείριος ἥδε Μαχαών τιν μὲν ἐνὶ κιλιῶν δόρωμεν ἔχοντα/ κρηινότα καὶ αὐτὸν ὁμοῖον ἰτηρός/ κειαθαὶ δ’ ἐν πεδίῳ Τράδων μὲνει ὡς Ἀιτία The doctors, Podaleirius and Machaon, the one, I think, lying wounded in the huts, he himself needing a doctor, and the other in the plain, waiting for the sharp battle of the Trojans’ (Iliad, i. 833)

down to later writers as Helian and Philostratos. The Latin documentation too is extensive and differentiated as to chronological stages and registers. The type occurs not only in such early texts as Plautus’ Comedies, Cato’s De agri cultura and the archaic Inscriptions:

(18) “Epidamniensis ille, quem dudum dixeram/Geminum illum puere qui surrupit alterum,/Ei liberorum, nisi divitiae, nil erat’ (Menaechmi, ProL. 57—59)

(19) “Ager rubricosus . . . ibi lupinum bonum fiet” (De agri cultura, c. 34, 2)

(20) “Vituries, que controurias / Genuensium ob iniourias indicati aut damnati sunt, se quis in uinculeis ob eas res est, eos omneis / soluei, mittei leiber(are)ique Genuenses uidetur oportere” (CIL I², 584)

but in Cicero, Livy, and in the poetic texts as well:

(21) “Ceterae philosophorum disciplinae, omnino alia, magis alia, sed tamen omnes quae rem ullam virtutis expertem aut in bonis aut in malis numerent, eas non modo nihil adiuvare arbitror” (Cicero, De finibus, 3, 11)

(22) “signa aliaque ornamenta quae querentur ex aedibus sacris sublata esse, de iis . . . placere ad collegium pontificum referri” (Livy, 38, 44, 5)

(23) “Altera, nil obstat: Cois tibi paene videre est ut nudam” (Horace, Sat. 1, 2, 101)

(24) “hic locus est, partis ubi se via findit in ambas/ dexteras, quae Ditis magni sub moenia tendit,/ haec iter Elysium nobis, ad laeva malorum/ exercet poenas” (Aeneid 6, 541)

Of special interest is the type in the Celtic languages, where it constitutes an abnormal, marked word order. In Irish it is very frequent from the old stage of the Glosses:

(25) “in rec[h]t ró-sáricset is triit at-belat” ‘the law they have violated, it is through it that they are destroyed’ (Wb. 1 d 4)20 to the modern one, whereas in Welsh it occurs only in Old and Middle Welsh:21

(26) “ir pimphet eterin diguormechis lucas hegit hunnoid in pre-tium benedictionis” ‘the fifth bird which Luke added, that goes as an extra gift’ (De Mensuribus et Ponderibus, BBCS V, 234)

(27) “Ynteu Wydyon goreu kyuarwyd yn y byt oed” “Gwydion was the best teller of tales in the world’ (PKM 69.13)

In (25) the pendent nominative “in rec[h]t” followed by the relative clause “ro-sáricset” is resumed by the suffixed pronoun in the conjugated preposition “triit”. In (26) the pronominal form “hunnoid” resumes the sequence “ir pimphet eterin diguormechis lucae”.
In (27) the conjunctive pronominal form “ynteu” anticipates its coreferent term “Wydyon”. A structure like this, which can be often found in Middle Welsh, seems to be the result of an afterthought by the speaker.

Note, finally, that the type occurs in the German languages as well, again, from the old stages:

(28) “ther hélolog géist, fon imo wéhsit iz meist” (Otfrid 1, 8, 24)
to the modern ones.

The phenomena we have examined up till now, however, are not the only cases which fit the model of indeterminate syntactical relations. Other phenomena which are consistent with the model are the Chinese double subject construction and perhaps the so called “Akkusativ der Beziehung” of the classical Indo-European languages. As to the former, consider the sentence

(29) tā tōu tēng
he head ache

whose meaning is ‘he with regard to his head aches’, that is ‘he has a headache’. Really, here there are two constituents, tā and tōu which function as topics. Again, they are linked by a relation of specification, more precisely, a whole—part relation. The whole—part relation plays a considerable role in the “Akkusativ der Beziehung” as well. Diachronically the origin of this syntactic type is not quite clear. It is rather difficult, in fact, to trace the borderline between it and the double accusative constructions in the passive.

