

TRAVAUX
DU
CERCLE LINGUISTIQUE
DE COPENHAGUE
VOL XXXII

COMPLEX PREDICATES AND
INCORPORATION A FUNCTIONAL PERSPECTIVE

Editors

Ole Nedergaard Thomsen and Michael Herslund

C.A. REITZEL
COPENHAGEN 2002



COMPLEX PREDICATES AND INCORPORATION

Incorporation

TRAVAUX
DU
CERCLE LINGUISTIQUE
DE COPENHAGUE

VOL XXXII

Series editor: Una Canger

COMPLEX PREDICATES AND INCORPORATION
A FUNCTIONAL PERSPECTIVE

Editors

OLE NEDERGAARD THOMSEN AND MICHAEL HERSLUND

VOL. XXXII

C.A. REITZEL
COPENHAGEN 2002

© THE LINGUISTIC CIRCLE OF COPENHAGEN

Produced by Tommar Grafisk, Copenhagen
and printed by Nørhaven A/S, Viborg

Printed in Denmark 2002
C.A. Reitzels Forlag, København
ISBN 87-7876-320-7

Distributed by
C.A. Reitzel, Ltd.
Nørregade 20
DK-1165 Copenhagen K
Denmark

www.careitzel.dk
info@careitzel.com

No part of this publication may be reproduced in any form
without the prior permission of the copyright owners.
Enquiries should be addressed to the publishers.

Table of contents

| | |
|---|-----|
| Contributors | 6 |
| Complex Predicates and Incorporation – An introduction Ole Nedergaard Thomsen and Michael Herslund | 7 |
| Incorporation in Chukchi as compared with Koyukon and Cree Michael Fortescue | 48 |
| Inderivation in Greenlandic Karen Langgård | 67 |
| Complex Predicates and Processing in Danish Ole Nedergaard Thomsen | 120 |
| Incorporation and Transitivity in Romance Michael Herslund | 175 |
| Noun Incorporation in Italian Iørn Korzen | 207 |
| Incorporation and Excorporation in Russian Per Durst-Andersen | 267 |
| Complex Predicate Formation and Incorporation. Towards a typology Ole Nedergaard Thomsen | 288 |

Contributors

Per Durst-Andersen
Russian
FIRST,
Copenhagen Business School
Dalgas Have 15
DK-2000 Frederiksberg
Denmark
pd.fra@cbs.dk

Michael Fortescue
Department of General and
Applied Linguistics (IAAS)
University of Copenhagen
Njalsgade 80
DK-2300 Copenhagen S
Denmark fortescq@hum.ku.dk

Michael Herslund
French
FIRST,
Copenhagen Business School
Dalgas Have 15
DK-2000 Frederiksberg
Denmark
mh.fra@cbs.dk

Iørn Korzen
Italian
FIRST,
Copenhagen Business School
Dalgas Have 15
DK-2000 Frederiksberg
Denmark
ik.fra@cbs.dk

Karen Langgård
Department of Greenlandic
language, literature and media
Ilisimatusarfik/
University of Greenland
P.O. Box 279
GR-3900 Nuuk
Greenland
kala@ilisimatusarfik.gl

Ole Nedergaard Thomsen
Department of General and
Applied Linguistics (IAAS)
University of Copenhagen
Njalsgade 80
DK-2300 Copenhagen S
Denmark ont@cphling.dk

Complex Predicates and Incorporation – An introduction

OLE NEDERGAARD THOMSEN AND MICHAEL HERSLUND

INTRODUCTION. Since the beginnings of Western philosophy, logic, and linguistics, the PREDICATE has been one of the most important theoretical concepts (cf. Seuren 1998). Nevertheless, within linguistics proper, i.e. modern scientific grammatical studies, there has been a mismatch between the importance of the predicate as a theoretical concept and the rather meagre empirical results obtained regarding it as a GRAMMATICAL CATEGORY and – especially – as a GRAMMATICAL RELATION in its own right. Of course, there are magnificent studies of verbal valency and like issues, but focused studies on the Predicate as a separate notion seem to be rare, with outstanding exceptions, however, such as Gross (1981).

FUNCTIONAL GRAMMAR, for instance in its standard version (Dik 1989), does not recognise the ‘predicate’ as a GRAMMATICAL RELATION, only as a LEXICAL CATEGORY (comprising not only verbs, but also nouns, adjectives, and adverbs, all taken to denote properties and relations) and as a SYNTACTIC CATEGORY (as a result of predicate formation), Grammatical Relations being restricted to the perspectival SYNTACTIC FUNCTIONS subject and object. This, perhaps, stems from the generative view of grammatical relations as a derived notion, i.e. as the relations obtaining between sisters, mothers, and daughters in phrase structures.

Even a recent encyclopedia of ‘grammatical categories’ (Brown et al. 1999) has no specific entry on the predicate, either as a grammatical category or as a FUNCTIONAL RELATION, and the specific entry on functional relations (Van Valin 1999) does not consider it. Moreover, the monograph by Palmer (1994) on grammatical roles and relations only mentions the Predicate as a relation once (namely as the Sentence minus its Subject), restricting attention to the predicate as a category (termed PREDICATOR). The primary grammatical relations of the arguments of the predicate, i.e. the sub-

ject and the objects, have been more in focus (e.g. Li 1976; Keenan 1976; Plank 1984; Herslund 1988; Nedergaard Thomsen 1994; Givón 1997). Perhaps it is because the predicate is so representationally or ideationally central to the clause – the platform from which to view the rest of it – that it has received less attention.

Some exceptions to the neglect of the predicate are the early functional/structuralist treatment of grammatical relations by Brøndal (1932) and the Tagmemic treatment by e.g. Hale (1974) and Pike (1974), and the recent in-depth formalist investigation by Ackerman and Webelhuth (1998). Relational Grammar, a multi-stratal syntactic theory where grammatical relations are a primitive, non-derived notion, also has the predicate as one of its primitive GRs (cf. Davies and Rosen 1988; Rosen 1997), as in the analysis of a Danish sentence in Figure 1 (where 1 means subject, 2 object, P predicate, Cho *chômeur* – i.e. without a relation on a given stratum).

| | | | | | |
|-----------------------------------|-----------|---------------|----------------|----------------|------------------------|
| <i>Eva</i> | <i>er</i> | <i>blevet</i> | <i>ydmyget</i> | <i>af Leo.</i> | |
| Eva | is | been | humiliated | by Leo | |
| 2 | - | - | P | 1 | (active) |
| 1 | - | - | P | Cho | (participial passive) |
| 1 | - | P | Cho | Cho | (periphrastic passive) |
| 1 | P | Cho | Cho | Cho | (perfect periphrasis) |
| 'Eva has been humiliated by Leo.' | | | | | |

FIGURE 1. Stratal diagram of a Predicate involving Auxiliation, Relational Grammar analysis.

In Relational Grammar, the Predicate is evidently not monolithic, but a multi-faceted morphosyntactic entity: a clause may be multi-predicate headed, involving not only lexical predicates but also grammatical (auxiliary) predicates, as in Figure 1.

It was, right from the beginning, natural to equate the clausal predicate with the simple verb of a verbal clause, or with the predicative complement of a copula verb (e.g. Hengeveld 1992), the latter analysis conforming to an (Aristotelian) set-theoretic interpretation of clausal content. Close scrutiny of a wide variety of languages has, however, from the early 20th century (Kroeber 1910, 1911; Sapir 1911), made it clear that the concept of the clausal predicate is more complex than formerly believed, even involving

considerations as to the division between syntax and morphology in typologically different languages.

In recent times, the closure of the 20th century, the concept of the *PREDICATE* has come more to the foreground – namely the interesting cases where it is morpho-syntactically complex, as evidenced for example by two very important formalist volumes on complex predicates, namely the volume edited by Alsina et al. (1997) and the above-mentioned volume by Ackerman and Webelhuth (1998). It is characteristic, at least of the latter work, that a functionalist-like insistence on the content side of language has become accepted in more formalist-oriented studies, and this, we believe, is to be welcomed.

Within functionalist branches of linguistics, as mentioned above, the grammatical relation of 'PREDICATE-OF' has not been especially prominent (only the category concept), even though studies by the editors and others (e.g. Nedergaard Thomsen 1992a; Herslund 1994, 1995; Harder, Heltoft and Nedergaard Thomsen 1996) have tried to draw it more into focus. Therefore, the *DANISH FUNCTIONAL GRAMMAR GROUP* devoted some of its meetings in the spring of 1996 to the study of complex predicates and incorporation; and subsequently Karen Langgård and John Hawkins were involved in the issue, of whom unfortunately only the former was actually able to contribute to the present volume with an article. The work has been delayed and disrupted by several unlucky circumstances, especially the untimely death of one of its members, the Hispanist Lone Schack Rasmussen. Now, around the turn of the 21st century, part of the *DANISH FUNCTIONAL GRAMMAR GROUP* ventures to publish some results of its studies.

A characteristic feature of the present collection is that it subscribes to the functionalist paradigm. This implies that the concept of a complex predicate in general and an incorporating one in particular is firstly *FUNCTIONAL*, secondly *structural*: there are typologically diverse morphosyntactic structures which could all be classified as instances of incorporative complex predicates, in terms of meaning/function. Meaning/function is thus a kind of typological *TERTIUM COMPARATIONIS*, or parameter, for the different morphosyntactic constructions manifested. Therefore, not only 'classical' morphological, or *SYNTHETIC* complex (incorporating) predicates, but also the more 'controversial' syntactic, or *ANALYTIC* ones are classified as single, though composite predicates. Sometimes the diverse manifestations are even in complementary distribution within a single language, thus pointing

to its 'underlying' coherent status. Within synthetic complex predicates there is the distinction between compounding complex predicates and derivational complex predicates, and there has been a longstanding controversy (between Sapir and Kroeber, in the first half of the 20th century; and again between Mithun and Sadock, in the second half) concerning whether only the former kind (Sapir-Mithun) or also the latter kind (Kroeber-Sadock) should be considered '(noun) incorporation'. Taking the present perspective, both types perform the same morphosyntactic function of creating COMPOSITE PREDICATES, but use different morphosyntactic ('technical') means. Recognising that both types belong to the same super-type, viz. COMPLEX PREDICATE FORMATION, Langgård (this volume) proposes to term the derivational process IN-DERIVATION, reserving Incorporation for the compounding manifestation (as noted above some languages even have both types – cf. de Reuse 1999). This conception opens the possibility of typologising the lexical, morphological, and syntactic manifestations of the same predicate notion. What is crucial, furthermore, to our sign-based functionalism is that the function of being a complex or incorporating predicate is CODED phonologically and/or by ordering, i.e. topologically, IN SOME CONSISTENT WAY in a given language. This insistence on the SEMIOTIC CODING (expressional differentiation) of complex and incorporating predicates makes the present studies somewhat different from, for example, the above-mentioned Head-driven Phrase Structure Grammar study by Ackerman and Webelhuth (1998).

1. THE CONCEPT OF THE PREDICATE: THE PREDICATE AS A GRAMMATICAL RELATION. Representing the functionalist paradigm in linguistics, the present approach to the Predicate, predicates, complex predicates, and incorporation takes its point of departure in language use. We conceive of the grammatical predicate as performing the PREDICATING FUNCTION in a speech act, just as terms are used to perform referential acts. So, we distinguish between the illocutionary level of the speech act, where the predicating act belongs, and the grammatical level of the locution, where the predicate as a grammatical notion belongs. Unfortunately, this distinction is conflated in standard Functional Grammar. The illocutionary level is a level of pragmatic (interpersonal) performance, but on the same 'tier' there is also an intra-personal level of cognitive processing. Thus, a definite, specific subject term is not only used to 'refer' and 'argue' (see below), involving an

addressee in interpersonal communication, but it also codes a psychological attentional focus to which the speaker wants to steer the addressee's attention in communication (cf. Tomlin 1995, 1997). The intra-personal, cognitive function of the GR predicate seems to be a perspectivisation of the predicate relation (Tomlin 1997).

We shall approach the GR predicate the same way as for example the notion of subject is approached in functionalist syntax. The GR predicate must accordingly be a GRAMMATICISATION of a clustering of ideational, interpersonal, and textual factors, as the subject is an intersection of factors from the ideational level of semantic roles, and the textual level of roles of topicality, plus interpersonal factors of 'arguability' (Halliday 1994: 75f). Prototypical clusterings of these contentive factors (e.g. the agent-cum-topic subject prototype) display specific syntactic behaviour, are coded formally by specific selections of case and agreement, and are expressed by specific selections of word order position and prosodic features. More precisely, a grammatical relation is a RELATIONAL PRODUCT of the contentive relational notions. The (prototypical, active) subject, for instance, is an intersection between the semantic relation of an agent participant expressed by a term to a verbal PARTICIPATUM, the textual relation of a referential topic to the textual judgment expressed by the clause, and the interpersonal arguability relation of the term to the proposition designated. As a grammatical construction the grammatical relation Subject has a specific semi-otic expression by way of word order and prosody.

Turning to the GR predicate, we can say that a predicate is the relational product of the ideational participatum function of the predication, the textual Comment function of the judgment, as well as the 'arguing' function of the proposition, i.e. its polarity and temporality (reality status).

The notion of predicate may then be approached from two angles: it is a GRAMMATICAL CATEGORY (paradigmatically belonging to given word or morpheme classes, syntagmatically belonging to a given syntactic category, or 'part' of speech, in its original, Aristotelian sense), and it is a GRAMMATICAL RELATION. The grammatical category predicate performs the grammatical function 'predicate-of'. The category is an ascriptive processual relational concept, characterised for Aktionsart, transitivity, and valence. The 'formal' properties of the predicate include (a) the predicational operators of aspect and diathesis, which concern perspectivisations of the inherent lexical participational perspective of the category, and (b) the behav-

journal properties of contracting raising, clause union, complementation, complex predicate formation, etc. From these basic and formal properties may be deduced semantic micro- and macro-roles and topicality functions, operative within the establishment of the argument GRs of subject, object, etc. Agreement is then a coding property of both the predicate and the argumental functions, or more precisely of the NEXUS-RELATION obtaining between them (cf. the textual judgment and the arguing function mentioned above). Thirdly, the Predicate is a GRAMMATICAL CONSTRUCTION, a semiotic function-form pairing, involving topological and phonological coding, as mentioned above.

2. COMPLEX PREDICATES AND THE DELINEATION OF INCORPORATIVE COMPLEX PREDICATES. In the present approach to Grammatical Relations, COMPLEX PREDICATES (as a relational and as a categorial notion) are viewed as kinds of PERIPHRASTIC predicates. The same functions as undertaken by simple predicates are distributed over at least two subfunctions, the HOST and the CO-PREDICATE (cf. Nedergaard Thomsen 1991, 1992a; Harder, Heltoft, and Nedergaard Thomsen 1996). Thus we do NOT subscribe to an analysis of a simple monotransitive clause as in 1a whereby the VP would be a complex predicate (taking a subject argument), as Blake (1994: 204f.) would have it. Nor do we endorse an analysis of its (lexically simple) transitive predicate as a (syntactically) complex predicate on account of its containing predicate-like sublexical components, say CAUSE, BECOME, and NOT-ALIVE.

- (1) a. *The farmer* *killed* *the duckling.*
 Subject Predicate Object
 *Complex Predicate
- b. *The farmer* *killed* *himself.*
 Predicate
- c. *The farmer* *committed* *suicide.*
 Host Co-Predicate
 Complex Predicate
- d. *Se* *mató* *(a sí mismo).*
 REFL killed PR self:DAT same
 '(S)he killed herself/himself.'
- e. *Se* *suicidó* *(*a sí mismo).*
 ('(S)he SUICIDED REFL.')

In 1c the phrase *committed suicide* is a complex predicate (a so-called verbo-nominal predicate – see below) expressing the VP-content of 1b (*killed himself*), but without the Subject binding the reflexive as in 1b (*sui-‘self’s’* is only etymologically part of a compound). Spanish example 1e illustrates the predicate character of the copredicate in 1c, and suggests a reflexive ‘incorporation’ in the syntactically simple verb. In the verbo-nominal predicate in 1c the copredicate is a PREDICATIVE OBJECT.

As mentioned above, different scholars use the term INCORPORATION in different ways. Loose Incorporation, Compounding, Encapsulation, Lexicalisation, Derivation, and Noun Stripping are some of the terms encountered in the literature. But as stated in section 1, we shall use the term to cover various grammatical processes by which a verb and for example a noun fuse to some extent, thereby creating a complex predicate. The canonical case is for an object or an intransitive subject nominal to coalesce with the verb and thus be incorporated. Such instances can be cited from Nahuatl (Mithun 1984:860; Lazard 1994:17), as in example 2.

(2) Object

- a. *Ne' ki-ca'-ki* *kallak-tli.*
 he (he.)it-close-PST door-ABS
 'He closed the door.'
- b. *Ne' kal-ca'-ki.*
 he (he.)door-close-PST
 'He did door-closing.'

Intransitive Subject

- c. *Tesiwi-tl* *weci.*
 hail-ABS fall
 '(The) hail is falling.'
- d. *Tesiwi-weci.*
 hail-fall
 'It is hailing.'

As can be seen from these examples, the incorporated noun loses its inflection, in this case the absolutive case suffix, and the verb form is also reduced, its object agreement marker being supplanted by the reduced noun, 2b.

The procedure by which the coalescence is achieved – syntactical, mor-

phological, (morpho)phonological, prosodical – is of course dependent upon the grammatical system of the individual language in question. In Danish, for instance, both morphology and prosody are involved, hence the contrast between the full VP in 3a and the noun incorporation in 3b.

- (3) a. *læse* *a'vis-en*
 read newspaper-DEF
 b. *læse* *a'vis*
 read newspaper¹

In 3a, both the verb and its object are individually stressed and the object noun has the definite inflection. In 3b, on the other hand, the phrase has Unit Accentuation with weak stress on the verb (cf. Rischel 1983), which in Danish is a clear indication of the creation of a complex predicate (Nedergaard Thomsen 1991, 1992a; Herslund 1994, 1995; Harder et al. 1996),² and the object is a bare noun, i.e. it has no inflection.