Consider the active sentence in Sanskrit

(30) baliṃ yācāte vasudham ‘to Bali he asks the earth’

and the corresponding passive

(31) baliṃ yācāte vasudham ‘Bali is asked (to deliver) the earth’

In the active both the person and the thing have the accusative endings, whereas in the passive the person shows the nominative ending and the thing the accusative. As to the Greek, the origin of this type can certainly be connected, at least partially, to the passive construction of the σχῆμα καθ’δελον καὶ μέρος. In this pattern “das Ganze wird in einem seiner Teile durch die Handlung des Verbums betroffen” (cfr. the well-known Homeric sentence τὸν δ’ ἄνθρωπον ἐξεκέφαλεν ‘he hit him, his neck’ = ‘he hit him on his neck’). An example of passive construction of the pattern is given by the Homeric sentence

(32) βῆβληται κενεώνα διαμπερές
you were hit hip.acc. through (adv.)
‘You were hit in the hip through’ (Iliad, E 284)

Compare with this

(33) ἐξεκότην ... τὸν ὀφθαλμὸν λίθῳ
I was taken out the.acc. eye.acc. with a stone
‘I was taken one of my eyes out with a stone’ (Aristophanes, Nub. 24)

(34) ἀπειμήθησαν τὰς κεφαλὰς
they were cut the.acc. heads.acc.
‘Their heads were cut’ (Xenophon, Cyr. VIII, 8, 3)

In all these cases the constituent in the accusative has a specification or limitingative value which seems independent from the verbal government. This is all the more evident when the “Akkusativ der Beziehung” occurs in constructions with an intransitive verb or an adjective:

(35) μελανεῖτο δὲ χρώα καλόν
she darkened ptc. body.acc. beautiful.acc.
‘Her beautiful body darkened’ (Iliad, E 354)

(36) χαρεῖν δὲ γενέα μίτης
may rejoice ptc. heart.acc. mother
‘may his mother rejoice in her heart’ (Iliad, Z 481)

(37) διαφέρει τῇ γυνῇ ἄνδρός τῆς φύσιν
differs woman-nom. man-gen. the.acc. nature.acc.
‘The woman differs from man in nature’ (Plato, civ. 453b)
through an ergative relation. Such a transformational relation does not hold for sentences (36)—(37). In (36) ξαγείη is an active form which typically expresses that the verbal process begins and develops inside the subject. As in (35), however, the accusative could be interpreted as a locative determination of the process. The limitative value of the accusative is all the more evident in (37) and in (38)—(39), where it co-occurs with an intransitive predicate. Here we can see better the cleft nature of the construction: the element in the accusative fills no valency-role of the predicate; it seems to have the very character of a "nachträgliche Präzisierung" which is typical of epegetic progressions. Furthermore, we may observe that once again the semantic value of the elements in question can be paraphrased by 'as to'.

Epegetic progressions are very frequent in spoken texts of the modern Indo-European languages. Consider, for example:

(40) venez chez moi demain, à cing heures

(41) A: "quando vede la tivù?" 'when do you watch T.V.?'
R: "la sera, le nove, nove e mezzo" 'in the evening, (at) nine, nine-thirty p.m.'

Texts (40)—(41) show a strategy of information adding. The added information specifies a foregoing informational block (cf. demain in (40), "la sera" in (41)), which, in a sense functions as a governing item. No syntactical link relates demain to à cinq heures (furthermore, in (41) no surface mark of the locative-temporal deep case appears), but the link is of semantic nature. We can say that the extension of à cinq heures is a proper subset of the extension of demain. Note that in (40) and (41) the added information is linearly adjoining the block which functions as a governing item, but this condition is not a universal one. See, for example, the following passage quoted from a text of spoken Italian, uttered by a speaker of low sociocultural level:

(42) "un'altra volta a Antignano/ una con un borsellino/ ha tirato il borsellino/ incontrai una signora/ dice Rina/ madù/ ma come stai tu/ pallida/ così/ stai tutta nervosa/ vedi pari na[...]/ ho detto/ senti Assuntina mò ho incontrato/ ho visto/ co-gli occhi miei/ ha tirato un borsellino/ a una signora dint-a borsa è chella di paglia/ quest'estate" ‘Another time, at Antignano/
The formal conditions on the relation ‘depending on’ can be stated in terms of tree-graph condition on nodes, of the kind expressed by the minimal c-command condition:

\[(46) \; \alpha \text{ governs } \beta \text{ if and only if} \]

- \((i) \; \alpha = X^0 \)
- \((ii) \; \alpha \text{ c-commands } \beta \) and if \( \gamma \text{ c-commands } \beta \) then \( \gamma \) either c-commands \( \alpha \) or is c-commanded by \( \beta \)

or, alternatively, by

\[(47) \; [\ldots \gamma \ldots \alpha \ldots \gamma \ldots] \text{ be a structure, where} \]

- \((i) \; \alpha = X^0 \)
- \((ii) \; \varphi \text{ is a maximal projection, if } \varphi \text{ dominates } \gamma \text{, then } \varphi \text{ dominates } \alpha \)
- \((iii) \; \alpha \text{ is an immediate constituent of } \beta \)

\[(48) \; \alpha \text{ governs } \gamma \text{ in (47)} \]

According to the above definition of government, whether in terms of (46) or in terms of (47)–(48), none of our cases would exhibit a government relation. This will soon be clear if we try to construct the tree-graph representation for the deep structure of the sentence *this field, the rice is good*. This deserves further problems concerning the account, in the diagram, of the syncretic verbal operator associated with *field*. Anyway, given the following tentative diagram:

\[(49) \]

\[ \text{where } \Lambda \text{ is a dummy symbol which stands for an open set of semantic features}, \text{ we can see that } \text{field does not } c \text{-command } \text{rice. An alternative formulation, following (47)–(48), is that the maximal} \]

\[(45) \text{ An element } \alpha \text{ governs (or controls) an element } \beta \text{ iff } \beta \text{ depends on } \alpha \]
projection NP which dominates field does not dominate rice. The same would be true if we proposed a diagram such as

![Diagram](image)

which, as we can see, does not account for the idea that a verbal operator with an unsolvable syncretism of semantic features is associated with the topic. Truly, if the deep structure of T—C sentences is handled in this way, as Chomsky (1977) suggested, this would set up a discontinuity in the syntactic configuration, something like that of the so-called non-configurational languages. Now, Laahu and Mandarin can be properly considered non-configurational, but this would perhaps be less obvious for Greek or Latin or for other ancient Indo-European languages, while, indeed, it would be quite questionable for English. This difficulty would be partially overcome by considering that configurationality vs non-configurationality is rather a property of subsystems of language than of language as a whole. Thus, at least for the time being, it seems that we must state the absence of government relations, at least in the strong use of the term. Yet the problem can be, and in my opinion need to be, approached in terms of the core notion of government. Essentially this has to do with the notion of complementation, though structural configurations can be involved both as deep and surface correlate. This consideration is helpful in approaching the semantic aspect of our problem, which is a crucial one. A semantic link is indeed involved in cases (5)—(8). It is of the kind which is actualized by isotopic and semantic contiguity relations. However, are these sufficient to set up a dependence relation? In other words, be x and y two units in a syntactic domain such that the following conditions are met:

(i) x is categorically equivalent to y
(ii) x contracts with y neither functional relations nor thematic ones
(iii) y’s SR stands in a semantic contiguity relation with x’s SR

First, can it be assumed that y depends on x? and secondly, what kind of dependence, if any, is this? I think that a right formulation of these problems essentially has to do with the functional sentence structure. So, we must look for an answer in this direction. It has to be pointed out, however, that these questions are rather ticklish, for they involve so crucial theoretical problems, such as the relation between syntax and semantics. Therefore a number of basic queries arise. As a matter of fact, it would be hard to define the borderline between syntax and semantics in the concept of complementation. Furthermore, if we consider the logical form predicate-arguments as the meeting point in the sentence between syntax and semantics, how must our phenomena be referred to it? It is quite clear that this is not a problem of formalization, for there would be no difficulty in considering the topic as a particular argument of a logical form, which has a value of limit from a functional point of view. Yet the gist of the question is the adequacy of such description. With regard to this it a closely connected question arises. It concerns the relation between logical (i.e. thematic/functional) structure and its linear manifestation. We can put it in the following way: do the phenomena of T—C we have examined, the Greek accusative constructions, the double subject construction of Chinese involve only different surface (i.e. linear) relations, or do they involve different logical relations as well? The question is far from easy to answer. One of the main reasons is that we enter a sort of vicious circle when we attempt to paraphrase the structures under discussion. One is naturally inclined to paraphrase them by more familiar structures. This would lead us to think that the logical form of the paraphrased structures is in no way different from the logical form of the paraphrasing structures. But I am not convinced that this is really so.

However, an interesting suggestion to our problems comes to us from the non-generative literature on government. In the European tradition it has often been observed that the government relation is a determinative one. The governing element is necessarily selected by the governed element, in other words the governing element is the determined one, whereas the governed element is the determiner. Furthermore, it can be observed that the determiner has the property of narrowing the extension of the determined (governing) element. So, for example, black in black pencil is a functor which narrows the extension of pencil, for it maps the extension set of pencil into its subset of black pencils. On a linear dimension
every text can be represented as an entropy reducing process. Each sequence unit narrows the set of options to the choice of some subsequent elements (or of a string of subsequent element), thus increasing the quantity of information. The extensional narrowing, however, fundamentally concerns the hierarchical order of the text, in the same way as the generation of syntactic categories by means of functions of linear concatenation fundamentally has to do with paradigmatics and not with syntagmatics. Naturally, the point at issue is particularly delicate, because it concerns important questions of pheno- and tecto-grammar. I would propose to define the extensional narrowing property in the following way. F being a function which generates "categories", X its domain and Y its co-domain such that (x, y) is the ordinate pair associated to the function, F obtains an underclassification of x's extension set. Perhaps it is possible to consider the extensional narrowing property as a semantic function which constitutes the semantic correlate of the categorial function. We can therefore make the following generalization:

(52) The governing item of a construction is one whose extension set is underclassified by the governed item. Thus extensional narrowing can be considered as the semantic ground of the government.