Defining incorporation as complex predicate formation by some kind of fusion between a verb and some other element is not enough, however, in order to circumscribe the phenomenon precisely. Other grammatical processes also bring about the fusion of a verb and, typically, an object. At least two such processes come immediately to mind: CLITICISATION and SUPPORT VERB CONSTRUCTIONS.

As for CLITICISATION, the canonical case is that of a certain class of words which are, so to speak, 'glued' unto the verb with which they form an accentual unit and without which they cannot occur, for example the weak, or bound, pronouns of Romance languages. And in most cases of what is traditionally recognised as cliticisation one has to do with pronouns (very common cross-linguistically), auxiliaries (Polish, Serbo-Croatian), copulae (Greek), negation (English), conjunction (Latin), etc., so that for a particular language the class of cliticised elements can be grammatically circum-

1. The 'l' signals main word stress; the 'o' signals 'weak' stress, i.e. absence of stress – the syllable in question is destressed. The constructional combination of a weak stress and a following main, or primary stress has been termed Unit Accentuation in Danish linguistics since Jespersen (cf. Rischel 1983).

2. Unit Accentuation is also used as a signal for the creation of morphologically derived words.

scribed. Not so with incorporation, where, in principle, all kinds of lexical items (nouns, adverbs, etc.) can be incorporated. But one might of course argue that this is not a difference of kind but one of degree, and that noun incorporation really is just 'noun cliticisation' (in Danish, the verb being 'clitic' to the noun). What seems, however, to be crucial in the case of incorporation, viz. the special meaning obtained as described below, is lacking from cliticisation.

The case of SUPPORT VERB CONSTRUCTIONS (e.g. Cattell 1984) is perhaps more difficult to separate from incorporation. One could claim that such constructions, or VERBO-NOMINAL PREDICATES (VNP), should be described as predicate formation (Baron and Herslund 1998b), and that the difference between 4a and 4b below is a semantic and pragmatic difference between two kinds of predicates.

- (4) a. *survey the facts*
 b. *make a survey of the facts*

Whereas 4a is the unmarked expression, 4b is marked in the sense that it explicitly states the institutionalised nature of the situation described (Baron and Herslund 2000a,b). Such a semantic content is what the VNP (*make a survey*) shares with incorporation: incorporated structures often have a habitual or even ritualised or institutionalised content (Mithun 1984). But there are still at least two good reasons why the two phenomena should be kept apart. The first is that a VNP is not a complex predicate in the sense that an incorporated structure is: an incorporated structure involves a more or less fully lexical host verb and a similarly fully lexical copredicate, whereas it seems to be the case that the VNP is a complex predicate whose verbal support is more auxiliary-like, the contentive weight being placed on the nominal copredicate (which might even be conceived of as the head). The semi-auxiliary status of the verbal component of such a VNP is enhanced by the fact that the meaning of the VNP is of an aspectual nature, from which the institutionalised shades of meaning can be derived (Baron and Herslund 1998a,b; 2000a,b). Whereas the Danish example in 3, *læse avis* 'read newspaper', is complex in the sense that it denotes a particular kind of reading (endocentric), *make a survey* does not denote a particular kind of making – or of surveying (it is exocentric). Again, it would seem, the distinction is very fine. But the second reason for not identifying incor-

puration and VNP constructions should decide the issue: whereas incorporation presupposes some kind of morphological and/or prosodic reduction of the expression, this is not the case with VNPs, where the object noun occurs with all kinds of determiners and retains its inflection. But, of course, the issue is blurred once again by the fact that VNPs can themselves be subject to incorporation, as in the Danish examples in 5.

- | | | |
|--------|---|----------------------|
| (5) a. | <i>træffe en be'slutning</i> 'make a decision' | VNP |
| b. | <i>træffe be'slutning</i> 'make decision' | Incorporation of VNP |

Summing up so far, a typical VNP is so-to-speak a CLEFT PREDICATE whose starting point is a full verbal predicate which is reified, thereby requiring the introduction of a verbal prosthetic predicate (SUPPORT VERB) in order to function as a clausal nucleus, whereas a noun incorporation is a complex predicate whose starting point is a verbal predicate which requires a copredicate in order to function as a full-blown clausal nucleus. By and large, it seems safe to conclude that cliticisation and VNP constructions differ from incorporations in the following ways:

Cliticisation shares important expression features with incorporation, but no content features. A clitic element does not denote something else than the corresponding free form. VNP structures do not share the expression features of incorporation, but do share some content features. In both cases a kind of institutionalised meaning is typically present.

Also various kinds of COMPOUNDING and DERIVATION would seem to fall under the definition of incorporation – compare the discussion between Sadock (1986) and Mithun (1986), and the contribution by Langgård to the present volume.

In Danish, for instance, COMPOUNDING is a pervasive phenomenon which undoubtedly creates complex predicates. And in some cases one finds compounds consisting of object N + verb, like the following examples in 6.³

3. The *-s-* links (LK) the two parts of a compound.

- (6) a. *Der fejl-søge-s.*
 there fault-seak-PRS:PASS
 'One is striving to locate the fault.'
 (Haberland and Nedergaard Thomsen 1991:202)
- b. *Hus-et facade-renovere-s.*
 house-DEF facade-renovate-PRS:PASS
 'The facade of the house is being renovated.'
- c. *Vogn-en undervogn-s-behandle-s.*
 car-DEF undercarriage-LK-treat-PRS:PASS
 'The car is being undersealed.'
- d. *Tand-en må rod-behandle-s.*
 tooth-DEF must root-treat-PRS:PASS
 'The tooth must be given a root treatment.'

Such verbo-nominal compounds seem, incidentally, more frequent in Swedish than in Danish (Josefsson 1993). In both languages they mainly occur in the general *-s*-passive. But one feature of such compounds which undoubtedly aligns them with cases of incorporation, cross-linguistically, is the fact that the first part of the compound, the assumed incorporated object noun, denotes a part of the free object (or subject in the case of the passive), as in the following examples in 7 and 8 from Swedish and Danish.

(7) **Swedish**

- a. *Bond-en ving-klipp-te sina gäs.*
 farmer-DEF wing-cut-PST his:PL geese
 'The farmer clipped his geese.'
- b. *Läkar-en hjärt-operera-de patient-en.*
 doctor-DEF heart-operate-PST patient-DEF
 'The doctor performed heart surgery on the patient.'
 (Josefsson 1993:276 f.)

(8) **Danish**

- a. *Værksted-et undervogn-s-behandle-de bil-en.*
 garage-DEF undercarriage-LK-treat-PST car-DEF
 'The garage undersealed the car.'
- b. *Tandlæge-n rod-behandle-de tand-en/patient-en.*
 dentist-DEF root-treat-PST tooth-DEF/patient-DEF
 'The dentist gave the tooth/the patient a root treatment.'

The almost organic relation between incorporation and part-whole expressions or inalienable possession is well-established and described in the literature (Mithun 1996, 2001; Velázquez-Castillo 1996; Herslund 1997; Herslund and Baron 2001). In view of these facts, one might conclude that compounding of this kind is a case of genuine synthetic incorporation (Nedergaard Thomsen 1991, 1992), and that Danish has two kinds of noun incorporation, analytic as in 9a, and synthetic as in 9b, the latter, however, being severely restricted as to lexical range, namely only certain expressions denoting part-whole relations.

- (9) a. ¹læse a¹vis
 'read newspaper'
 b. ¹undervogns-be⁴handle⁴
 undercarriage-treat
 'underseal'

Notice in this connection that Danish distinguishes prosodically between the unitary stress of the analytic incorporation, in 9a, and the compound stress contour of the synthetic incorporation, in 9b. And that the synthetic incorporation seems to create a complex TRANSITIVE predicate, the analytic an intransitive. (Note, by the way, that not only Os may be incorporated by compounding, but also various sorts of circumstantial expressions, like instrument, in *kniv-dræbt* knife-killed 'killed with (a) knife'.)

To recapitulate the discussion so far, we have tried to distinguish incorporation from other fusional phenomena. Whereas cliticisation seems to be grammatically precisely delineated by its range and scope, other phenomena are not so easily dealt with. Our point of departure is that incorporation is a grammatical process whereby a complex predicate is created by the coalescence of a verb and (e.g.) a noun, in the canonical case by the suppression of the object relation of a transitive verb and the assignment of an adverbial-like status as a copredicate modifier (annotated INC) to the UNDERLYING object.

4. The subscript '1' means reduced or secondary stress, which is typical of the second constituent of Danish compounds.

(10) **Transitive Construction**

$$[[Verb]_{\text{Predication}} + [NP]_{\text{Object}}]_{VP}$$
Incorporation

$$[Verb]_{\text{Host}} + NP_{\text{Inc. Complex Predicate}}$$

The VNP construction is also a kind of complex predicate formation, but it looks rather like the relational structure in 11.

(11) **VNP**

$$[Verb]_{\text{Support}} + VN_{\text{Predicative Object Complex Predicate}}$$

Both grammatically and prosodically the incorporation differs from the VNP, especially as regards the feature that the object relation is not really suppressed in the VNP (Baron and Herslund 1998a,b). In terms of *Aktionssart*, the incorporation and the VNP are very different: whereas the incorporation construction denotes an activity, the overall characteristic feature of a VNP is that it denotes a (telic) action (Baron and Herslund 1998a,b; 2000a,b).

To conclude this subsection, we should mention that *COPULA CONSTRUCTIONS* may also be considered a kind of complex predicate. In them there may be seen an ambiguity of the role of the copula and that of the predicative complement. The copula may be seen as a matter of verbal support (the predicative as the logical predicate), as in VNPs, or it may be seen as a host predicate, the predicative filling the copredicate slot – or, the copula may alternatively be conceived of as the main predicate, the predicative then being a kind of *ADJECT*, i.e. a syntactic function covering indirect objects and directional and locative arguments, among other functions (Herslund 1988; Herslund and Sørensen 1996). One solution might be to distinguish between first order referential predicative arguments (which occur in the object slot in the Danish word order template – the copula is then a main verb) and zero order (e.g. adjectival) predicatives (which occur in the copredicate slot in the Danish word order template – the copula is then a host verb in a complex predicate). The predicative object in a VNP is typically a second order entity (event nominalisation). A complex predicate is a hybrid between a single V and a VP (VP > Complex Predicate > V).

2.1. THE GRAMMATICAL CONSTRUCTION. One of the defining features of the canonical instances of incorporation is the suppression of the object relation. Whereas this feature may seem difficult to verify in the case of weakly inflecting languages such as Danish, it appears very clearly in more richly inflecting languages such as Chukchi, as in example 1 of the contribution by Fortescue, anticipated here as 12.

- (12) a. *Ngewysqet-e tekicgyn pela-rkynen.*
 woman-ERG meat:ABS leave-3A:3O:PRS⁵
 'The woman leaves the meat.'
- b. *Ngewysqet takecgy-pela -rkyn.*
 woman:ABS meat-leave-3S:PRS
 'The woman leaves meat.'

Here the incorporated version, 12b, is both morphologically, phonologically, and syntactically characterised. Not only has the incorporated noun lost its inflection, the verb is also inflected intransitively, whereby the whole construction looks very much like an antipassive. In any case, it is obvious that the object relation is no longer present.

But even where no hard and fast morphological arguments can be adduced, as they can in polysynthetic languages such as Chukchi, there are good reasons for assuming the existence of incorporation also as part of the grammars of less synthetic languages, as argued by Nedergaard Thomsen (1991, 1992), Herslund (1994, 1995, 1999), and in the contributions to the present volume by Herslund, Korzen, and Nedergaard Thomsen.

As seen in the examples from Danish above, what has been characterised as incorporation is signalled by unitary stress on the phrase consisting of verb + noun. But Unit Accentuation as such is not decisive because that is found in many other instances (Rischel 1983; and cf. footnote 2). The decisive factor is the occurrence of Unit Accentuation in an environment where something else could be expected and actually occurs. The crucial factor is then the paradigmatic opposition, as in example 3, which is repeated here as 13.

5.. The letters A, O, S stand for 'agent of transitive verb' (A), 'patient of transitive verb' (O), 'single argument of intransitive verb' (S).

- (13) a. *læse a vis-en*
read newspaper-DEF
b. *læse a vis*
read newspaper

It should also be mentioned that in Danish the incorporated object occurs in a copredicate position (also the position for predicatives, as mentioned above), whereas the object is found in the object position (also the position for the unaccusative subject in presentatives).

2.2. PARADIGMATICS. In order to argue for the existence of incorporation in a given language there should thus exist a paradigmatic opposition between the normal transitive verb + object construction and some kind of reduced version thereof, as in the examples from Danish cited above in 3, 5, and 13.

This paradigmatic opposition can be part of a more elaborate transitivity system which distinguishes several degrees of transitivity, as is found in for example the Romance languages (Herslund 1999, forthcoming, this volume), as in 14.

(14) Spanish

- | | | | | | |
|----|----------------------------|------------------------------|-------------------------|--------------|--------------|
| a. | Incorporated: | <i>buscar</i> | <i>novio</i> | | |
| | | look:for | fiancé | | |
| | | | 'look for (a) fiancé' | | |
| b. | Transitive: | <i>buscar</i> | <i>un/el</i> | <i>novio</i> | |
| | | look:for | a/the | fiancé | |
| | | | 'look for a/the fiancé' | | |
| c. | Supertransitive: | <i>buscar</i> | <i>a</i> | <i>su</i> | <i>novio</i> |
| | | look:for | PREP | POSS | fiancé |
| | | | 'look for her fiancé' | | |
| d. | Coindexed supertransitive: | <i>buscar-lo⁶</i> | <i>a</i> | <i>él</i> | |
| | | look:for-him:ACC | PREP | him | |
| | | | 'look for him' | | |

6. In so-called *le*-ist norms, the coindexing pronoun would be *le* 'him:DAT'. Notice that when post-verbal the object has to be pronominal in order to trigger the COINDEXING SUPER-TRANSITIVE form. (Another norm may be seen in Herslund, this volume, example 49.)

The pronominal coindexation of the last example, 14d, resembles the full verbal inflection in the non-incorporated example from Chukchi in 12a.

2.3. CONTENT AND FUNCTION OF INCORPORATION. It is difficult to see how one can characterise the simple paradigmatic opposition of for example Danish, as in 3, or the more elaborated one of Spanish in 14 without having recourse to the already existing and well established linguistic concept *INCORPORATION* instead of inventing some new (ad hoc) concept. Especially in the light of the fact that the incorporated structures so far assumed are in almost every respect in conformity with the content features of constructions which everybody seems to agree upon as representing incorporation. One of these features is the habitual, non-referential, generic, or even institutionalised meaning of incorporating constructions which is also found in the Danish *læse avis* 'read newspaper' construction, primarily used to characterise a person, or in the Spanish *buscar novio* 'look for fiancé' construction, where the person one is looking for isn't actually a fiancé before he is found and acknowledged as such (Van Peteghem 1989). There is obviously no question of referential object nouns in these cases, only what Korzen in his treatment of Italian in the present volume calls concepts, i.e. the pure intensional use of a noun.

The crucial content feature of incorporation, namely the creation of a conceptual unit, a complex predicate consisting of a verbal and a nominal concept, has a grammatical corollary in the reduced possibilities of an incorporated noun to act as an antecedent in anaphoric relations. The question is treated in detail for Italian by Korzen (1996, this volume), so here we will concentrate on Danish. Incorporated nouns can be antecedents, just like 'normal', referential noun phrases, as seen in 15.

- (15) *Når du læser avis, så lad være med at krolle den.*
'When you read (the) newspaper, don't crumple it.'

However, there are indications that they are antecedents in a much more variable way than 'normal' referential expressions, cf. for example Herslund (1995) and compare examples like the following.

- (16) *?Han sad og læste avis. Så foldede han den sammen.*
'He was sitting reading (his) newspaper. Then he folded it.'

Whereas in 15, the habitual-generic situation, the anaphoric pronoun *den* 'it' works smoothly, the situation is different in 16, a specific situation, where the pronoun *den* is dubious. Another case is the following which involves inalienable possession (Herslund 1997:37).

- (17) a. *Han vaskede sine hænder, selv om de/han ikke var snavsede/t.*
 'He washed his hands even if they/he were/was not dirty:PL/SG.'
 b. *Han vaskede hænder, selv om han/*?de ikke var snavset/*?de.*
 'He washed hands even if he/*?they was/*?were not dirty:SG/*?PL.'

In 17a the subject as well as the full object noun phrase *sine hænder* 'his:REFL hands' can be antecedents of (different) anaphoric pronouns, but in 17b the preferred antecedent is undoubtedly the subject *han* 'he', whereas the incorporated noun *hænder* 'hands' is at best questionable as an antecedent. This is another point where incorporation aligns with the anti-passive, as observed above, by the suppression of the object relation and the subsequent promotion of the subject: the function of incorporation is the description of a subject engaged in some activity – denoted by the complex predicate – not the description of the interaction of two participants. And that is why the incorporated noun of 17b is overruled by the subject of the clause as a possible antecedent: it is so to speak invisible to anaphoric pronouns.

Whereas an incorporated noun can in some instances (which vary of course from language to language) serve as an antecedent in an anaphoric relation, it also frequently serves as an anaphor itself (Hopper and Thompson 1984:732). Thus, if a noun on first mention retains its full form (determiners, case marking, classifiers, etc.), only the lexical stem, or even a hyperonym, may appear as an incorporated element in subsequent mentions. This can also be illustrated by Danish, as in 18.

- (18) *Han sad og læste sin avis/i Politiken. Det irriterede mig, at han altid skulle læse avis, når jeg kom.*
 'He was sitting reading his newspaper/(in) Politiken. It annoyed me that he would always BE NEWSPAPER-READING whenever I arrived.'