Now, if the sentence or the phrase is represented as a field of tensions, we can reach a further conclusion. Inside a field of tensions, each function defines a limit of the cohesive force of the governed element. In other words, each governing element has a maximal domain in which it exerts its cohesive force. This domain expresses the scope into which the extension of the governing element can be narrowed.

We can now come back to our first question, asking whether in sentences like *this field, the rice is good*, which we can paraphrase as *the rice of this field is good*, the extension of *field* underclassifies the extension of *rice*. The most immediate temptation is perhaps to answer in the affirmative. Yet, from a more careful examination it becomes clear that the two sentences differ in many important respects. First, in the cleft sentence *this field* has a greater referential power than in the paraphrase. If we consider the distinction between referential and predicative function and consider further that referential function characterizes the logical subject of the sentence, it seems right to maintain that both *field* and *rice* express such a referential function in the cleft sentence. At first sight a predicative function is associated only with *rice*. Apart from the fact that it is possible to associate with *this field* an existential operator, the whole sequence *the rice is good* has a predicative function as regards *this field*. Secondly, in my opinion the different distribution of information in the two sentences is strictly connected with this. In the cleft sentence *field* and *rice* have an equivalent degree of communicative dynamism (CD), whereas in the paraphrase *field* has a greater degree of CD along the CD scale. Thus we can conclude that even if a semantic relation between *this field* and *rice* exists, the extension of *field* does not narrow the extension of *rice*, while, it is obvious, *rice* has a linear property of reducing entropy as to *field*. Therefore, each of the two elements has a greater degree of autonomy in the cleft sentence than in *the rice of this field is good*. It is possible to say that a determination relation holds between the two elements, though both keep their semantic power intact. This means that the determination relation is shaped in a quite different way from extensional inclusion. It is not *field* that determines *rice*, but vice versa *rice* that determines *field*. As a matter of fact, while for the type *the rice of this field is good* the relation between referential function and predicative function can be represented in the following way:

(53)

\[ \text{field} \rightarrow \text{rice} \rightarrow \text{is good} \]

(which fits the sentence representation by the model of dependency grammar). For the type *this field, the rice is good* we have:

(54)

\[ \text{field} \rightarrow \text{rice} \rightarrow \text{is good} \]
In the first case the structure which is obtained is a concentric embedding of the extensions of the constituents. In the second case the resulting structure is shaped like a shell; it shows quite different relations between the constituents. On one hand, the whole sequence _the rice is good_ has a predicative function as regards the referring element _field_. This element, however, reveals an unsolvable syncretism of predicative functions: ‘exists/ is what is spoken about/ . . .’.

On the other hand, _field_ is linked to _rice_ by a determination relation. This is set up by the natural relation ‘container and its content’. In this way, then, it is clear that it is _rice_ that determines _field_; moreover, _rice_ sets up, in its turn, a new referential function with which the predicative function _is good_ is associated. It seems to me that at this point two conclusions can be drawn. The former concerns the absence of a centre and the many to one semantic relations of the second structure. On the contrary, in the first sentence the relation between _field_ and _is good_ is given by the formula:

\[
\begin{align*}
(55) \quad \text{is good} & \quad \frac{\Sigma}{n} \\
\text{rice} & \quad \frac{n \cdot \Sigma}{n} \\
\text{field} & \quad \frac{n}{n}
\end{align*}
\]

that is, _field_ is related to _rice_ and _rice_ is related to _is good_. In the second sentence the structure is more complex:

\[
\begin{align*}
\text{syncretism of} \\
\text{predicative} \\
\text{functions}
\end{align*}
\]

\[
\begin{align*}
\text{is good} & \quad \frac{n \cdot \Sigma}{n} \\
\text{rice} & \quad \frac{\Sigma}{n} \\
\text{field}
\end{align*}
\]

In the formula (56) we can note the non linear concatenation (that is, not from the left to the right) of _n_ to \(\frac{\Sigma}{n}\); this fact expresses a dependence which does not belong to the dimension of the concatenation of _n_ with \(\frac{n \cdot \Sigma}{n}\). We consider \(\frac{\Sigma}{n}\) as an indeterminate function.\(^{46}\) The relation between _n_ and \(\frac{n \cdot \Sigma}{n}\) poses another difficulty for the categorial model. \(\frac{n \cdot \Sigma}{n}\) is a \(\frac{\Sigma}{n}\) as to _n_, but this is in no way evident from the formula.\(^{47}\) On the other hand, it is perhaps possible to modify the traditional categorial notation (but this, as is clear, would have some important repercussions on the theory), so that the primitive symbol \(\Sigma\) is considered as a functor which maps _n_ (or another \(\Sigma\)) into \(\Sigma\). I shall not concern myself here with this possibility. Finally, note that the formula makes it clear that _field_ and _rice_ do not have any dependence relation.

The second conclusion regards the difference between semantic relations which are set up by extensional inclusion and semantic relations which are set up by semantic contiguity. It seems to me that as the first show a hierarchization of elements, they belong to a more abstract logic, whereas the latter, which do not have such hierarchization, belong to a “natural”, simpler logic.

To sum up, I maintain that the structures of the examples (5)—(8) have dependence relations indeed, though these are of the simpler kind. The particular determination relation defined between the topic and the comment in such examples allows for this conclusion. Dependence relations between an _n_-ple of elements can be recognized as well in all those structures in which an _n_-ple of elements is tied by some kind of determination relation, with the exception of the merely linear relation of entropy reduction. Consider the examples (41) and (43)—(44). Like in the examples (5)—(8), here there is the splitting of a semantic plan according to the conditions of a rhetorical figure, which is known as _hielogetic_. As regards the examples (32)—(39) we must distinguish between the low degrees and the high degrees of the “__Akkusativ der Beziehung__.” While in the first case the sequence with the phenomenon can be generated transformationally, this does not hold in the second case. As to the first case there is therefore no problem about ascertaining whether there are government relations or not. On the contrary, we can pose the question for the sequences of the high degrees of the “__Akkusativ der Beziehung__.” The semantic value ‘as to’ which
can be associated with the syntactic type allows, in my opinion, for this latter being considered like the T—C phenomenology that we have already examined. We must note, however, that the element in accusative of the "Akkusativ der Beziehung" constructions cannot be considered exactly a topic. As a matter of fact, the topic functions as a constituent which reduces the entropy as regards the whole subsequent string, while the element in the accusative of the "Akkusativ der Beziehung" constructions reduces the entropy determined by the element to which it is in part—whole relation and that of the verbal operator. However, evidence for the topic likeness of this element is provided by some observations which can be drawn when one transform the "Akkusativ der Beziehung" construction into one in which the element that was in the accusative is topicalized. Apropos of this, it is interesting to point out that the difference between the examples (32)—(34) and the examples (38)—(39) is proved further on by the fact that in the examples (32)—(34) the topicalization of the element that was in the accusative is possible only through passivization.

The topicalization transformation, besides, makes it evident that the element which is the term ‘whole’ (i.e. the split element) of the whole—part relation assumes the genitive case mark; it is just what traditionally has been called “epesgetic genitive”. Now, between the two sequences:

(57a) πόδας ὁκὺς Ἀχιλλεύς
feet-acc. quick Achilles

(57b) πόδες Ἀχιλλεύς ὁκεῖς
feet-nom. Achilles-gen. quick

there is, among others, the relation:

(58) the semantically split element is the topic of (57a). It corresponds to the topic determiner in (57b).

It is easy to see that this is the same relation we have found in the T—C structure of the examples (5)—(8). Furthermore, we can notice in this case as well the characteristic differences in the sentence structures:

(50a) ὁκὺς

'Ἀχιλλεύς

πόδας

(50b) ὁκεῖς

πόδες

'Ἀχιλλεύς

In (57a) Ἀχιλλεύς is in a determination relation of the whole—part kind with πόδας. On the other hand, in its turn πόδας is in a determination relation with ὁκὺς, like every adverbial modifier. Then in (57b) grammatical relations are from the left to the right type, while this is not so in (57a).48

The examples we have examined up till now all show dependence relations, though of a particular kind. On the contrary, in the examples (9)—(10) between the topic and the comment there are only semantic relations of the entropy reducing kind. I would maintain therefore that in these cases no dependence relation is defined as no proper semantic relation can be determined but the sequential one.