Notice, however, the transition from a specific situation to a habitual situation in 18, whereby the incorporated noun is not anaphoric in the sense

of co-referential. Rather, the action of reading a specific newspaper denoted by the first of the two juxtaposed sentences is a specific instance of the activity concept of *NEWSPAPER-READING* denoted by the complex predicate of the second sentence. The first sentence contains a textual *DOUBLE JUDGMENT* (Sasse 1984), by having a secondary topic (the object) in addition to the primary (the subject), whereas the second conflates the secondary topic as part of the Comment, thereby making the judgment *SINGLE*. Concomitant with the unitary informational (textual) status of an incorporative complex predicate is the conceptual (ideational) unity of this kind of predicate, whereby what is a participant in a 'free' construction is incorporated as part of the participatum concept. Notice that the incorporated participant cannot be agentive (in the normal cases, at least), but is a potential 'fundamental' argument, i.e. the kind of argument performing the function of making a predicate concept conceivable (Herslund and Sørensen 1994, 1996). In conformity with the unitary semantics of the incorporating complex predicate many such predicates are idiomatic (Bonvillain 1989).

2.4. MORPHOSYNTACTIC FACTORS OF COMPLEX PREDICATES AND INCORPORATION. As mentioned several times already, it is the contention of the present contribution that what (primarily) unites complex predicates and incorporation is the common content of being an ideationally unitary predicate with a unitary textual function, and what differentiates the different constructions are their differently manifested morphosyntactic techniques. Thus, we have compounding, (more or less lexical) derivation, noun stripping (composition by juxtaposition), discontinuous analytic incorporation, verb-nominal predicates, serial verb constructions, and perhaps other types as well. However, professing ourselves as functionalists, we should, perhaps, discuss whether these manifestations also involve some kind of unity, be it in terms of a prototype category with diverse extensions, or a category based on Wittgensteinian family resemblance relations.

It has been claimed in the literature (de Reuse 1999) that compounding incorporation is non-productive in Indo-European (e.g. Germanic). This is not correct for Danish or Swedish, as seen in 6, 7, 8, and 9b: Danish not only has productive *DIS-POUNDING* incorporation (the analytic kind of incorporation) but also productive compounding incorporation, the former type being dominant (unmarked, informal), the latter recessive (marked, formal). So,

even though one normally doesn't 'baby-sit' in Danish, many other activities may be coded in the same manner, as in 19a.

- (19) a. *Derudover har Jarvad også stikprøve-undersøgt ugeblade.*
 Furthermore has J. also random:sample-investigated magazines
 'Furthermore, Jarvad has random sampled magazines.'
- b. ... *undersøgt ugeblade ved stik-prøver.*
 investigated magazines by random-sampling

Whether or not the expression is a backformation from *stikprøveundersøgelse* (in itself an incorporation into a term head – cf. Nedergaard Thomsen, this volume), the point is that it is a GENERAL possibility in Danish: if you want to defocus an object or an adverbial you may prefix it.

2.4.1. SYNTACTIC FACTORS. There is an important, though misled controversy between so-called lexicalists and anti-lexicalists (syntacticists) centered on the issue of how to deal with phenomena like complex predicates and incorporation, which partake of both lexicon-morphology and syntax. Instead of giving an absolute either/or answer to the question, *Is incorporation a lexical or a syntactic phenomenon?*, we want to propose a relative both/and answer (cf. the Complementarity Principle in Bohr's physics). In the first place, the compartmentalisation of grammar into a Lexicon and a Syntax is plainly wrong: by containing valency information, lexical items incorporate syntax (syntactic potential). On the other hand, syntactic constructions are also stored in the Lexicon ('constructicon'). In the second place, we want to propose a theory according to which incorporation is double-faced: it is a word formation process (lexicon-morphology) on the 'level' of morphosyntactic FUNCTION, and on the 'level' of TECHNIQUE it may be synthetic, analytic, OR a MIXTURE. Take the phenomenon of MODIFIER STRANDING in Noun Inderivation in Eskimo: only the nominal head (stripped of its case and number specifications) may 'in-derive' in Eskimo Noun Inderivation, because the technique requires a noun stem, compare 20a and 20b.

- (20) a. *Kaali angisuu-mik qimme-qar-poq.*
 Kaali:ABS big-INSTR:SG dog-HAVE-IND:INTR:3.SG:3
 'Carl has a big dog.'
 (Langgård, this volume)

- b. *Kaali qimmer-mik angisuu-mik pe-qar-poq.*
 Kaali:ABS dog-INSTR:SG big-INSTR:SG smth.-have-IND:INTR:3.SG:S
 'Carl has a big dog.'

Notice, first of all, that the iinderivation in 20a is the normal construction, and the 'classifier' iinderivation in 20b, with the whole NP being stranded as an instrumental oblique, is secondary. Insofar as there is no independent lexical verb 'to have', the only expression possible is the one with the verbal iinderivative *-qar-*. Next, there seem to be two processes going on on the level of function, viz. Complex Predicate Formation and Term Formation (both operating in the Fund in standard Functional Grammar), and that the latter is input to the former. We take it that Complex Predicate Formation is 'morphological' (i.e. Word formation) whereas Term Formation is 'syntactic' (i.e. Phrase formation). The iinderivative is a host predicate, the term phrase *qimmeq angisooq* '(a) big dog' is a copredicate, either in its totality or in part (i.e. the term head/primary restrictor), depending on the meaning: 'Carl is a dog owner, and he has a big one' in 20a, or 'Carl has a big dog' in 20b. Irrespective of the meaning, the morphosyntactic technique of the language must code part of the term phrase synthetically, as a noun stem (suppressing the syntactic head features of case and number), part of it analytically, as a 'stranded' attribute/secondary restrictor, retaining its case and number agreement morphemes. 20c is an illustration of stranding in adverbial incorporation in Danish.

- (20) c. *Sam-boende med forældre-myndighed-en-s indehaver.*
 together-living with parent-authority-DEF-GEN owner
 'living together with the person having the parental authority'

The adverbial prefix is the specifier of the stranded prepositional phrase. Thus stranding is not restricted to non-Standard Average European languages like Inuit.

Our two-level theory of morphosyntax makes it understandable that incorporation may occur in truly analytic languages like Danish. On the level of function, the semantic unity of the incorporation is rather tight, but the analytic technique makes it possible to nevertheless question the degree of amalgamation of the two separately coded concepts.

2.4.2. DOUBLE TRANSITIVES AND INCORPORATION. Another type of complex predicate formation clearly related to incorporation is illustrated by the following example from German, cited from Rousseau (1998:91).

- (21) *den* *König* *ent-haupt-Ø-en.*
 the:ACC king be-head-VBS-INF⁷

In this structure the verb is derived from the noun *Haupt* 'head' and expanded by the separative prefix (preverb) *ent-* 'un-'. The analysis of such structures proposed by Rousseau is conducted within a discussion of DOUBLE TRANSITIVITY, i.e. constructions with apparently two objects in the accusative such as Latin *senatorem sententiam rogare* 'ask the senator for a verdict', or German *jemanden etwas lehren* 'teach someone something'. Such structures are analysed, on the basis of several syntactic criteria, as constructions where a primary object (O_1) combines with the verb into a complex predicate which, in turn, takes another, 'outer', object (O_2), as illustrated in 22.

- (22) *senator-em* *sententia-m* *roga-re.*
 senator-ACC verdict-ACC ask:for-INF
-

In this case the predicate is constituted by a verb and its object, and one could obviously propose that the Latin double accusative is really a case of (embryonic) analytic incorporation creating transitive predicates (cf. Mithun 1984).

Now it appears from Rousseau's analysis that double transitive constructions fall into three neat classes. In the first class, the verb is a causative or contains a preverb (cf. Rousseau 1995), i.e. it is a complex predicate the two components of which take, as it were, an object each, as in 23.

7. Rather than taking *Haupt* 'head' to be neutral between a nominal and a verbal denotation, we analyse it as strictly nominal, but then have to have a Zero morph turning the nominal root into a verbal stem, i.e. a 'verbaliser' (VBS).

- (23)
- | | | |
|-------------------|-----------------|--------------------|
| <i>exercit-um</i> | <i>Liger-im</i> | <i>tra-duc-it.</i> |
| army-ACC | Loire-ACC | over-lead-PRS:3.SG |
-
- 'He conducts the army across the Loire river.'
- (Caesar)

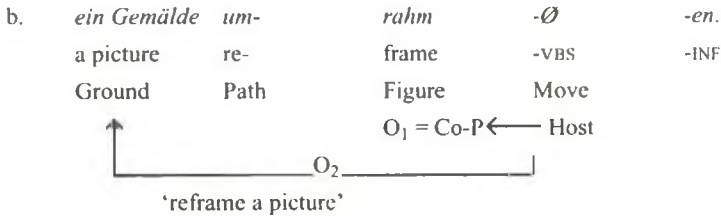
The second class consists of expressions where one of the objects denotes a whole and the other a part of this whole, as in 24.

- (24)
- | | | | |
|-----------------|-----------------|-----------|---------------------|
| <i>Latag-um</i> | <i>occupa-t</i> | <i>os</i> | <i>facie-m-que.</i> |
| Latagus-ACC | strike-PRS:3.SG | mouth-ACC | face-ACC-and |
-
- 'He hits Latagus on the mouth and in the face.'
- (Virgil)

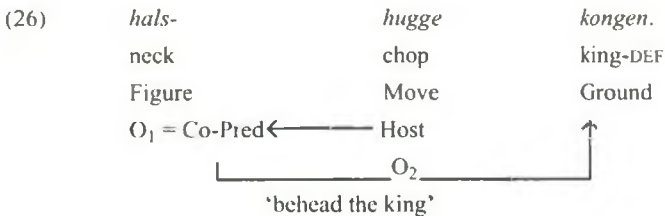
In this case the status as primary and secondary (or 'outer', O_2) object respectively follows from the denotation of the objects as respectively part and whole (cf. Herslund 1997). This kind of construction thus instantiates EXTERNAL POSSESSION (Payne and Barshi 1999).

The third class consists of cases like the initial example of the Latin double accusative in 22. What is most interesting in the present context are however the first and second classes which are, so to speak, combined in examples like 21: there is a preverb and the verbal stem denotes a part of a whole which is realised as the 'outer' object (O_2). A possible analysis of this kind of complex predicate (introducing conceptual notions from Talmy 1985) is then as in example 25.

- (25) a.
- | | | | | |
|------------------|-------------|--------------|-----------|-------------|
| <i>den König</i> | <i>ent-</i> | <i>haupt</i> | <i>-Ø</i> | <i>-en.</i> |
| the king | un- | head | -VBS | -INF |
| Ground | Path | Figure | Move | |
-
- $O_1 = \text{Co-P} \leftarrow \text{Host}$
- 'behead the king'



In these cases the part-denoting term has been turned into a co-predicate verb. But it can also become a preverb, as in the Danish translation of 21, compare 26.



(Notice that a more explicit conceptual analysis would claim that a Path component is lexically incorporated in the compound verb *hals-hugge* 'decapitate', as in 27 below.) The relationship of such structures with incorporation should be clear. Compare also the examples from Danish and Swedish in 6, 7 and 8 above; the derived complex predicate is only transitive in these cases. But the principle seems rather obvious: the most immediately affected object (O_1) is turned into a (part of the) predicate thereby giving birth to a new complex predicate which in its turn takes an 'outer' object (O_2). The incorporation is in such cases so 'deep' that, contrary to the looser cases of noun and verb coalescence which canonically create intransitive predicates (cf. type I in section 2.6), a transitive predicate is created (cf. type II in section 2.6), but one which obeys the constraints on double transitivity as expounded by Rousseau (1998). It seems, furthermore, important that the Path concept may be incorporated and expressed by a zero morph, neutralising the distinction between Goal and Source, as in 27.

- But such derived complex predicates are in most instances easy to distinguish from noun incorporation structures proper because they are only VERBAL in nature (Vet 1987). And the change in meaning performed by a causative derivation is quite systematic and predictable. The meaning of a complex predicate formed by (noun) incorporation, on the other hand, may be a quite idiosyncratic product of the combined lexical units. Alternatively, in Danish at least, causative constructions may be conceived of as non-typical instances of incorporation, nevertheless showing Unit Accentuation.

The same can be said of SERIAL VERB constructions and structures with CONVERBS. Also in these cases a complex predicate is created by the combination of verbal elements. Serial verb constructions (Bisang 1995) involve in canonical cases the coordination, or co-subordination (cf. Foley and Van Valin 1984:242), of finite verb forms. Serial constructions are common for instance in Japanese (Bisang 1995:164), as in 29a, and Miskitu (Givón 1997:68, citing a paper by Hale), as in 29b.

- Such constructions are also common in Danish (Lihn Jensen 1999), where combinations of movement or position verbs with verbs from other semantic fields, such as the following, are found.

9 DS/1 means 'different subject, 1st person'.

- (30) a. *Hun går og brokker sig.*
 he walk:PRS and complain:PRS REFL
 'He is complaining.'
- b. *Hun sidder og læser.*
 she sit:PRS and read:PRS
 'She is reading.'

Notice that this kind of construction does not show Unit Accentuation in the standard language and therefore does not evince the prototypical coding device for incorporation in Danish.

Converb constructions (Haspelmath and König 1995; Bickel 1998) may be difficult to distinguish from verb serialisation proper, as in the Japanese example in 29 above, but they always seem to involve a non-finite verb form – at least in languages with a clear distinction between finite and non-finite verb forms. An illustrative case is presented by the French present participle in constructions like 31, from Herslund (2000:89).

- (31) *La sultane s'est levée*
 DEF:FEM princess REFL AUX risen:FEM
mett-ant fin à l'entretien.
 put-PRS:PART end to DEF interview
 'The princess rose and ended – in so doing – the interview.'

In such constructions we have a complex predicate consisting of a movement verb and another verb denoting the significance and/or consequence of the movement. Also in Danish there is an albeit limited use of the present participle in combinations with some movement and position verbs indicating aspectual nuances, as in 32.

- (32) a. *Hun kom løb-ende.*
 he come:PST run-PRS:PART
 'He came running.'
- b. *Hun blev sidd-ende.*
 she remain:PST sit-PRS:PART
 'She remained seated.'

Such constructions are of course very close to auxiliary formations, without, however, being totally indistinguishable from them. They resemble auxiliary formations in that the finite verb is destressed, but this Unit Accentuation is more akin to the one found with noun incorporation proper (notice that lexical *blive* 'remain' in 32b is different from auxiliary *blive* 'become').

A common feature of causative, serial and converb constructions, which they share with verbo-nominal predicates – and with auxiliary formations, is the fact that the more lexical element, hence the informational center of gravity, is the dependent element. In serial verb constructions the lexical weight is on the dependent, serialized verb, in causative and converb constructions on the lexical verb (root) or the non-finite verb form. These structures are thereby in some sense of course related to auxiliary constructions. Such a status may ultimately be their historical fate – compare the evolution of the English progressive from an adverbial construction via a converb construction to the present day aspectual auxiliary construction.

This feature of complex verbal predicates, viz. the lexical weight of the dependent element, is shared by incorporation constructions: an incorporated noun or adverb – the co-predicate – constitutes the more specific lexical information of an incorporation structure, as discussed in section 2 above. This is iconically reflected in Danish: it is the incorporated element which carries the primary stress, as in example 3. (Granted that stems are heads in derivations the in-derived stems in Greenlandic carry the lexical weight, whereas the inderivative is a semi-lexical dependent.)

2.5. EXPRESSIONAL FEATURES OF COMPLEX PREDICATES AND INCORPORATION.

In a 'quest for the essence of language' (to use a famous title of Jakobson's), it is important to investigate the semiotic factors of grammatical phenomena, especially ISOMORPHISM (Lehmann 1974), i.e. diagrammatic iconicity between content and expression of linguistic signs. Adhering to the conception of a grammatical construction as a linguistic sign in Cognitive Linguistics and Constructional Grammar (as well as some formal approaches like Head Driven Phrase Structure Grammar – cf. Ackerman and Webelhuth 1998:6ff.) we want to bring into focus the sign function between the content of a complex predicate and its expression (cf. Nedergaard Thomsen 1992b). That is, if a language has noun stripping constructions, they are not instances of INCORPORATIVE complex predicates UNLESS they are signalled

in some way (i.e. they are LOOSE INCORPORATIONS) and have a unitary constructional content. We mentioned constructions with a verb and a naked object in Spanish as examples of noun incorporation. The expression side of these constructions is the severe restriction on the placement of the incorporated co-predicate: it has to follow the verb whereas non-incorporated objects may precede it.

If the analysis of a complex predicate and an incorporation construction as an especially tight ideational fusion of two concepts into one is correct, one immediately understands the universal tendency to code the constituents of these constructions contiguously. This conception favours classical compounding incorporation, but disfavors or disqualifies the discontinuous manifestations. However, in this connection one has to bear in mind the different ordering types. Take Danish: Danish has an unmarked ordering of head before dependent in analysis and in derivational synthesis, and a marked ordering of dependent before head in compounding synthesis. Furthermore, Danish is primarily an analytic language. This favours disjuncting, analytic incorporation. However, there is no ordering slot right after the verbal head (= contiguous manifestation) other than the normal object slot (Danish is a VO language). Therefore, a placement of an incorporated object in the same slot as a normal object would not single out incorporation as the marked construction (except by the head marking on the host verb by way of Unit Accentuation, i.e. the verb is destressed). The solution to this dilemma chosen by Danish is to place the incorporated object (Inc) in a specific slot between light (A1) and heavy (A2) adverbials, after the normal object slot: V O A1 **Inc** A2. In this way, Danish disjuncting incorporation becomes discontinuous. Nevertheless, the incorporated object, like an adverbial modifier, is positioned analogically among the other verb-centred adverbials. Furthermore, Nedergaard Thomsen (in this volume) shows that the discontinuity is kept as small as possible in actual usage (by filling the intervening positions minimally), in conformity with the unitary status of the incorporative complex predicate. Two examples to illustrate this dilemma are seen in 33a and b.

- (33) a. *Udvalg-et* *sammen-sætt-er* *dokument-et.*
 commission-DEF together-put-PRS document-DEF
 'The commission composes the document.'

| | | | | |
|----|------------------|------------------|--------------------|---------------|
| b. | <i>Udvalg-et</i> | <i>opsætt-er</i> | <i>dokument-et</i> | <i>sammen</i> |
| | commission-DEF | put-PRS | document-DEF | together |

In 33a the complex verb is contiguously manifested but violates the dominant analytic type, whereas in 33b the complex verb is analytic, in accordance with the dominant type, but violates the expressional tendency towards continuous manifestation.

2.6. DIACHRONIC AND TYPOLOGICAL FACTORS OF COMPLEX PREDICATES AND INCORPORATION. There are four types of incorporation recognised within the functionalist literature (Mithun 1984), and they are ranked in an implicational hierarchy:

- I: LEXICAL (argument satisfaction within the complex predicate; unitary concept)
- II: ARGUMENT VACATION (Inc. signals requirement of external argument) (ex. 26)
- III: BACKGROUNDING (Inc. is textually backgrounded) (ex. 18)
- IV: CLASSIFICATORY (Inc. functions as classifier of external argument)

Additionally, the types can be seen as steps in the evolution of noun incorporation. A further distinction is that between productive and non-productive incorporation, i.e. incorporation may die out by becoming unproductive. We believe that one more type and stage is lacking, viz. incipient (embryonic) incorporation, which is non-productive. A case in point is incorporation-like phenomena which are not coded by expression phenomena, e.g. non-coded noun stripping in English, insofar as there is no prosodic coding at all, as in 34.

(34) *play cards, peel potatoes, keep house, etc.*

Another case, not normally mentioned, of the evolution of incorporation is the development, in for instance Danish, of compounding incorporation from a VP with 'synthetic' ordering of (stripped) object noun before (especially non-finite) verb. This development involves the coding of the syntagm by Compounding Accentuation, i.e. secondary stress on the verbal host predicate, as in 35.

- (35) a. *Han ønskede den øde lagt.*
 he wanted it waste lay:PST:PART
 'He wanted to devastate it/lay it waste.'
 (not an actual attested example, but it will do here)
- b. *Han ønskede den øde-lagt.*
 he wanted it waste-lay:PST:PART
 'He wanted to destroy it.'

A further type of development of incorporation is the BACKFORMATION of a verbal complex predicate from a nominal complex term (compound), cf. *to baby-sit* from *baby-sitting*.

2.7. INCORPORATION INTO OTHER HOSTS THAN VERBS: COMPLEX TERM-HEAD FORMATION AND OTHER TYPES OF INCORPORATION. In standard Functional Grammar a commonly recognised process is Term Formation, i.e. the formation of 'derived' terms, which cover noun/determiner phrases, basic terms being pronouns and proper names. The kernel of a derived term is normally a SINGLE common noun. But it seems that such a term head may be complex, just like a complex predicate, and that it may involve incorporation. The most obvious cases are, perhaps, those involving compounding of what corresponds to a non-agentive sujet or a transitive object (cf. Baron 2000), the function of such 'incorporation' being to informationally background this fundamental argument, as in 36.

- (36) a. *De adspurgte er inddelt efter uddannelse-s-varighed.*
 the interviewed are classified after education-LK-duration
 'The interviewed are classified according to educational duration.'
- b. *De adspurgte er inddelt efter deres uddannelse-s-varighed.*
 the interviewed are classified after their education-GEN duration
 'The interviewed are classified according to the duration of their education.'

In 36a, the first compound part clearly is only part of a unitary concept, it is non-prominent in the discourse, and it seems to be a non-referential specifier, a kind of morphological attribute. It corresponds to an intransitive subject (compare *uddannelsen varer ...* 'the education lasts ...'). In 36b the subjective genitive argument is textually prominent, definite, and referential.

Not only fundamental arguments but also various kinds of adverbials may incorporate, not only into verbs (as host predicates) but also into nouns (as host terms), as witnessed by 37.

- (37) a. *Parti-er-ne har emne-inddel-t programm-et.*
 party-PL-DEF have topic-dispose-PST:PART program-DEF
 'Every party has made a disposition of its program according to topic(s).'
- b. *Der sker en engelsk-påvirkning af vores modersmål.*
 there occurs an English-influence of our mother tongue
 'An influence on our mother tongue from English is found.'

We shall round off our excursion into complex predicates and incorporation – and outskirts – with a productive, 'exotic' construction in Danish which features analytic incorporation coded by Unit Accentuation in the synthetic domain of nominalised verbs (NMS) (Hansen and Heltoft 1994), as in 38.

- (38) *Deres evindelige „diskuter-en inkorporering keder mig!*
 their perpetual discuss-NMS incorporation bores me
 'I am bored by their perpetual incorporation discussions!'

3. THE PRESENT COLLECTION. The collection begins with two studies on 'classical', synthetic incorporation, the chapter by FORTESCUE on *Incorporation in Chukchi as compared with Koyukon and Cree*, and the one by LANGGÅRD on *Inderivation in Greenlandic*. The latter investigation concerns the Greenlandic type of incorporation which is not realized by way of compounding morphology; rather the technique is DERIVATION. The remaining contributions to the volume classify certain constructions in different analytic languages as instances of incorporation in the functional sense. Their authors are all pioneers in this (perhaps controversial) proposal. The first of these contributions, by NEDERGAARD THOMSEN, deals with analytic incorporation in Danish, especially with the syntactic processing of incorporative complex predicates. The next two contributions deal with incorporation in Romance languages: HERSLUND on *Incorporation and transitivity in Romance*, and KORZEN on *Noun Incorporation in Italian*. The next chapter, by DURST-ANDERSEN, is on *Incorporation and Excorporation in Rus-*

sian. The concluding chapter, by NEDERGAARD THOMSEN, is *Complex predicate formation and incorporation. Towards a typology*, which rounds off the volume.

NEDERGAARD THOMSEN, in the first of his contributions, investigates various aspects of complex predicates and incorporation in Danish, especially its syntactic processing, i.e. its formation and ordering, within the framework of Hawkins' (1994) *Performance Theory of Order and Constituency*, enlarged, however, by considering semantic and pragmatic factors (cf. also Arnold et al. 2000).

HERSLUND investigates syntactically manifested noun incorporation in Romance languages. He shows that syntactic incorporation presupposes the development of ('underlying') configurationality – that the language possesses a VP and a noun (or, determiner) phrase. Latin had neither, and did not evince productive incorporation. It had 'unarticulated' (bare) nouns for both referential and non-referential functions. However, by developing articles in Vulgar Latin and Proto-Romance, the bare noun became used in a non-referential function, the prerequisite for the Noun (-into-Verb) Incorporation (NI) which developed. NI is shown prototypically to involve a direct object or an unaccusative subject which is low or minimal on different salience scales: empathy (animacy), referentiality (specificity), and autonomy (independent existence of referent). The Romance 'object zone' is differentiated further, in that in addition to object incorporation and 'normal' transitive articulated objects, there are 'supertransitive' articulated objects, i.e. objects high in cognitive and textual salience which are prepositionally marked, e.g. in Spanish and Rumanian, and may further be coindexed by pronominal clitics on the verb (a kind of agreement). 'Supertransitive' objects are the opposite of incorporated objects. Herslund shows that there is a typological differentiation of modern Romance into French, which is non-incorporating (does not have naked objects), Italian which has both incorporation and normal transitive objects, and Portuguese, Spanish, and Rumanian, which have incorporation, normal, and 'supertransitive' (prepositional) objects and coindexation. The incorporated noun is an adverbial-like qualifier of the verbal host predicate.

KORZEN, in his comprehensive contribution, deals with incorporation in Italian in much detail. Italian, having configurational noun phrases with determiners, uses unarticulated noun phrases in syntactic noun incorporation. Only noun phrases in the function of transitive objects and unac-

cusative subjects (i.e. fundamental arguments, in Herslund and Sørensen's 1994, 1996 terminology) may incorporate. They do so if they denote, not specific referents (individuals, first order entities) but only their properties (intension, zero order entities) – if they have a property extension. In this way they specify further the kind of activity denoted by the host predicate (zero order). Thus, an incorporated constituent functions like a basic adverbial modifier. In this contribution, it is shown that noun incorporation is also found in noun phrases with non-referential nominal attributive (fundamental) arguments.

DURST-ANDERSEN deals with some uses of the instrumental case in Russian which represent incorporation of modifiers (e.g. 'go by train' – i.e. to be a passenger in a train doing the transportation). The constructions are distinguished by behavioural properties – e.g., the incorporated modifier may not be descriptively modified (e.g. *'go by comfortable train'), but there is no specific morphosyntactic marker, the instrumental being also used outside of incorporation constructions (e.g. in the antipassive, the demotion of a direct object into an oblique). The incorporated modifier (the co-predicate in the instrumental) is said to experientially express a CORRELATIVE VIEWPOINT and to logically encode a relation of inclusion (part-whole, element-set). There are four reflexes of the correlative viewpoint, a spatial (VIA, e.g. 'walk through a forest'), a figurative (VEHICLE, e.g. 'go by train'), an inherent property reflex ('work as an engineer/to perform the function of engineer'), and a temporal reflex (INTERVAL, e.g. 'talk for hours'). As Russian does not possess determiner-phrase configurationality, it does not evince NOUN incorporation. Thus the non-individuated genitive (non-agentive) intransitive subjects and (patientive) objects are not examples of incorporated modifiers but are examples of what is here termed 'excorporation' whereby a core constituent is turned into a QUANTIFICATIONAL modifier. The paper can be said to demonstrate that core modifiers are the most accessible constituents to incorporation (cf. also Sasse 1984).

The concluding contribution to the volume – the second paper by NEDERGAARD THOMSEN – proposes an analysis of incorporation as a morpholexical operation on a verb, on a par with diathetic choices like passive and antipassive. It concludes with a proposal for a comprehensive taxonomy of incorporative phenomena.

4. CONCLUSION. We may sum up by stressing that Incorporation, and Complex Predicate Formation in general, are essential parameters in a universal grammar of human language, not typological wrinkles in a minority of non-Standard Average European languages. These phenomena are primarily important, we believe, because they cast light on the universality (and typological ramifications) of Grammatical Relations, and especially the distinction between predicates, arguments, and modifiers. We hope that our contribution may stir further debate and propel much more empirical work, which is so much called for in the area of the grammatical relation of the Predicate. In a more distant future the turn will come, it is hoped, to the adverbial relation, perhaps the waste basket of grammar. A further agenda is the TAXONOMY of predicates (arguments have, so it seems, been exhaustively classified as internal – unaccusatives and direct objects – , external – unergatives and transitive subjects – , and mediate – the adjects).

REFERENCES

- ACKERMAN, FARRELL; and GERT WEBELHUTH. 1998. *A theory of Predicates*. Stanford: Center for the Study of Language and Information (CSLI) Publications.
- ALSINA, ALEX; JOAN BRESNAN; and PETER SELLS. (eds.) 1997 *Complex Predicates*. Stanford: Center for the Study of Language and Information (CSLI) Publications.
- ANDERSON, JOHN M. 1997. *A notional theory of syntactic categories*. Cambridge: Cambridge University Press.
- ANDERSON, STEPHEN R. 1985. Typological distinctions in Word Formation. In Shopen, Timothy (ed.) *Language typology and syntactic description* Vol. 3: *Grammatical categories and the lexicon*, 3-56. Cambridge: Cambridge University Press.
- ARNOLD, JENNIFER E.; THOMAS WASOW; ANTHONY LOSONGCO; and RYAN GINSTROM. 2000. Heaviness vs. Newness: The effects of structural complexity and discourse status on constituent ordering. *Language* 76.28-55.
- AXELROD, MELISSA. 1990. Incorporation in Koyukon Athapaskan. *International Journal of American Linguistics* 56.179-195.
- BAKER, MARK C. 1988. *Incorporation: A theory of Grammatical Function Changing*. Chicago: University of Chicago Press.
- 1996. *The Polysynthesis parameter*. Oxford/New York: Oxford University Press.
- BARON, IRÈNE. 1994. Substantiviske komposita i valensteoretisk perspektiv. In Baron, Irène (ed.) *Nordlex-Projektet. Sammensatte substantiver i dansk* [LAMBDA 20], 7-18. Department of Computational Linguistics, Copenhagen Business School.
- 2000. La lexicalisation des noms composés déverbaux. Traits généraux de la composition nominale. In Korzen, Iørn; and Carla Marelllo (eds.) *Argomenti per una linguistica della traduzione. Gli Argomenti Umani* 4.43-52. Alessandria: Edizioni dell'Orso.
- BARON, IRÈNE; and MICHAEL HERSLUND. 1998a. Verbo-Nominal Predicates and the Object Relation. In van Durne, Karen; and Lene Schøsler (eds.) *Studies in Valency IV. Valency and Verb Typology*, 89-112. Odense: Odense University Press.
- 1998b. Support Verb Constructions as Predicate Formation. In Olbertz, Hella; Kees Hengeveld; and J. Sánchez García (eds.) *The Structure of the Lexicon in Functional Grammar*, 99-116. Amsterdam/Philadelphia: John Benjamins.
- 2000a. Verbo-nominal predicates, nominal style and legal language. In Ruane, Mary; and Dónall P. Ó Baoill (eds.) *Integrating Theory and Practice in LSP and LAP*, 93-99. Dublin: ALC & IRAAL.
- 2000b. The Linguistic Expression of Authority in LSP Texts. As Exemplified by English and French. *KLIMT Fagling-rapport* 4.1-11.

- BECERRA BASCUNAN, SILVIA. 1999. *Diccionario del uso de los casos en el español de Chile* [Etudes Romanes 43]. Copenhagen: Museum Tusculanum Press.
- BICKEL, BALTHASAR. 1998. Review Article. Converbs in cross-linguistic perspective. *Linguistic Typology* 2.381-397.
- BISANG, WALTER. 1995. Verb Serialization and Converbs. In Haspelmath, Martin; and Ekkehard König (eds.) 1995:137-188.
- BLAKE, BARRY J. 1994. *Case*. Cambridge: Cambridge University Press.
- BONVILLAIN, NANCY. 1989. Body, mind, and idea: Semantics of Noun Incorporation in Akwesasne Mohawk. *International Journal of American Linguistics* 55.341-358.
- BROWN, KEITH; and JIM MILLER. (eds.) 1999 *Concise Encyclopedia of grammatical categories*. Amsterdam, etc.: Elsevier.
- BRØNDAL, VIGGO. 1932. *Morfologi og syntax*. Copenhagen: Bianco Luno.
- CANN, RONNIE. 1993. *Formal Semantics. An introduction*. Cambridge: Cambridge University Press.
- CATTELL, RAY. 1984. *Composite Predicates in English* [Syntax and Semantics 17]. Sydney: Academic Press.
- CORBETT, GREVILLE G.; NORMAN M. FRASER; AND SCOTT MCGLASHAN. (eds.) 1993 *Heads in grammatical theory*. Cambridge: Cambridge University Press.
- CROFT, WILLIAM. 1991. *Syntactic categories and grammatical relations*. Chicago: University of Chicago Press.
- DAVIS, ANTHONY R.; and JEAN-PIERRE KOENIG. 2000. Linking as constraints on word classes in a hierarchical lexicon. *Language* 76.56-91.
- DAVIES, WILLIAM; AND CAROL ROSEN. 1988. Unions as multi-predicate clauses. *Language* 64.52-88.
- DE REUSE, W. J. 1999. Noun Incorporation. In Brown, Keith; and Jim Miller (eds.) *Concise Encyclopedia of grammatical categories*, 252-258. Amsterdam, etc.: Elsevier.
- DIK, SIMON C. 1989. *The Theory of Functional Grammar*. Part 1: *The structure of the clause*. Dordrecht/Providence: Foris.
- FOLEY, WILLIAM A; and ROBERT D. VAN VALIN, JR. 1984. *Functional Syntax and Universal Grammar*. Cambridge: Cambridge University Press.
- GIVÓN, TALMY. 1997. Grammatical Relations. An introduction. In Givón, Talmy (ed.) *Grammatical Relations. A functionalist perspective*, 1-84. Amsterdam/Philadelphia: John Benjamins.
- GROSS, MAURICE. 1981. Les bases empiriques de la notion de prédicat sémantique. *Langages* 63.7-52.
- HABERLAND, HARTMUT; and OLE NEDERGAARD THOMSEN. 1991. The long and winding road towards a theory of grammatical relations. *Journal of Pragmatics* 16.179-206.