The second question we posed, i.e. the kind of dependence involved in these relations is more difficult to ascertain. However, this point deserves some preliminary observations. The above discussion has been carried out in terms of dependence, not of government. There I have been using the first provisionally, as a much wider and neutral notion than the latter. Now, to turn to our question; for the semantic dependence under discussion to be considered a proper case of dependence (i.e. on functional grounds) a major difficulty has to be faced. In this field, the rice is good, this field is out of the S₂ sentence logical scheme. It is a non-argument in S₂. As for the case of the "Akkusativ der Beziehung", we can ask whether we have two sentence schemes or one. As a matter of fact, this kind of semantic dependence is a breaking point in the syntactical domain, which has been partially but not perfectly joined. Sentences (5)—(8) mark an intermediate stage between linear and hierarchical rela-
tions, syntagmatics and paradigmatics, non integration of the linguistic plan and full integration of it. It is just this intermediate stage which can help us in the search for the functional role of these elements. We have defined earlier the T—C relation as the limit value of the textual links, one for which syntactic relations are indeterminate. This will be better understood by establishing the following scale of textual connections:

a) neither syntactic nor semantic relations
b) semantic relations without syntactic ones
c) both semantic and syntactic relations

Sentences (9)—(10) are on the lower degree of this scale: between T and C there are only semantic relations of the entropy reducing kind. Consequently, structures of this type can be said to determine the lower limit of dependence/government relations. Government relations as defined by Chomsky for configurational languages can be placed on c). Sentences (5)—(8) fall on b). They differ from c-level phenomena in the non satisfaction of D-structure structural conditions. But they differ as well from a-level phenomena because of the presence, in them, of a semantic dependence, which is only actualized via lexical devices.

Note that the types of sentences from non-configurational languages for which Chomsky proposes the random assignment of Grammatical Functions to D-structure could also be placed at the b-level. It must be stressed, however, that in these cases Θ-roles are well-defined, as well as grammatic functions, though the configurations that determine the latter are not represented in the X-bar system in D- or S-structure. On the contrary, the Θ-role and the grammatical function of the discontinuous constituent seem not to have a proper role, but rather a semantic splitting potential which can be considered, again, as a limit value of the semantic relations in the text. As to grammatical function I would suggest a quasi-argument status. As a matter of fact, consider the canonical predicate scheme

(60) P(a)

Our phenomena set up a particular case in which P is in its turn directly filled by one or more valency relations. So the scheme would be:

(61) (a(bPc))

where the links of a with (bPc) are only partial and indirect, and thus to some extent indeterminate.

I would propose for the b-level relations the notion of 'quasi-government'. An immediate consequence of this assumption is that government should not be a discrete notion, but rather a gradient. This is to say that each of the point a), b), c) must be considered as one of the values in a continuum of textual relations. Note, however, that the three levels do not exhaust the possibilities of the scale. As a matter of fact, consider our example (2) and the cases of pendent nominatives with pronominal resumption which we have quoted. These types should be presumably collocated in an intermediate point between b) and c) along the range a) — c). I would maintain that these cases too fall in the quasi-government area of the spectrum.

I think that the notion of quasi-government can be justified by both empirical and theoretical reasons. As to the first, there are a lot of data from language acquisition and from the early stages of Indo-European languages which show that the b-level is a stage which precedes c), where c) appears. As to the latter, it seems to me that the notion of quasi-government allows for a new formulation of an old and vexed question in linguistic theory, the puzzling relation between hierarchy and linearity, paradigmatics and syntagmatics. By defining a) as the lower limit of textual relations, and c) as the upper limit, a) can be considered the level of linear relations, whereas c) can be regarded as the level of fully hierarchical ones. The existence of b) or other intermediate levels shows that there is no dichotomy between paradigmatics and syntagmatics: rather the former tends towards the latter, syntagmatics being the lower limit of paradigmatics.

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NOTES

1 Valuable surveys on this matter are in Anderson (1978) and Abraham (1978); see also Matthews (1981), pp. 71 ff.
2 Of course, this is a linear formulation. Later on we will see that essentially grammatical relations have a non-linear dimension. Furthermore, this for-
ulation takes no account of such controlling items as "tracees" (in the meaning of Chomsky's theory; see Chomsky (1975); Chomsky and Lasnik (1977)).

3 Cf. Vaananen (1963), p. 170; Lofstedt (1911), pp. 81 ff.; extensive documentation through a wider range of Latin Umgangsprache is in Hofmann (1951), § 100 and ff. Note, however, that parataxis is not exclusive characteristic of Umgangsprache; it occurs in literary levels too as a rhetorical device which gives rise to a dramatic style, as in Seneca: cf. Traaka (1960), pp. 169–174; Traina (1978), p. 92.

4 Cf. Hale (1967).


6 This had been already recognized by Ross (1967). For some observations on the given value in these cases see Soronicola (1981), pp. 157–183.

7 Contra (1977) gives his opinion in favour of the dislocation out of the sentence scheme. For the exclusively referring function of the topic see later on p. 396.


10 For this notion see Li and Thompson (1976).

11 The examples are drawn from Li and Thompson (1976), p. 462.

12 For the notion of "local structure" see Winograd (1972), p. 32.


14 Note that in Li and Thompson's typology Korean and Japanese are both Subject-Prominent and Topic-Prominent languages (cf. Int. I, c., p. 460).