- HALE, AUSTIN. 1974. Syntactic Matrices: An approach to descriptive comparability. In Heilmann, Luigi (ed.) *Proceedings of the XIth International Congress of Linguistics* (Bologna/Florence, 1972) 1.259-271.
- HALL, ROBERT A. 1956. How we noun incorporate in English. *American Speech* 31.83-88.
- HALLIDAY, MICHAEL A.K. 1994 (2nd ed.). *An introduction to Functional Grammar*. London: Edward Arnold.
- HANSEN, ERIK; and LARS HELTOFT. 1994. Kentaurnominaler i dansk. In Baron, Irène (ed.) *Nordlex-Projektet. Sammensatte substantiver i dansk* [LAMBDA 20], 57-67. Department of Computational Linguistics, Copenhagen Business School.
- HARDER, PETER; LARS HELTOFT; and OLE NEDERGAARD THOMSEN. 1996. Danish directional adverbs. Content syntax and complex predicates: A case for host and co-predicates. In Engberg-Pedersen, Elisabeth; et al. (eds.) *Content, expression and structure. Studies in Danish Functional Grammar*, 159-198. Amsterdam/Philadelphia: John Benjamins.
- HASAN, RUQAIYA; and PETER H. FRIES. (eds.) 1995. *On Subject and Theme. A discourse functional perspective*. Amsterdam/Philadelphia: John Benjamins.
- HASPELMATH, MARTIN; and EKKEHARD KÖNIG. (eds.) 1995 *Converbs in Cross-Linguistic Perspective. Structure and Meaning of Adverbial Verb Forms – Adverbial Participles, Gerunds*. Berlin: Mouton de Gruyter.
- HAWKINS, JOHN A. 1994. *A Performance Theory of Order and Constituency*. Cambridge: Cambridge University Press.
- HENGVELD, KEES. 1992. *Non-verbal Predication. Theory, Typology, Diachrony*. Berlin/New York: Mouton de Gruyter.
- HEROK, THOMAS. 1985. Über Sinn und Bedeutung von Prädikaten. In Plank, Frans (ed.) *Relational Typology*, 131-157. Berlin/New York/Amsterdam: Mouton Publishers.
- HERSLUND, MICHAEL. 1988. *Le datif en français*. Louvain/Paris: Editions Peeters.
- 1994. La notion d'incorporation en danois et en français. *Travaux de linguistique et de philologie* XXXII.7-18.
 - 1995. The Object Relation and the Notion of Incorporation. In Schøsler, Lene; and Mary Talbot (eds.) *Studies in Valency I* [RASK Supplement 1], 1-18. Odense: Odense University Press.
 - 1997. Partitivity and Inalienable Possession. In Baron, Irène; and Michael Herslund (eds.) *Possessive Structures in Danish* [KLIMT 3], 1-44. Copenhagen Business School.
 - 1999. Incorporation et transitivité dans les langues romanes. In Lamiroy, Béatrice; and Marleen van Peteghem (eds.) *Transitivité et langues romanes. De l'objet direct à l'objet indirect* [Verbum XXI], 37-47. Nancy: Presses universitaires de Nancy.
 - 2000. Le participe présent comme co-verbe. In Cadiot, Pierre; and Naoyo Furukawa (eds.) *La prédication seconde* [Langue française 127], 86-94.

- Forthc. Romance Transitivity. In Lamiroy, Beatrice; et al. (eds.) *Nominative and Accusative*. Amsterdam/Philadelphia: John Benjamins.
- HERSLUND, MICHAEL and IRÈNE BARON. 2001. Dimensions of Possession. An Introduction. In Baron, Irène; Michael Herslund; and Finn Sørensen (eds.) *Dimensions of Possession*. Amsterdam/Philadelphia: John Benjamins.
- HERSLUND, MICHAEL; and FINN SØRENSEN. 1994. A Valence Based Theory of Grammatical Relations. In Engberg-Pedersen, Elisabeth; et al. (eds.) *Function and Expression in Functional Grammar*, 81-95. Berlin/New York: Mouton de Gruyter.
- 1996. Introduction & Discussion. In Davidsen-Nielsen, Niels (ed.) *Sentence Analysis, Valency, and the Concept of Adject* [Copenhagen Studies in Language 19], 9-13, 143-157.
- HOPPER, PAUL J.; and SANDRA A. THOMPSON. 1984. The Discourse Basis for Lexical Categories in Universal Grammar. *Language* 60.703-752.
- JESPERSEN, OTTO. 1924. *The Philosophy of Grammar*. London: Allen and Unwin.
- 1937. *Analytic Syntax*. New York: Holt, Rinehart and Winston (1969).
- JOSEFSSON, G. 1993. Noun Incorporating Verbs in Swedish. In Herslund, Michael; and Finn Sørensen (eds.) *The Nordlex Project. Lexical Studies in the Scandinavian Languages* [LAMBDA 18], 274-304. Department of Computational Linguistics, Copenhagen Business School.
- KEENAN, EDWARD L. 1976. Towards a universal definition of 'subject'. In Li, Charles N. (ed.) *Subject and Topic*, 303-33. New York: Academic Press.
- KORZEN, IØRN. 1996. *L'articolo italiano fra concetto ed entità* [Etudes Romanes 36]. Copenhagen: Museum Tusculanum Press.
- KROEBER, ALFRED L. 1910. Noun Incorporation in American languages. In *Verhandlungen des XVI. Internationalen Amerikanisten-Kongress* (1909), 569-576. Vienna/Leipzig: A. Hartleben.
- 1911. Incorporation as a linguistic process. *American Anthropologist* 13.577-584.
- LAZARD, GILBERT. 1994. *L'actance*. Paris: Presses Universitaires de France.
- LEHMANN, CHRISTIAN. 1974. Isomorphismus im sprachlichen Zeichen. In Seiler, Hansjakob (ed.) *Linguistic Workshop II. Structura* 8.98-123. München: Wilhelm Fink Verlag.
- LI, CHARLES N. (ed.) 1976 *Subject and Topic*. New York: Academic Press.
- LIHN JENSEN, BENTE. 1999. V og V konstruktioner på dansk. En parahypotaktisk konstruktion? In Bache, Carl; et al. (eds.) *Ny forskning i grammatik. Fællespublikation* 6.145-161. Odense: Odense University Press.
- MERLAN, FRANCESCA. 1976. Noun Incorporation and discourse reference in modern Nahuatl. *International Journal of American Linguistics* 42.177-191.

- MINER, KENNETH L. 1986. Noun Stripping and loose incorporation in Zuni. *International Journal of American Linguistics* 52.242-254.
- MITHUN, MARIANNE. 1984. The Evolution of Noun Incorporation. *Language* 60.847-894.
- 1986. On the Nature of Noun Incorporation. *Language* 62.32-37.
 - 1996. Multiple Reflections of Inalienability in Mohawk. In Chappell, Hilary; and William McGregor (eds.) *The Grammar of Inalienability. A Typological Perspective on Body Part Terms and the Part-Whole Relation*, 633-649. Berlin/New York: Mouton de Gruyter.
 - 2001. The Difference a Category Makes in the Expression of Possession and Inalienability. In Baron, Irène; Michael Herslund; and Finn Sørensen (eds.) *Dimensions of Possession*, 285-310. Amsterdam/Philadelphia: John Benjamins.
- NEDERGAARD THOMSEN, OLE. 1991. Unit Accentuation as an Expression Device for Predicate Formation?. *Acta Linguistica Hafniensia* 23.145-196.
- 1992a. Unit accentuation as an expression device for predicate formation. The case of syntactic Noun Incorporation in Danish. In Harder, Peter; et al. (eds.) *Layered structure and reference in a functional perspective*, 173-229. Amsterdam/Philadelphia: John Benjamins.
 - 1992b. Fonologiens plads i en kognitiv grammatik. Kommentar. *Sprogvidenskabelige Arbejdspapirer fra Københavns Universitet* 2.151-157.
 - 1994. Dyrbal ergativity and embedding – A Functional-Pragmatic approach. *Studies in Language* 18.411-488.
 - 1995. Discourse, grammar, and prosody in a corpus of spoken Danish – A functional-pragmatic account. In Rischel, Jørgen; and Hans Basbøll (eds.) *Aspects of Danish Prosody* [RASK Supplement 3], 129-213. Odense: Odense University Press.
 - 1996. Adjectives and hierarchical semantic structure in Danish. In Davidsen-Nielsen, Niels (ed.) *Sentence Analysis, Valency, and the Concept of Adject* [Copenhagen Studies in Language 19], 51-110.
- PALMER, FRANK R. 1994. *Grammatical roles and relations*. Cambridge: Cambridge University Press.
- PAWLEY, ANDREW. 1987. Encoding events in Kalam and English: Different logics for reporting experience. In Tomlin, Russell (ed.) *Coherence and Grounding in discourse*, 329-360. Amsterdam/Philadelphia: John Benjamins.
- PAYNE, DORIS L; and IMMANUEL BARSHI. (eds.) 1999 *External Possession*. Amsterdam/Philadelphia: John Benjamins.
- PIKE, EVELYN G. 1974. *Coordination and its implications for Roots and Stems of sentence and clause*. Lisse: The Peter de Ridder Press.
- PLANK, FRANS (ed.) 1984. *Objects. Towards a theory of grammatical relations*. London: Academic Press.

- (ed.) 1985. *Relational typology*. Berlin/New York/Amsterdam: Mouton.
- RISCHEL, JØRGEN. 1983. On Unit Accentuation in Danish – and the distinction between deep and surface phonology. *Folia Linguistica* XVII.51-97.
- ROSEN, CAROL. 1990. Rethinking Southern Tiwa: The geometry of a triple agreement language. *Language* 66.669-713.
- 1997. Auxiliation and Serialization: On discerning the difference. In Alsina, Alex; et al. (eds.) *Complex Predicates*, 175-202. Stanford: Center for the Study of Language and Information (CSLI) Publications.
- ROSEN, SARA T. 1989. Two types of Noun Incorporation: A lexical analysis. *Language* 65.294-317.
- 1990. *Argument structure and complex predicates* [Outstanding Dissertations in Linguistics]. New York: Garland.
- ROUSSEAU, ANDRÉ. (ed.) 1995 *Les préverbes dans les langues d'Europe*. Lille: Presses Universitaires du Septentrion.
- 1998. La double transitivité existe-t-elle? Réflexions sur la nature de la transitivité. In Rousseau, André (ed.) *La transitivité*, 85-112. Lille: Presses Universitaires du Septentrion.
- SADOCK, JERROLD M. 1985. Autolexical Syntax: A proposal for the treatment of Noun Incorporation and similar phenomena. *Natural Language and Linguistic Theory* 3.379-440.
- 1986. Some notes on Noun Incorporation. *Language* 62.19-31.
- SAPIR, EDWARD. 1911. The problem of Noun Incorporation in American languages. *American Anthropologist* 13.250-282.
- SASSE, HANS-JÜRGEN. 1984. The pragmatics of Noun Incorporation in Eastern Cushitic languages. In Plank, Frans (ed.) *Objects. Towards a theory of grammatical relations*, 243-268. London: Academic Press.
- 1987. Thethetic/categorical distinction revisited. *Linguistics* 25.511-580.
- SEARLE, JOHN R. 1969. *Speech acts*. Cambridge: Cambridge University Press.
- SEUREN, PIETER A.M. 1998. *Western Linguistics. An historical introduction*. Oxford: Blackwell.
- 1999. Topic and Comment. In Justus, Carol F.; and Edgar C. Polomé (eds.) *Language change and typological variation: In honor of Winfred P. Lehmann on the occasion of his 83rd birthday*. Vol. II: *Grammatical universals and typology* [Journal of Indo-European Studies Monograph 31], 348-373. Washington: Institute for the Study of Man.
- SPANG-HANSEN, EBBE. 1983. La notion de verbe auxiliaire. In Herslund, Michael; Ole Mørdrup; and Finn Sørensen (eds.) *Analyses grammaticales du français* [Etudes Romanes 24], 5-16. Copenhagen: Akademisk Forlag.

- SPENCER, ANDREW. 1995. Incorporation in Chukchi. *Language* 71.439-489.
- TALMY, LEONARD. 1985. Lexicalization patterns: semantic structure in lexical forms. In Shopen, Timothy (ed.) *Language typology and linguistic description* Vol. 3: *Grammatical categories and the lexicon*, 57-149. Cambridge: Cambridge University Press.
- TESNIÈRE, LUCIEN. 1959. *Eléments de syntaxe structurale*. Paris: Klincksieck.
- TOMLIN, RUSSELL S. 1995. Focal attention, voice, and word order – An experimental, cross-linguistic study. In Downing, Pamela; and Michael Noonan (eds.) *Word Order in discourse*, 517-554. Amsterdam/Philadelphia: John Benjamins.
- 1997. Mapping conceptual representations into linguistic representations: the role of attention in grammar. In Nuyts, Jan; and Eric Pederson (eds.) *Language and conceptualization*, 162-189. Cambridge: Cambridge University Press.
- VAN PETEGHEM, MARLEEN. 1989. Non-spécificité, attributivité et article indéfini dans les langues romanes. *Travaux de linguistique* 18.45-56.
- VAN VALIN, ROBERT D., JR. 1999. Functional relations. In Brown, Keith; and Jim Miller (eds.) *Concise Encyclopedia of grammatical categories*, 150-162. Amsterdam, etc.: Elsevier.
- VAN VALIN, ROBERT D., JR.; and RANDY J. LAPOLLA. 1997. *Syntax: Structure, meaning and function*. Cambridge: Cambridge University Press.
- VELÁZQUEZ-CASTILLO, MAURA. 1996. *The Grammar of Possession. Inalienability, Incorporation and Possessor Ascension in Guaraní* [Studies in Language Companion Series 33]. Amsterdam/Philadelphia: John Benjamins.
- VET, CO. 1987. Infinitive Incorporation. In van der Auwera, Johan; and Louis Goossens (eds.) *Ins and outs of the predication*, 163-177. Dordrecht/Providence: Foris Publications.
- VOGEL, PETRA M.; and BERNARD COMRIE. 2000. *Approaches to the typology of word classes*. Berlin/New York: Mouton de Gruyter.
- WOODBURY, HANNI. 1975. Onondaga Noun Incorporation: Some notes on the inter-dependence of syntax and semantics. *International Journal of American Linguistics* 41.10-20.

Incorporation in Chukchi as compared with Koyukon and Cree

MICHAEL FORTESCUE

INTRODUCTION. Incorporation in its usual post-Boasian sense (i.e. the integration of several otherwise independent lexical morphemes – not pronominal ones alone – into single word forms¹) is often assumed to be identical with noun incorporation, even specifically with nominal direct object incorporation. The phenomenon is much broader than this, however, and may include the incorporation of lexical adjuncts (adverbs and adjectives), as well as noun stems in subject and other non-object roles. In fact, when one looks at Chukchi, a language of rather extreme incorporating type, one finds that adjunct incorporation is far more common than noun incorporation in most styles of speech. In neighbouring Yukagir it is the *ONLY* type of incorporation. As Nedergaard Thomsen shows in his papers in this volume, incorporation is not limited to polysynthetic languages where the morphemes concerned are tightly fused into single morphophonological words, but may extend to the 'weak' or phrasal incorporation found in less synthetic languages.

It is of course nevertheless possible to define 'polysynthetic' in narrower, theory-specific terms, such that incorporation is indeed criterial for its application, as Baker (1996) does within a recent parametric version of generative syntax. However, this is a highly theory-biased decision, one which treats as 'polysynthetic' only a specific subset of languages with complex (mainly head-marking) morphologies that share a number of syntactic and morphological features. In this way Chukchi is treated as polysynthetic (by displaying noun incorporation plus obligatory 'pronominal' agreement

-
1. It is also convenient to exclude compounding of two or more elements of the same word class (e.g. nouns), although usage here is imprecise and 'compounding' in its most general pre-theoretical sense can be said to include incorporation phenomena.

marking of all arguments on the head verb) while both Eskimo and Athabaskan languages (with morphologies that are in many ways even more complex) are excluded – even Algonquian Cree Baker regards as only questionably polysynthetic since NI is not completely productive in it. There is a circularity here for which Baker has been criticized, and he himself acknowledges that he should perhaps have employed a different, more specific term (Baker 1996:36, footnote 11). His method is to define a pure 'polysynthetic' type on the basis of a handful of carefully chosen languages (including Chukchi but not any Athabaskan or Algonquian language) that share certain crucial properties for his theoretical delineation of a 'polysynthesis parameter'. The fact that these features (e.g. incorporation and free word order) occur together in all of these languages is taken as proof that there is indeed a single macro-parameter that explains their association – but this is because languages that don't display most of these traits have been sorted out from the start.² As regards the incorporation of elements other than direct object nouns in Chukchi, Baker predictably dismisses this as a matter of non-syntactic, lexical compounding: 'real' incorporation is syntactic and according to his definition solely concerns the incorporation of direct object nouns into their verbal heads (Baker 1996:295).

In the present paper I shall be dealing with languages that are of the polysynthetic 'type' in the broad pre-theoretical sense, but it should be understood that I do not assume that incorporation is a necessary feature of such languages. I shall emphasize instances of the phenomenon that deviate from the cardinal 'direct object noun incorporation' stereotype. In doing so, I shall attempt to illustrate how incorporation may vary in its manifestation across different types of polysynthetic languages. In Fortescue (1994) I presented a

-
2. The fact that some of his chosen languages deviate from theoretical expectations (e.g. Chukchi having a dependent-marked case system on NP arguments despite the head-marking nature of the 'pure' type) he explains in terms of local 'micro-parameters', which considerably undermines the universality of the endeavour. If one doesn't make such an initial selection, the case for a special affinity amongst the traits treated as criterial for 'real' polysynthetic languages vanishes: all of them can independently occur or be lacking in one or another polysynthetic language as traditionally conceived. That such traits have a statistical tendency to cluster is another matter: areal and 'bottleneck' effects (as well as universals of a less theory-dependent sort) can also be adduced to explain such things.

mini-typology of polysynthetic morphological sub-types. Amongst them I mentioned a 'pure incorporating' type, like Chukchi, and a 'field-affixing' (or perhaps better 'lexical affixing') type, like many Northwest American languages, the former probably representing a newer appearance of the incorporation phenomenon than the latter. A third, 'recursive suffixing' type, like Eskimo, is not generally regarded as instantiating incorporation since words in such languages, however long, may only contain one lexical morpheme (thus Comrie 1981:42, but see Sadock 1986 for a dissenting approach in which generalizations are made that cover both incorporation in the widest sense and clitic phenomena). I shall follow this usage, skirting the controversial issue of whether incorporation in a given language is 'syntactic' or purely 'lexical' (compare the views of Sadock above and Mithun 1984).³

There are also polysynthetic languages of mixed morphological type that combine more than one of the processes mentioned above. Cree is a case in point, since it displays both 'classical' noun incorporation and has an array of lexical affixes, bound morphemes of lexical content⁴ that do not

3. Much appears to hinge on whether incorporates can be referential – the typical lack of referentiality associated with incorporated elements is seen by many as central to the phenomenon (cf. Givón 1984:72,129 – this reflects his view on grammatical iconicity: the more referentially independent an element, the more likely it is to be coded as a separate entity). To me it seems that incorporation is more syntactic in some languages than in others and that the question of referentiality is secondary. Even zero-anaphoric verb forms can set up referential topics in discourse, as Mithun has pointed out, so why should 'non-referential' incorporates not also be able to do so? Skorik (1961:93ff) takes the position that the phenomenon in Chukchi is syntactic rather than a matter of word-formation, since it interacts with sentence syntax, whereas Spencer (1995), taking a lexicalist position (largely based on multiple adjunct incorporation in Chukchi, not easily explained in terms of standard generative treatments of syntactic incorporation), sees the phenomenon as a purely morphological process applicable over certain lexical argument structures. Mithun regards incorporation generally as a marked choice, while Sadock claims that it may be the most neutral mode of expression in some languages; but comparison between different incorporating languages shows that there is also variation on this dimension, with incorporation being obligatory only with certain constructions/types of incorporates in all the languages here examined.

4. Typically of an instrumental – especially referring to body parts – or locative/directional nature.

stand in a direct relationship to corresponding independent nouns (in Algonquian languages these are a sub-class of 'finals' and 'medials', some of which do indeed correspond to independent nominals, only somewhat reduced in form). It also displays a productive recursive morphology (reminiscent of Eskimo on this parameter), whereby nouns can be converted to verbs and vice versa several times in succession in the derivation of complex words. This contrasts with incorporating northern Athabaskan languages like Koyukon, whose morphologies, though rich, are very rigid in terms of successive slots (all except for strictly inflectional ones are only optionally filled) and are not at all recursive. Koyukon verbs may nevertheless integrate as wide an array of incorporates as Chukchi or Cree (including heads of postpositional phrases, impossible in the other two). The relationship between incorporated elements and corresponding independent words – ranging from exact copy via truncated version to complete absence of correlate – varies both within and between incorporating languages.

By comparing the three languages that I have chosen, then, one may gain some insight into how such factors as morphological recursiveness and opaqueness of the 'lexical' morphemes incorporated may affect the manifestation of the phenomenon in particular languages (also as regards interaction with their syntax). All three languages seem at first sight to represent Rosen's 'compound NI' type, which detransitivizes verbs with incorporated objects (Rosen 1989).⁵ As Spencer (1995:450) points out, however, the stranding of modifiers of incorporates outside of the verb is not characteristic of 'compound NI' languages, yet in Chukchi it is found, albeit limited to possessor and numeral modifiers. Cree and Koyukon moreover allow transitive incorporating verb-forms (not further derived), and both also have 'classificatory medials/prefixes' (see for example sentence 39 below), which would seem to point rather in the direction of Rosen's 'classifier NI' languages like Mohawk, which maintain the transitivity of verbs taking incorporates, the incorporate giving a rough indication of the class of object involved, as specified more exactly by the external object. In other words, all three languages seem to cut across this distinction.

5. Although in Chukchi causative and applicative derivations may further transitive incorporate structures.

1. **CHUKCHI.** In sentence 1a can be seen a typical example of noun object incorporation in Chukchi – compare it to equivalent non-incorporated 1b. The examples, except for 19, 20 and 22, which are taken from Nedjalkov (1977), are from Skorik (1961). ‘y’ is schwa. Incorporated elements are in boldface. Semantically the distinction seems to be one of definiteness/specificity – the incorporate in 1a is indefinite, although there are instances where such an incorporate represents rather just new information and can be referentially exploited in following discourse. Nedjalkov prefers to characterize the factor involved as one of ‘affectedness’, the non-incorporating construction emphasizing the resultant/changed state of the object, which he sees as a pragmatic rather than a semantic difference (otherwise stated: full NPs may be topics, unlike incorporates).

- (1) a. *Ngewysqet takecgy -pela -rkyn.*
 woman:ABS meat -leave -3:SG:PRS
 ‘The woman leaves meat.’
- b. *Ngewysqet -e tekicgyn pela -rkynen.*
 woman -ERG meat:ABS leave -3:SG:3:SG:PRS
 ‘The woman leaves the meat.’

The principal formal characteristics of incorporative constructions in this language are:

- vowel harmony uniformity (e.g. all dominant vowels in the second word of 1a);
- single intonation contour and stress assignment to the resultant word (though the incorporate maintains secondary stress);
- only the uninflected bare stem is incorporated;⁶
- an incorporate is positioned before its verb head and following any inflectional prefixes of the latter;
- the resultant verb-form is usually inflected intransitively (but see 20b and 22c for examples of transitive derivations);

6. Thus the absolutive singulative morpheme *-n* is absent from *tekicgy-n* above when it is incorporated, and note *terk-* from reduplicated absolutive citation form *tirkytir* ‘sun’ in example 16 below.

– productivity: virtually any nominal stem may be incorporated into an appropriate verb, and any adjectival stem into an appropriate noun (though the process is only obligatory in connection with the circumfixed comitative cases, as illustrated below).

As to which formal elements can be incorporated, besides nouns in direct object function, also nouns in indirect object or (impersonal) subject⁷ function and nominal stems with a variety of adverbial adjunct functions (e.g. goal, instrument, manner or source) may be incorporated into verbs; besides adjectival stems, numerals and possessor nominals, interrogative pronouns, demonstrative determiners, and whole participial phrases may be incorporated into nouns. Nouns with incorporated adjuncts and adverbial adjuncts with secondary adverbial modification may in turn be incorporated into verbs (this is the source of the limited recursivity of the process in Chukchi), as can verbal stems in adverbial (or ‘coverb’) function.

In the following I shall illustrate some of the basic ways in which incorporation is intertwined with sentence syntax, but first some examples of the various kinds of elements incorporated into verbs. Note the obligatory order of incorporate before head (also when recursivity is involved, as in 2 and 5). All the incorporates here may appear as independent stems (in suitably inflected form). As regards the incorporates in oblique function, these occur freely covering a variety of adverbial types, but according to Spencer only source/goal arguments implied by the verb stem itself are incorporatable (Spencer 1995:476).

- (2) *Pety* *-takecgy* *-pela* *-rkyn*.
 old -meat -leave -3:SG:PRS
 ‘She leaves old meat.’

- (3) *Ty* *-jara* *-pkery* *-rkyn*.
 1:SG -house -arrive -1:SG:PRS
 ‘I arrive home.’

7. The latter limited to ‘unaccusative’ verbs with no underlying subject, according to Spencer (1995:451). Ergative subjects of transitive verbs are specifically excluded (a universal feature of incorporation – but compare example 30 with incorporated transitive subject in Cree, which is NOT an ergative language).

- (4) *Ty* ~~*-qepl*~~ *-uwicwety* *-rkyn.*
 1:SG -ball -play -1:SG:PRS
 'I play (foot)ball.'
- (5) *Ty* ~~*-mejngy*~~ *-wetgawy* *-rkyn.*
 1:SG -big -speak -1:SG:PRS
 'I speak loudly.'
- (6) *Ga* ~~*-ra*~~ *-nto* *-len.*
 PERF -house -go:out -3:SG:PERF
 'He went out of the house.'
- (7) *Ty* ~~*-mejngy*~~ ~~*-lewty*~~ *-pygty* *-rkyn.*
 1:SG -big -head -ache -1:SG:PRS
 'I have a bad headache.'

Compare now 8a, which illustrates the simple incorporation of an adjunct into a nominal head, with 8b, where the independent modifier requires an attributive circumfix. Where there is a choice, as here, an independent modifier may indicate a temporary/contingent quality as against a permanent/inherent one expressed in the corresponding incorporative construction. In constructions with a comitative circumfix as in 8a, incorporation is obligatory. Note the possibility of incorporating generic 'possessor' nouns as in 9 and locative possessive forms of pronouns as in 10.

- (8) a. *ga* ~~*-tot*~~ *-r'ysqy* *-ma*
 COM -new -knife -COM
 'with a new knife'
- b. *ny* *-tur* *-qin* *r'ysqyn*
 ATT -new -ATT knife
 'a new knife'
- (9) *ga* ~~*-kytepa*~~ *-nalgy* *-ma*
 COM -mountain:sheep -skin -COM
 'with a mountain sheep skin'

- (10) *ga* *-mor* *-yk* *-ajmyjocgy* *-ma*
 COM -us -LOC -bucket -COM
 'with our bucket'

Incorporative constructions are so productive in Chukchi that even Russian loanwords may be incorporated as in 11, where, furthermore, one can see a bare verbal stem, *r'aqaraw-*, modifying a nominal complex itself consisting of incorporated modifier plus head noun. In 12 an entire participial modifier phrase containing an internal negative circumfix is incorporated as adjunct to the head *'aacek-*, and in 13 a modified phrase is incorporated in oblique function within an intransitive verb head. Example 14 illustrates multiple adjunct incorporation.

- (11) *r'aqaraw* *-smolensky* *-r'et* *-jekwe*
 spoil -asphalt -road -along
 'along a badly surfaced asphalt road'

- (12) *a* *-tang* *-caat* *-ky* *-l'y* *-'aacek* *-ety*
 NEG -good -lasso -NEG -PART -youth -ALL
 'to the youth who does not have a good lasso'

- (13) *T* *-ikwy* *-ngej* *-ejmewy* *-rkyn.*
 1:SG -high -mountain -approach -1:SG:PRS
 'I approach a high mountain.'

- (14) *Ty* *-tor* *-tang* *-pylwynty* *-pojgy* *-pela* *-rkyn.*
 1:SG -new -good -metal -lance -leave -1:SG:PRS
 'I leave a new good metal lance.'

In 15b the combination of incorporation with causative formation is illustrated (note the causative circumfix bracketed within the inflectional circumfix, which happens to coincide with the intransitive inflection of 15a).

- (15) a. *Ty* *-weemy* *-pkiry* *-rkyn.*
 1:SG -river -arrive -1:SG:PRS
 'I arrive at a river.'

- b. *Ty -n -weemy -pkir -ewy -rkyn.*
 I.SG -CAUS -river -arrive -CAUS -1:SG:3:SG:PRS
 'I take him to a river.'

Incorporated subjects, as in 16, are much less common; in many cases such non-agentive incorporated subjects can be analysed as in adverbial function rather, as in sentences 17 and 18.

- (16) *Terk -amecat -g'e.*
 sun -go:down -3:SG:AOR
 'The sun went down.'

- (17) *Ynne -tke -rkyn.*
 fish -smell -3:SG:PRS
 'There is a smell of fish'.

- (18) *Ny -lyla -kawral'at -qen.*
 IMPERF -eye -go.round -3:SG:IMPERF
 'His eyes are going round (in his head).' (idiom meaning 'he is so tired')

With ditransitive verbs the contrast with or without incorporation is illustrated in 19a and b (the most patient-like NP is the one that is incorporated).

- (19) a. *Ytlygyn orwy -jnga -g'e ewir' -e.*
 father:ABS sledge -load -3:SG:AOR clothes -INST
 'The father loaded the sledge with clothes.'
- b. *Ytlyg -e jyng -nin orwoor ewir' -e.*
 father -ERG load -3SG:3SG:AOR sledge:ABS clothes INST
 'The father loaded the sledge with clothes.'

Observe in the following the interaction of incorporation with possession marking (the possessor is stranded and raised to DO in 20b and 21b).

- (20) a. *Gym -nan gynin lewyt ty -ra -rkyply -g'an.*
 I -ERG your head I.SG -FUT -hit -3:SG:FUT
 'I will hit your head.'

- b. *Gym -nan gyt ty -ra -lawty -rkyply -gyt.*
 I -ERG you 1:SG -FUT -head -hit -2:SG:FUT
 'I will hit you on the head.'

- (21) a. *Ytlyg -in ytla w'i -g'i.*
 father -GEN mother die -3:SG:AOR
 'Father's mother died.'

- b. *Ytlygyn ytla -w'e -g'e.*
 father:ABS mother -die -3:SG:AOR
 'Father's mother died (on him).'

In 22b below a beneficiary argument is raised to DO and stranded in an applicative-like construction where the patient in the corresponding non-incorporating sentence 22a is incorporated. An alternative incorporative construction as in 22c maintains the beneficiary in oblique case and requires an additional detransitivizing affix.

- (22) a. *Ytlyg -e akka -gtv qora -t tym -nenat.*
 father -ERG son -DAT reindeer -PL kill 3:SG:3:PL:AOR
 'The father killed the reindeer (pl.) for his son.'
- b. *Ytlyg -e ekvk qora -nmy -nen.*
 father -ERG son:ABS reindeer -kill -3:SG:3SG:AOR
 'The father killed reindeer for his son.'
- c. *Ytlygyn akka -gtv qora -nm -at -g'e.*
 father:ABS son -DAT reinder -kill -DETR -3:SG:AOR
 'The father killed reindeer for his son.'

The following sentences (23-25) illustrate the incorporation into head verbs of verbal stems in adverbial function.

- (23) *ytgynty -pkery -k*
 run -arrive -INF
 'to arrive running'

- (24) *Ty -micgirety -lqyty -rkyn.*
 1:SG -work -go -1:SG:PRES
 'I am going to work.'

- (25) *Ty -lge -korg -owecwaty -rkyn.*
 I:SG -very -happy -play -I:SG:PRES
 'I am playing very happily.'

Such instances are sometimes difficult to distinguish from cases where aspectual and other verbal affixes are employed that happen to correspond to independent verbs still, as in 26, where the head is definitely the first morpheme, not the second.⁸

- (26) *qemi -plytku -k*
 eat -finish -INF
 'to finish eating/have eaten'

Finally, despite the productivity of incorporation in Chukchi in general, the results may sometimes be lexicalized in unpredictable meanings, so that, for example, one cannot characterize 27 as an instance of productive incorporation.

- (27) *qor -emte -k*
 reindeer -carry -INF
 'to ride on a reindeer'

2. KOYUKON. Unlike the southern branches of Athabaskan, northern languages like Koyukon make extensive use of noun incorporation. This may be an innovation due to areal influence (cf. neighbouring Algonquian) since the position in the verb complex taken by incorporates is far from the stem, among the 'disjunct' prefixes – there is a phonologically marked boundary between them and 'conjunct' prefixes more intimately related to the stem. However, the distinction between incorporation and prefixal derivation is not watertight: many opaque derivational prefixes may originally have been independent stems that became incorporated then partially grammaticalized – these may represent the detritus of a much earlier round of incorporation than the recent productive kind. Koyukon cannot incorporate

8. Sometimes stress can distinguish the two cases, since an incorporated verb stem will maintain its own secondary stress, while an affix will not (there are however intermediate cases of incomplete grammaticalization of coverb to affix).

adjuncts into nouns (noun morphology in general is very simple), otherwise it has most of the possibilities found in Chukchi, although there is no multiple/recursive incorporation, and no modifier stranding. Incorporation is fairly productive but only obligatory in certain limited circumstances, notably with verbs that incorporate an inanimate subject. Some complex/discontinuous verb themes and derivational 'strings' have an obligatory slot for an incorporate, e.g. *P e-INCORP-* 'o 'handle P (object of postposition *e*) in manner indicated by incorporate', as in sentence 31. Incorporated elements may have a slightly changed form from that of corresponding independent lexemes, and some (like lexical affixes) lack such an independent correlate altogether; moreover, not all nouns may be incorporated (Axelrod 1990:183).

In 28a can be seen a typical example of DO incorporation, comparable to non-incorporating 28b (all example sentences are from Axelrod 1990). Note that Koyukon, even more than Chukchi and Cree, is characterized by much zero-anaphora (this is a trait common to many incorporating languages), so the default 3rd person subject is not marked in the glosses.⁹

- (28) a. *To* *-ts'eeyh* *-ghee* *-tonh.*
 into:water -boat -M/A -handle:long:object
 'He launched the boat.'
- b. *Tseeyh* *to* *-ghee* *-tonh.*
 boat into:water -M/A -handle:long:object
 'He put the boat in the water.'

The semantic distinction here lies, according to Axelrod, in the incorporative construction expressing a general activity which focuses on expected, usual results (Axelrod 1990:190), and is thus not one of definiteness or referentiality as such.

As regards the incorporation of subjects, this is limited in Koyukon to impersonal subjects/forces of nature, i.e. to subjects low on the scale of potential agenthood, where the construction is obligatory (Axelrod 1990:184). In 29a the non-incorporating construction would imply inappropriate control/deliberateness on the part of the subject (compare 29b,

9. M/A in the glosses indicates a mood/aspect marker, the details of which are not relevant to the present context.

where the same verb is used with an ordinary non-incorporated human subject). In 30 a transitive example can be seen.

- (29) a. *Nee* *-to* *-nee* *-yo.*
 up:to:a:point -water -M/A -go
 'The water stopped rising.'
- b. *John* *nee* *-nee* *-yo.*
 John up:to:a:point -M/A -go
 'John went up to a point (and stopped).'
- (30) *No* *-'elts'eeyh* *-ye* *-ghee* *-l.* *-ghel.*
 down -wind -3:SG:OBJ -M/A -CAUS -long:object:move:abruptly
 'The wind knocked it (e.g. a pole) down'

Sentence 31 illustrates the incorporation of a noun in other than subject/object function, and 32 illustrates the incorporation of an adjectival stative verb into the matrix verb in adverbial function.

- (31) *Nelaan* *-e* *-no* *-hughul* *-ghe* *-*ol.*
 meat -P -ITER -raft -M/A -handle:compact:object
 'He is bringing home meat by raft.'
- (32) *B* *-e* *-no* *-tsel* *-'ee* *-de* *-tlaakk.*
 3:SG -P -ITER -wet -M/A -CL -be:(wet:object)¹⁰
 'He came home soaking wet.'