15 Cf. Crape (1976). According to him "What the topic appears to do is to limit the applicability of the main predication to a certain restricted domain... The topic sets a spatial, temporal, or individual framework within which the main predication holds" (p. 50).

16 The type had already been observed by the Commentators of classical literary works (see references in Havers (1926), p. 207–208 and fn. 1 on p. 208). Cf. further Oertel (1926), pp. 1–6, who distinguishes the absolute use of the "nominativus pendens" from the proleptic one and from the caseus pendens. Likewise Havers (1926), p. 207–209. For the phenomenon in non-Indo-European languages see Paul (1880), p. 286 fn. 1; Gebelentz (1901), p. 355.

17 For other examples see Oertel (1926), pp. 29–39.

18 Note, however, that the type occurs in medieval Persian as well: see Spiegel (1882), p. 408.

19 See a critical account of the literature on this matter in Havers (1926), pp. 224–226. See id., pp. 228–237 for a more extensive documentation of the type in Latin and Greek. For Latin see also Hofmann (1926); Hofmann–Santyr, p. 29. The Romance languages also show the type: for French see Bally (1932), pp. 61 ff.; for Italian see Cortelazzo (1976), pp. 134–135; Soronicola (1981), p. 127 ff.

20 There are many other evidences of the type in Old Irish: cf. Havers (1926), p. 221; Pokorny (1927), especially on p. 385; Mac Caan (1973), p. 97; Mac Conmidhla (1972), p. 35.

21 According to Mac Caan, the type would not occur in Modern Welsh, both spoken and written. As to this point, however, Mac Caan admits that he has not had "the time to carry out more than a cursory and random survey" (1973, p. 96).


23 Cf. also the Old Icelandic example: "fær króðr móðr, fjórr bróður, þau á váge vindr af lók" "father and mother, four brother — the storm sank these in the waves" (Gpr. 1, 6, 5). For examples from modern spoken German see Havers (1926), p. 209. Note that the type also occurs in Armenian, Albanian, Lithuanian, and in Slavic languages: cf. Havers (1926), pp. 217–218.


25 Brugmann (1904), p. 442 observes that it is difficult to define the spreading of the "akkusativ der Beziehung" in PIE. The type is attested in Avestic, Greek, Latin and Germanic (cf. Brugmann (1910)): ἀποκατάστασις is limited to isolated adverbials, such as masō 'an Grösse', framō 'an Breite'.

26 Cf. Schwizer II, p. 84 who accepts Brugmann's hypothesis on the origin of the type; Blümel (1927) does not agree with Brugmann: "In passivischen Sätzen mit einem Ganzen als Subjektsennominativ und einem Teil dieses Ganzen, die im Aktiv beide Akkusativobjekte wären, steht aus inneren Gründen der Teil ebenfalls im Nominativ: Ganzen und Teil stehen in derselben Beziehung zum Verb; ist der Held getroffen, so ist auch der jeweilige Körperteil getroffen... Bei den Verben des Lehrums, Hohlens und Berahmens mit doppelter Akkusativ, die Sommer S. 16 hinsichtlich des Passivs mit den Verben des Ganzen und des Teils zusammenwirken, stehen die zwei Objekte in verschiedener Beziehung zum Verb. Daher steht hier im Passiv nur ein Subjektsennominativ und ein Akkusativobjekt" (p. 250). According to Delbruck (1893–1900), the most ancient conditions of the phenomenon involved particular lexical items, singular neuters like δομα, γένος, μέγεδος, μίκος, ἐσος, μῖκος, μῆς, ἔθος, ἐφός, ἔφος, ἔφος. Schwizer II, p. 84 assumes that the use of these words as "Akkusativ der Beziehung" "macht wohl von der Verbalreaktion ausgehen kann". He follows Brugmann's opinion (1910, pp. 144 ff.), according to which the constructions by these words are nominal sentences with parenthetical (or, better, prothetic) origin.

27 Note, however, that (33a) and (34a) have a minor degree of acceptability: cf. Schwizer II, p. 84.

28 Furthermore he observes (i.e.) that "die Prosaein nur die passive Konstruktion".

29 Cf. the "Akkusativ der Richtung" which Brugmann connects with the "Akkusativ der Beziehung".

30 Cf. Schwizer II, p. 81.

31 Cf. Bally (1932), p. 59: "L'epexégèse relève de la réction. Il s'agit de l'adjonction d'un monôme avec valeur propositionnelle destiné à compléter, à expliquer après coup la première énonciation..."