Finally, sentence 33a illustrates the reduced topicality of an incorporated element in Koyukon – the non-incorporated equivalent in 33b requires a very special context to justify the degree of topicality/individuality assigned to the independent 'foot' lexeme here. According to Axelrod the incorporated construction indicates moving one's foot in a TYPICAL manner, as opposed to the special circumstances of 33b for example.

10. CL is a so-called classifier, an obligatory voice marker prefixed to a verbal stem. ITER for 'iterative aspect' refers to returning to a starting point, and the 'classificatory' verb stem *tlaakk* usually refers to a wet object lying around somewhere.

- (33) a. *Be -yee -kkaa -ghe -s -tleyh.*
 3:SG -in -foot -M/A -1:SG:SUBJ -place:long:object
 'I stuck my foot into it (e.g. shoe).'
- b. *Se -kkaa' be -yee -ghe -s -tleyh.*
 my -foot 3:SG -in -M/A -1:SG:SUBJ -place:long:object
 'I manually picked up my foot (e.g. because it was numb) and put it into it.'

There is less interaction with the external syntax than in Chukchi, but note the near-equivalent of an applicative construction in 33a and 33b above, where postposition *yee* 'in(to)' can also be regarded as an incorporate, filling a distinct 'slot' and leaving its object stranded or at least weakly proclitic (compare 22c for a Chukchi parallel, where there is no overt applicative/postpositional morpheme however).

3. CREE. Classical noun incorporation is more limited in Cree, a language in which, on the other hand, lexical affixes flourish, i.e. erstwhile incorporates that have lost virtually all association with their equivalent independent stems. This is, then, an 'older' incorporating language than Chukchi, although its lexical affixes are not as phonologically worn down and therefore may not be as 'old' as the derivational prefixes of Athabaskan languages, which do not have any clear class of lexical affixes like Cree.¹¹ Lexical affixes in Cree cut across what are traditionally called 'medials' (morphemes following root/stem 'initials') and 'finals' (typically 'instrumental' affixes). Other 'finals' are bound forms that create quasi-incorporating structures like in Eskimo, e.g. *-i-* 'be/have'. A Cree word contains an obligatory 'initial' (which may be nominal or verbal in character), while the other two components are optional. Transitive verbal initials plus nominal incorporates usually result in intransitive verb forms, as reflected in the inflectional category, but transitive forms may also result (see 35 below). Unlike in Koyukon and even more than in Chukchi, incorporation (in the broadest sense) is recursive, although not as productive as in the other two languages: not just any morpheme can appear as a medial or final.

11. Some of the derivational prefixes of Athabaskan languages can nevertheless be related historically to existing independent words, much compacted.

Some typical examples from Plains Cree follow – they are from Wolfart (1996), apart from 34 and 38 from Mellow (1990). Mellow claims that the incorporate in 34a could be understood referentially, hence the possibility of adding *oohi* 'this' as a stranded modifier – 'he hunts this muskrat'. He distinguishes the syntactic process of incorporation (where the verbal head always precedes the incorporate) and lexical compounding, where the noun precedes the verb. Note the slightly truncated form of the incorporate compared with the independent form in 34b.¹²

- (34) a. *Nooc* *-i* *-acaskw* *-ii* *-w.*
 hunt -CI -muskrat -AI -3:SG
 'He hunts the muskrat/musk rats.'

- b. *Noocih* *-iiw* *wacaskwa.*
 hunt -AT:3:SG:3:SG muskrat
 'He hunts the muskrat/musk rats.'

- (35) *Saam* *-isk* *-am.*
 touch -with:foot -TI:3:SG:3:SG
 'He touches it with his foot.'

- (36) *Nito* *-payi* *-win* *-ihkee* *-w.*
 seek -move -ABSTR:NOUN -arrange -AI:3:SG
 'He organizes a raid.'

Sentence 37 contains (or incorporates) both a medial and a final. The former is of the 'classificatory' type, indicating the characteristic features of a class of objects (it may refer to the patient, the agent or – as here – some oblique argument). The final is an instrumental lexical affix with its own intrinsic transitivity ('do to s.th./s.o. by hand').

- (37) *Pakit* *-aapeek* *-in* *-eew.*
 let:down -rope:like:object -by:hand -AT:3:SG:3:SG
 'He lets him down by rope.'

12. CI refers to a connective element; AT to the animate transitive verbal paradigm, AI to animate intransitive, and TI to transitive inanimate.

According to Goddard (1990:470), closely related Algonquian languages may also have 'impersonal' subject incorporates like Koyukon and Chukchi (of the types 'the rain stops', with initial meaning 'stop' and medial + final combination meaning 'rain'), but I have no examples from Cree. Adjunct incorporation (besides instrumental medials/finals) is also found, as in the following example, cf. 38.¹³

- (38) *Kohkoos* *-i* *-miitiso* *-w*.
 pig -CI -eat -AI:3:SG
 'He eats like a pig.'

The common construction in 39, however, would according to Mellow be one of compounding rather than incorporation, the initial being the modifier. The medial here does nevertheless act like an incorporate in so far as it has a somewhat altered form from that of the corresponding independent stem *atim(w)* 'dog'.

- (39) *waap* *-astim*
 white -dog
 'white dog'

Interaction of incorporation with the external syntax in Algonquian languages can be seen according to Goddard (1990:448ff) in the differing scope patterns between incorporating structures and sentential complements – including preverbs (morphemes indicating mainly aspectual distinctions). Such facts suggest that certain syntactic processes may precede complex (including incorporating) stem formation in these languages.

4. CONCLUSION. Behind the varied phenomena we have observed there does appear to be something that could be termed 'prototypical incorporation', namely noun incorporation in which an otherwise independent argument – usually a direct object – loses its independent semantic or pragmatic status, i.e. its definiteness, referentiality, and/or topicality, as iconically reflected in its being stripped of all but its irreducible stem/root and in being morphopho-

13. The *-i-* in 39 could be interpreted either as a 'particle final' or as a meaningless connective, according to Mellow (1990:248).

nologically 'compacted' with the matrix verb. But extensions from this prototype to further kinds of incorporated elements vary with language type, as we have seen by comparing the phenomenon in three different polysynthetic languages. Also the degree of interaction of incorporation with external sentence syntax may vary from language to language. Often the reason for the variation is clearly linked to the overall morphology of the language concerned. One would not expect Cree, for example, to display incorporation of PP heads like Koyukon because of the recursive nature of its derivational morphology, nor would one expect obligatory subject incorporation except in a language like Koyukon, where there is a 'chain-of-being' type of hierarchy constraining potential subjecthood according to factors of control or the like. Nor would one expect the unaccusative/unergative distinction in intransitive verbs to interact much with incorporation except in an ergative language like Chukchi. It also seems natural that the incorporation of transitive subjects is excluded in Chukchi, unlike in Koyukon, where such subjects do not necessarily have the high level of agentivity an ergative subject implies. The prevalence of adjunct incorporation in Chukchi, on the other hand, which may be relatable to its circumfixing morphology, is understandably lacking in Koyukon with its simple noun morphology (and in Cree the most common equivalent construction consists rather of initial adjective stem + medial noun, arguably a matter of compounding rather than incorporation as such).

One interesting generalization does emerge across all three languages, however, one that reflects a universal implicational hierarchy:¹⁴

(nominal) lexical stem > incorporate > lexical affix

This must surely also reflect diachronic reality, namely a one-way grammaticalization chain, whereby lexical stems develop into (transparent) incorporates then into lexical affixes. But there is one more step that can be added: from lexical affixes into opaque derivational affixes, where the historical source in lexical items is completely obscured. By the process of 'layering', vestiges of several of these stages may remain in the same lan-

-
14. So that a language displaying lexical affixes will also display noun incorporation, although the middle stage may be obscured in pure 'lexical suffixing' languages by loss of productivity of incorporation. In such languages one can nevertheless always glimpse the lexical source – via incorporation – of at least some of the lexical affixes.

guage (and the distinction be semantically/pragmatically exploited) – in Cree, the language investigated that has travelled furthest down this path, we have seen all four stages coexisting. In Chukchi the path has been shorter, nominal stems not yet having produced lexical affixes (though some verbs have produced derivational affixes via incorporation in the broadest sense of the word). Koyukon falls somewhere in between, depending on how one analyses those of its ‘derivational strings’ that contain core elements relatable to independent words, i.e. as lexical affixes or not.

The great productivity of incorporation in Chukchi, as a relatively ‘new’ incorporating language, also suggests that the beginnings of the grammaticalization chain here sketched lies in a close association between incorporation processes and particular clause constructions in the external syntax, distinct from purely lexical compounding. At a later stage languages can presumably lose this link between syntax and incorporation: the result would be a purely lexical compounding type of incorporation.¹⁵

15. Little has been said on the subject of incorporation in Functional Grammar, but see Fortescue (1992) for a formal treatment of Koyukon within that framework, where I distinguish between incorporation as a ‘true’ derivational process, most naturally treated in FG in terms of predicate formation rules in the Fund, and ‘f_i’ level predicate restrictors, which appear to be the most natural way of dealing with lexical affixes in such languages. Note that the output of complex predicate formation rules can be allowed to interact with sentence syntax by recursive dips back into the Fund if the structure of the language concerned justifies this (which it would seem to do as regards Chukchi and Cree at least). The problem for the FG formalism is that the distinction between productive syntactic noun incorporation, lexical affixes and non-lexical derivational affixes, lies on a continuum rather, and there will always be doubt as to whether a given ‘incorporate’ that happens to have recently lost its independent counterpart, or to have considerably abbreviated it in form, should be treated in terms of predicate formation or of a predicate restrictor.

REFERENCES

- AXELROD, MELISSA. 1990. Incorporation in Koyukon Athapaskan. *IJAL* 56.179-195.
- BAKER, MARK C. 1996. *The Polysynthesis Parameter*. New York/Oxford: Oxford University Press.
- COMRIE, BERNARD. 1981. *Language Universals and Linguistic Typology*. Oxford: Basil Blackwell.
- FORTESCUE, MICHAEL. 1992. Aspect and superaspect in Koyukon: an application of the Functional Grammar model to a polysynthetic language. *Layered Structure and Reference in a Functional Perspective*, ed. by Michael Fortescue, Peter Harder, & Lars Kristoffersen, 99-141. Amsterdam/Philadelphia: John Benjamins.
- 1994. Polysynthetic Morphology. *Encyclopedia of Language and Linguistics*, ed. by R. Asher, 2601-2602. Oxford: Pergamon Press.
- GIVÓN, TALMY. 1984. *Syntax. A Functional-typological Introduction*, vol. 1. Amsterdam/Philadelphia: John Benjamins.
- GODDARD, IVES. 1990. Primary and secondary stem derivation in Algonquian. *IJAL* 56.449-483.
- MELLOW, J. DEAN. 1990. Asymmetries between compounding and noun incorporation in Plains Cree. *Papers of the 21st Algonquian Conference*, ed. by William Cowan, 247-257. Carleton University, Ottawa.
- MITHUN, MARIANNE. 1984. The evolution of noun incorporation. *Language* 60.847-893.
- NEDJALKOV, VLADIMIR P. 1977. Possessivnost' i inkorporacija v čukotskom jazyke (inkorporacija podležaščego). *Problemy lingvističeskoj tipologii i struktury jazyka*, ed. by V. Xrakovskij, 108-138. Leningrad: Nauka.
- ROSEN, SARA. 1989. Two types of noun incorporation: a lexical analysis. *Language* 65.294-317.
- SADOCK, JERROLD M. 1986. Some notes on Noun Incorporation. *Language* 62.19-31.
- 1991. *Autolexical Syntax*. Chicago: University of Chicago Press.
- SKORIK, P.J. 1961. *Grammatika Čukotskogo jazyka*, č.1. Moskva/Leningrad: Akadamiya Nauk.
- SPENCER, ANDREW. 1995. Incorporation in Chukchi. *Language* 71.439-489.
- THOMPSON, CHAD; MELISSA AXELROD; and ELIZA JONES. 1983. *Han Zadiŋ'ee, Scope and Sequence*. Yukon-Koyukuk school district Koyukon language curriculum (Nenana, Alaska).
- WOLFART, H. CHRISTOPH. 1996. Sketch of Cree. *Handbook of North American Indians*, vol. 17, *Languages*, ed. by Ives Goddard, 390-439. Washington: Smithsonian Institution.

Inderivation in Greenlandic

KAREN LANGGÅRD

INTRODUCTION. The type and very complex use of incorporation in Greenlandic, here termed *INDERIVATION*, is of typological interest as regards the morphosyntactic interface, and makes special demands on theories intended as universal grammatical theories.¹

In the 1980's, disagreements on Greenlandic incorporation sprang from the fact that incorporation in general is seen as a matter of compounding,² whereas it is a case of derivation in Greenlandic (see Mithun 1984, 1986; Sadock 1986). Because of this, I have introduced the term *INDERIVATION* (Langgård 1993). The kind of inderivation based on nouns, *NOUN INDERIVATION*, is the one that has been especially described and discussed, inaugurated in Rischel (1971, 1972). More recently Sadock has treated it several times (e.g. Sadock 1980, 1986, 1991).

In the present article (cf. Langgård 2000 for a preliminary version), I will demonstrate that Noun Inderivation has a verbal counterpart in Greenlandic, viz. *VERB INDERIVATION*, and that Inderivation in general is a very important feature that totally permeates the language (Langgård 1993, 1997, 2000).

Further, I want to show that although it is the same phenomenon, there are a lot of differences depending on the inderiving morpheme. Since sentences of two to four words with the verb in the indicative are not representative of any language and certainly not of Greenlandic, I will amply illustrate my claims with examples which are not invented and which are much

1. For instance, Autolexical Syntax can not (yet?) cover all the structures of Greenlandic inderivation (Jerrold Sadock, pers.comm., at the 11th Inuit Studies, Nuuk, 1998, Special Session on Inderivation). The same holds for Functional Grammar (Michael Fortescue, pers.comm., on the same occasion).

2. This view is still current in introductions, e.g. Katamba (1993).

more complex. These examples will show how inderivations combine through chains of words in subordination, while several activated inderivations are seldom found in one and the same word.

2. SOME INTRODUCTORY REMARKS ON WEST GREENLANDIC. For a general introduction to West Greenlandic I refer to Fortescue (1984). Here, I will only remind the reader of the following features of the language:

– In Greenlandic there is no clearcut distinction between LEXICALIZED and NON-LEXICALIZED forms. I will use the term 'lexeme' to cover the product whenever a derivational morpheme is added to a stem, whether lexicalized or not.

– The verbs have eight MOODS, four of which are superordinate forms (indicative (IND), interrogative (INT), imperative (IMP), and optative (OPT)), while the last four are primarily subordinate forms (causative (CAUS), conditional (COND), participial (PART), and contemporative (CONT)).

– The CONTEMPORATIVE form is also used as a coordinated form whenever the same entity is expressed as subject. As subordinated it is used for manner and temporal information, much like the *-ing*-form in English. But placed in front of another verb and supplied with the enclitic particle *-lu*, the contemporative mood form means simultaneous action or state.

– COREFERENCE: in possessor markings and in subject and object markings in subordinate mood forms all inflection for third person is either coreferential (C) or non-coreferential. Further, all contemporative mood forms are inherently coreferential, whereas the intransitive participle only has non-coreferential forms in the third person. The pivot for the coreferentiality inflection in verb forms and in possessor markings in subjects is always the (transitive or intransitive) subject of the next higher clause.³ The pivot for the possessor markings of objects and of nominal adverbial adphrases⁴ is either the subject of their own

3. Greenlandic being syntactically an 'accusative' language, and only morphologically a split-ergative language (cf. Dixon 1994).

4. By an adphrase I mean a subordinate syntagm. Thus, an ad-verbal adphrase is an adphrase subordinated to a verb. A nominal adverbial adphrase is then an adverbial adphrase that has a noun as its head. Non-nominal adverbial adphrases consist of one of the very few adverbs in Greenlandic, or of subordinate clauses. Often what is expressed by an adverb or a prepositional phrase in e.g. English would be expressed in Greenlandic by a nominal adverbial adphrase with the head in an oblique case.

clause or the subject of the next higher clause. Add to this that indervied verb stems count as a clause with a subject that has power to control coreferentiality. These facts cover most of the structures of the language concerned.

3. INDERIVATION AND ITS DEFINITION. The examples in 1⁵ and 2 are among the possible answers to the following question: *Kaalip Aani qanoq pivaa?* 'What did Kaali say to Aani?'/'What did Kaali do to Aani?'

- (1) *Suaarluni aggeqquaa.*
 suaar-luni agger-qqu-aa
 CONT.3.SG.C IND.3.SG.S:3.SG.O
 shouting asked/ordered her to come
 'Shouting, he ordered her to come.'

- (2) *Taxarluni aggeqquaa.*
 taxar-luni agger-qqu-aa
 CONT.3.SG.C IND.3.SG.S:3.SG.O
 going by cab asked/ordered her to come
 'He ordered her to come in a cab.'

The words in the indicative in the two examples are identical concerning derivational affix (-*qqu*- 'ask to _/order to _') and inflection, but differ in syntactic structure. Or rather, they would be ambiguous if not for the meaning of the lexemes, which excludes some combinations. Subject (S) and object (O) are implicit. In 1 the contemporative form is, according to the general rules, subject-coreferential with the subject of the next higher clause. However, this is not the case in 2: *taxarluni* is a subordinate clause which is an adverbial adphrase to the verbal action in the stem *agger*- (of the intransitive lexeme *AGGERPOQ* 'to come'). The coreferentiality is not bound by the subject of *aggeqquaa* 'HE asked/ordered her to come', but by the underly-

5. Since the phonological and morphophonological features do not matter in our context, this is how I will gloss the examples: I will only split off the morphemes that are of interest; I will leave the stem spelled as it is in the orthography except for the final letter, i.e. the interface, when followed by further derivation. However, I will put the derivational morpheme in phonological transcription, using a capital to indicate that a given form covers allomorphs.

ing subject of *agger-* '(HER) to come'. Even though further derivation has been added, the stem *agger-* still has some syntactic power: it can contract a relation of subordination with a clause in the contemporative mood. This is a case of what in my terminology is called Verb Inderivation.