33 For other examples of the type in the Ktib al-al'qani see Brockelmann (1913), i.e.: id. p. 267 quotes "tajibatun nasfan" gut an Selle from the Zuhaid Difân 10, 16. The type occurs also in Ethiopic: 'sab' hérân zamada 'Leute von guter Ahnung' (cf. Brockelmann (1913), p. 258; ib. further documentation for Tigre and Hebrew). Cf. besides Leitmann (1918), pp. 245–246. He points out that the whole—part constructions in which "ein Verbum mit zwei funktionseigenen Satzteilen verbunden wird, deren erster ein Ganze, deren zweiter ein Teil dieses Ganzen bildet" can be compared with the Semitic constructions which show the so-called "badal" (= substitution) Law. An interesting example of the εφύσα καθ' δεν καθ' μεσος in Hebrew "benignet... bassusum bajumorin bagammal baddbifṯ ubabṉ" mit deiner Habe, den Pedem, Eseln, Kamelen und dem Kleinhie; (Genesis, Exodus 1, 3; cf. Brockelmann (1913), p. 215).


35 Note that this is an English structure which is isomorphic to our Lahu example (7).

36 These considerations concern only one set of government conditions, i.e. the conditions on governed terms. But the so-called structural conditions do not apply. Moreover, the conditions on the choice of government would also need a new formulation.

37 Similar problems of representation by a formal notation arise by trying to use the categorical model: see later on p. 398. I think that as to (49) Chomsky would observe that the English sentence and the Lahu one cannot be treated in the same way, since English is configurational, whereas Mandarin is not.

38 This is a very interesting suggestion which has been advanced by Chomsky,
though at the moment has not been fully developed by him (see Chomsky (1981), p. 56; p. 150 fn 130).
38 Use the expression "syntactic domain" to include the phenomena we have been describing until now. As a matter of fact it is doubtful if the notion of sentence can be properly applied in these cases.
39 The classical reference on this matter is Hjelmslev (1939), pp. 156–157.
40 We must point out, on the other hand, that this generalization does not take into account the distinction between semantically restrictive adjectives and semantically non restrictive adjectives (as are, typically, those which modify proper names: cf. I met the lovely Miss Bloggs with the intonation nucleus on Bloggs) where "the speaker is not distinguishing here from another Miss Bloggs who is not lovely" (Matthes (1981), p. 153). This is certainly a remarkable problem, but we cannot deal with it here.
41 Note that the extensional narrowing too produces an increased quantity of information in the text.
44 It is well known that first order entities characteristically have the property of existence: they can be located at any point in time in a space-time (cf. Strawson (1950), pp. 39 ff.); thus it can be said that a predication of existence is inherently associated to them.
45 I have argued elsewhere (cf. Sorbion (1981), pp. 105 ff.) that this element constitutes a textual decrease of information.
46 The notation does not describe the structures under discussion correctly for another reason. Both topic and comment can have the sentence canonical form; so that in this case the categorial distinction N/V cannot be associated to the distinction between referential function and predicative function.
47 An interesting question is certainly raised by this syntactic type as to why the member 'part of the whole'--the relation has the accusative case mark. In the example of the modern High German quoted by Blumel this member has the nominative case mark. However, it is necessary to consider the complex diachronic formation of the syntactic type, where presumably different phenomena have merged together.

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ON THE PROBLEM OF SYNTACTIC VARIATION
AND PRAGMATIC MEANING
IN SOCIOLINGUISTIC THEORY

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ABSTRACT

In view of the apparent successes achieved with Labovian quantitative methods in the analysis of phonological variation, it is not surprising to find these techniques being extended to include the study of syntax. SANKOFF (1973), for example, suggests that the extension of probabilistic considerations from phonology to syntax is not a conceptually difficult jump. In my opinion, however, SANKOFF's optimism is premature. An analogous view of syntactic variation is incoherent; it is a moot point what one means by the notion 'syntactic variation'. We simply do not have a sociolinguistic (nor a syntactic) theory which is sufficiently well articulated and restricted to deal with the problem of variation in syntax. Perhaps the most serious issue which the problem of syntactic variation raises concerns the kind of semantic/pragmatic theory upon which the foundations of an integrative sociolinguistic theory should be based.

On the nature of syntactic variation

It has been some time now since SANKOFF (1973) first proposed that the scope of the study of language variation should include syntax and semantics. In her analysis of complementizer que deletion in Montreal French she demonstrated how Labovian quantitative methods might be extended to deal with variability in levels of the grammar above the phonological. She claims straightforwardly (1973: 58):

The extension of probabilistic considerations from phonology to syntax is not a conceptually difficult jump. It seems clear to us that in the increasing number of situations which have been studied... underlying probabilities are consistently and systematically patterned according to internal (linguistic) and external social and stylistic constraints. There is no reason not to expect similar patternings elsewhere in the grammar.

SANKOFF's main purpose was to provide a demonstration of such an extension without giving much thought to the question of whether the nature of syntactic variation is sufficiently similar to that which takes place at the phonological level to justify such a whole