I define *INDERIVATION* descriptively as follows (the lexicon lists the actual derivational affixes, including combinations of derivational affixes, which produce inderivational structures):⁶

In a stem *x* which is derived morphologically from a stem *y*, the stem *y* is syntactically *INDERIVED* if it still retains one or more of its possible syntactic relations simultaneously with the derived stem *x*'s syntactic relations (cf. Langgård 1993).

That a stem is inderived constitutes an *INDERIVATION*. Inderivation manifests itself through meaning combined with scope, the inflection for coreferentiality, and the type of adphrase.⁷

6. In the general literature on incorporation, Baker (1988), in a universal perspective, describes some of the structures which fall under my definition. However, his goal is another, viz. to eliminate Grammatical Function Changing. Characteristically, he operates with empty categories, as for instance the nominal element postulated for antipassive.

In the descriptions of Greenlandic, Bergsland (1955), followed by Fortescue (1984), has examples that show some of the structures of inderivation, but without analyzing them as examples of the same syntactic phenomenon. Woodbury and Sadock (1986) added to their description of Noun Incorporation (alias Inderivation) what they called 'complex verbs'. In this, they are nearer to a synthesis. Kristoffersen (1992) applied Functional Grammar to Greenlandic data which in this article are described under the term Inderivation and proposed some additions to FG. However, he did not cover the patterns of coreferentiality connected with inderivation. Fortescue later dealt with 'causative' verbs (Fortescue 1995). Bittner (1994) follows the line of Baker, adding the goal of fitting the use of case, scope, and binding into the general theory developed by Hale and herself (Bittner and Hale 1996). In general, I do not find their theory convincing. Apart from that, Bittner, in my opinion, misinterprets some of her data concerning the role played by antipassive, by transitivizing derivations, and by passivizing derivation in binding which I will comment on in the notes to the relevant sections below. Finally, Van Geenhoven (1998) used Greenlandic Noun Incorporation to shed light on indefinites and their semantic properties.

7. Derivations by means of morphemes like *-rpalluC-* (referred to in Sadock 1991:87) fall outside my definition, since there can be no adphrases subordinated to the noun stem to which the morpheme is suffixed. In this way it is not a counterexample to the rule that all

4. NOUN INDERIVATION. Noun Inderivation includes two main types in the synchronic structure of Greenlandic: nouns can be inderived into both verbal and nominal stems. The first main type includes three subtypes, distinguished by the types of adphrases and by the valence of the derived lexeme.

- I. Nominal stem inderived into verbal stem
 - a. inderived object
 - b. inderived intransitive predicate
 - c. inderived transitive predicate
- II. Nominal stem inderived into nominal stem

It is important to stress that parallel, non-inderiving forms do not exist.

4.1. IDERIVED OBJECT. An inderived object is indefinite, is referential, and has syntactic power by optionally subordinating nominal adnominal adphrases in agreement or in apposition (juxtaposition). These adphrases are inflected for case (instrumental) and for number (and person).

4.1.1. INDEFINITENESS. MODIFIERS IN INSTRUMENTAL CASE, INFLECTED FOR NUMBER. Differing from the direct object, the inderived object is indefinite. The definiteness of the direct object is often strengthened by an explicit or implicit possessor, i.e. by a possessor marking (cross reference). The inderived object can not have a possessor marking. Its indefiniteness makes it resemble the oblique object of semitransitives (antipassives). These

inderived objects are indefinite. I will not treat the verbalizations of oblique cases and the directional derivational affix *-liar-* (cf. Sadock 1980) either. The latter solves the problem of derivation of nouns with possessor markings by partly leaving the inflection intact. The former leave the inflection intact; furthermore, they are suffixed to the last word in linear order if the head is followed by agreeing modifiers. It seems to me best not to describe these structures as inderivation, but as verbalizations on a par with *-Vrp-* (which means: 'this is a quote'). Further, one of the locatives *-miiC-* is in fact still nothing but the locative case inflection written in one word with the root morpheme *iC-* 'is' and it can still be written in two words *-mi iC-*. The terminal counterpart *-mut* versus *-mukar-* might once have been analogous. The stranded possessor points to inderivation, but the pattern is otherwise too divergent. Lastly, I will not treat the structure found with *-nermit*. It is not to be accounted for as inderivation, its properties being different.

objects will be in the indefinite end of a continuum if they are without possessor or demonstrative pronoun. The differences in meaning between the two structures may be minimal. In 3 *-Taq-* is a passivizing nominalizing derivational morpheme added to the transitive stem *ilinniartiC-*. In 4 the same transitive stem becomes semitransitive by means of *-si-*.

- (3) *Kaali meeqqanik ilinniartitaqarpoq.*
 Kaali-Ø meeqqa-nik ilinniartiC-Taq-qar-poq
 SG.ABS PL.INST IND.3.SG
 Kaali children has some that are being taught
 'Kaali has pupils that are children.'
- (4) *Kaali meeqqanik ilinniartitsivoq.*
 Kaali-Ø meeqqa-nik ilinniartiC-si-voq
 SG.ABS PL.INST IND.3.SG
 Kaali children teaches some
 'Kaali teaches (some) children.'

In both structures Kaali is the subject. In 3 an object is indexicalized by *-qar-* ('has _', or impersonal 'there is/are _'). *meeqqanik* is a modifier in agreement with the indexicalized head. The modifier shows that the indexicalized object is plural, corresponding to *ilinniartitat* 'pupils'. In 4 there is no nominal element inside the verb. The verb is semitransitive and *meeqqanik* is the oblique object in instrumental case. The latter is the more neutral structure, the former visualizing a little more 'a gathering of pupils'. Additionally, the former is more perfective, the latter more durative.

Meaning and referentiality can be seen as indicators of indexicalizations. Number agreement was discovered by Sadock (1980:309), who called attention to instances where the indexicalized noun is PLURAL TANTUM, and where this is reflected in the expression for 'one', which will be plural in form: *ataatsinik* (PL.INST).

It is more difficult to account for the instrumental case. No native speaker would doubt that the structure corresponding to *meeqqanik ilinniartita-* is *ilinniartitat meeqqat* a head with a modifier – here in the absolutive case, used as the neutral citation form. But why exactly the instrumental case? There might have been a good reason in the evolution of the language, but this has been lost to us. However, as the example with the semitransitive shows, too, it is part of the language to inflect objects in instrumental

case when there is no slot for them in the cross-references on the verb. The proof of the agreement hinges on the number.

4.1.2. REFERENCE. Inderived nominals introduce new topics and are referential (as also stated by Sadock). The following two examples, 5-6, are meant to show that this presupposes linear order, but is not dependent on a hierarchical relation.

(5) *Kaali angisuumik qimmeqarpoq pigaartutut atussagamiuk.*

Kaali-Ø angisuu-mik qimmeq-qar-poq

SG.ABS SG.INST IND.3.SG

Kaali big has dog

pigaartu-tut atussa-gamiuk

SG.EQU CAUS.3.SG.C.S:3.SG.O

as guard because he will use it

'Kaali has a big dog because he will use it as a guard.'

(6) *Taamani Kaali angisuumik qimmeqarami pigaartutut atorpaa.*

Taamani Kaali-Ø angisuu-mik qimmeq-qar-rami

ADV SG.ABS SG.INST CAUS.3.SG.C

By then Kaali big since ... had dog

pigaartu-tut ator-paa

SG.EQU IND.3.SG.S:3.SG.O

as guard used

'Since Kaali had a big dog by then, he used it as a guard.'

In order to show that inderivation is a productive process and not lexicalization, Sadock (1991:95f.) refers to the fact that the interrogative root morpheme **su-* can be used with some of the inderiving morphemes suffixed to it, e.g. *Soqarpa?* 'What has he got?/What is there?'). One might add that it shows, too, the difference between an oblique object of a semitransitive and an adphrase of an inderived object, both in the instrumental case.⁸

8. For certain lexemes e.g. ATEQARPOQ 'is called (literally: has name)' and AKEQARPOQ 'costs (literally: has price)' the question about the noun in the instrumental case is not 'qanoq ittumik' 'how ADV being N.SG.INST' but only 'qanoq'. This can either be taken as an ellipsis or as a proof of lexicalization.

4.1.3. THE CHARACTERISTICS OF THE INDERIVED OBJECT AS AN OBJECT. The term 'inderived object' indicates that the verbal part of the nderiving lexemes are not root morphemes. They are all derivational morphemes. However, the term is not without some psychological reality as regards the intuition of native speakers. When being taught grammar and how to locate direct objects, they will search for objects in structures with nderived object and in semitransitive structures. Furthermore, the language itself has some odd passive derivations that point in the same direction.

An example with the nderiving morpheme *-tur-* 'drinks/eats _' could be: *tiitorpunga* (*tii-tur-punga* IND.1.SG.S) 'I am drinking tea'. Although every lexeme suffixed with *-tur-* is intransitive without any transitive form, structures with the passivizing and nominalizing *-Taq-* suffixed to stems with *-tur-* are part of the language, as in 7.

- (7) *Tiitugara mamarpoq.*
 tii-tur-Taq-ga *mamar-poq*
 1.SG.POSS:SG.ABS IND.3.SG
 my drunken tea tastes good
 'The tea that I have been drinking tastes good.'

4.1.4. DOUBLING OF THE INDERIVED NOUN. The fact that the Greenlandic nderived object cannot be doubled has been used as part of the proof that incorporation of objects is a lexical matter. In general, this is correct. However, there are some exceptions. When the nderived lexeme together with another noun covers a (lexicalized) concept (e.g., 'net for salmon' is *qassutit kapisilinniutit* 'net' + the agreeing adphrase 'a means to catch salmon'), all language users would accept a structure without doubling, with the adphrase in the instrumental case. However, some would accept one with doubling as well, as in 8.

- (8) *Tassani qassutitik kapisilinniutitik qassuteqarpoq.*
 tassani *qassutitik* *kapisilinniute-nik* *qassute-qar-poq*
 ADV PL.INST PL.INST IND.3.SG
 here nets means to catch salmon there are nets
 'Here they have salmon nets.'

Normally, the adphrase will minimally have some further suffixation com-

pared to the inderived noun and through this will yield further information. The following example, 9, is from a description of a woman when she was young, compared to now.

- (9) *Qilerterujussuarninngooq qilerteqaraluarpoq (...).*
 qilerte-rujussuar-nik-nngooq qilerte-qar-Galuar-poq
 PL.INST-ENCLITIC IND.3.SG
 a very, very big topknot-it is said had once, but not any more a topknot
 'She once had, it is told, a topknot, a very, very big topknot.'

Even an example like this is used for emphasis – this enlarged 'doubling' is a stylistic means to emphasize the difference between the small topknot she now has as compared to the exuberant one she had in former times.

Another instance of 'doubling' may be found when the modifying element happens to add nothing but information on the possessor of the inderived element, which is still indefinite. Since it is a typological feature of Greenlandic to have an obligatory possessor marking whenever there is a possessor, the strategy to express this information can be a 'doubling'. The extra noun can then be inflected for the possessor. For an example, see E in section 6.⁹ (See 4.1.6 below for further structures with possessor.)

9. However, I came across ex. i. with doubling without any lexicalization or any further derivation.

- i. *Qujaniangaarluni malugaaq nunamik*
 qujaniangaar-luni maluga-aq nuna-mik
 CONT.3.SG.C IND.3.SG (SEMITRANS) SG.INST
 being very grateful felt himself place to live
taama alianaatsigalunilu
 taama alianaatsiga-luni-lu
 ADV CONT.3.SG.C-ENCL
 so being that much wonderful-and/simultaneously
pilluarnartigisumik nunaqarami.
 pilluarnartigisu-mik nuna-qar-Gami
 SG.INST CAUS.3.SG.C
 that much enriching because he had a place to live
 'He felt himself very grateful because he lived in a place, a place so wonderful and enriching.'
(continues)

Arguing for the syntactic status of inderived objects, Sadock states that verbal lexemes with an inderived object do not take the same noun as direct object in Greenlandic. In this connection, he also states that all object-inderiving derivational morphemes are intransitive (Sadock 1991:96-97). However, *-ler* 'to add a _ to it' is transitive. Lexemes suffixed with this derivational morpheme have simultaneously a direct object and an inderived object (these two elements will never refer to the same entity).¹⁰

- (10) *Illu nutaanik matulerpaa*
 illu-Ø nutaa-nik matu-ler-paa
 SG.ABS PL.INST IND.3.SG.S:3.SG.O
 the house new provide doors to
 'He provides the house with new doors.'

4.1.5. LINEAR ORDER. The adphrase to an inderived object is placed in front of the verb containing the inderived object. This is the basic linear order. However, as soon as the modifying element is heavy, if consisting of more parts, one part will be in front and the rest will follow the verb, as seen in 11, where *angisuumik* is in front, *pigaartutut atortakkaminik* behind. I will return to the use of the equative case (EQU) under nominalizations.

There is a doubling of NUNA in the NP apposition. Concerning the modifying elements, cf. section 2 on contemporative mood forms and section 5.2 on nominalizations. The style is pompous and sentimental. Greenlandic readers respond to it by stressing that it is poetic language. This does not prove that the Greenlandic inderivation turns out in the end to be anything like the structures found by Mithun (Mithun 1984). The reason for the doubling is perhaps to be found in the way the writer wants to form the modifiers, using the contemporative form – and doing it in connection with *maluguaq* (because a contemporative form here could be understood as ORATIO OBLIQUA). However, without doubling the sentence would still be grammatical. Another, neutral way to formulate the modifying elements in this context would be to let both modifiers be nominalizations in instrumental case, like *pilluarnartigisumik* coordinated by enclitic *-lu* 'and' in ii.

- ii. *Qujaniangaarluni maluguaq taama alianaatsisumik pilluarnartigisumillu nunaqarami.*

10. Furthermore, since the Grammatical Function Changing derivational morpheme *-ut(e)-* is no longer productive, the combination of the object-inderiving *-lior* ('makes a _') and *-ut(e)*, *-liuute-* 'makes him a _', is lexicalized, too, as one morpheme.

- (11) *Kaali angisuumik qimmeqarpoq pigaartutut atortakkaminik.*

Kaali-Ø angisuu-mik qimmeq-qar-poq

SG.ABS SG.INST IND.3.SG

Kaali big has dog

pigaartu-tut atortar-Taq-minik

SG.EQU 3.SG.C.POSS:SG.INST

as guard one used by him

'Kaali has a big dog, which is used by him as a guard.'

When not easily divided, a heavy adphrase is placed behind *in extenso*, as in E below.

Sometimes the whole of the adphrase, inflected for absolutive case, is placed after the verb. The stylistic effect is emphasis, though in contexts with a more or less long list of adphrases the goal can be to avoid having so many words in the instrumental case, which would sound very tedious. However, in most cases the absolutive is found in contexts with one particular lexeme: ATEQARPOQ (ATEQ + -QAR-: 'have name' i.e. the expression for 'his name is'). For instance, *Ateqarpoq Kaali* 'His name is Kaali'. In this case, the focus is of course on the name and the structure with the absolutive form is very frequent. The effect is more like a pause between the verb and the noun. The neutral structure is the one with the adphrases in the instrumental case.¹¹

11. As shown, an inderived object and its modifiers correspond to a head and its modifiers in a NP. However, sometimes a linear order that looks like an inversion is found, as in

i.

- i. (...) *neqinik nillortortoreerluni* (...) *aninialerpoq.*

neqinik nillortor-tur-reer-luni aninialerpoq

PL.INST CONT.3.SG.C IND.3.SG

pieces having finished eating he was

of meat some cold food about to leave

'(...) When he had had some cold food consisting of pieces of meat,

(...) he was about to leave.'

The inderiving morpheme is *-tur-* 'eat/drink'. It is not ungrammatical to have *nillortut* 'those that are cold' as the head and then *neqit* 'pieces of meat' as modifier. But it would sound more natural – with respect to the content – to have the opposite relation.

4.1.6. POSSESSOR ADPHRASES. A small number of nouns are not grammatical without a possessor, be it implicit or explicit, e.g. **ILA* 'someone one is together with/someone who is participating in something'. **ILA* is often inderived by *-qar-* 'have $_$ /there is $_$ '. In this position **ILA* lacks a possessor. The information is given in the personal subject marking. In impersonal structures 'the world' is so to speak the possessor.

However, sometimes a possessor adphrase has to be part of an inderiving structure because it is part of an expression for a concept. In this case there is a conflict between two rules in Greenlandic, viz. that every possessor must be cross-referenced, and that derivation can only have uninflected stems as input. The solution is always a mismatch, with different strategies applying from construction to construction. In the case of inderivation of objects it is the rule of possessor marking that is overruled, as in 12.

| | | | | |
|------|-------------------------------------|------------------|---------------------------|--------------|
| (12) | <i>(puisip neqaa + -tur- =>)</i> | | <i>Puisip neqitorpoq.</i> | |
| | puisi-p | neqe-a | puisi-p | neqe-tur-puq |
| | SG.REL | 3.SG.POSS:SG.ABS | SG.REL | IND.3.SG |
| | of seal | meat of | of seal | cats meat |
| | 'seal meat' | | 'S/he eats seal meat.' | |

The basic feature of inderived objects, namely that they are indefinite, is not overruled, i.e. in order for a NP with a possessor to be inderived it has to cover a unified concept. *puisip neqaa* in this context does not mean 'the meat of the seal (this particular seal)' but 'seal meat'. Many informants will be even more restrictive as to inderivation by only recognizing a lexical context analogous to *puisip neqaa* in *pusip neqitorpoq* and in *puisip neqiliorpoq* ('cook seal meat', with the inderiving morpheme *-liur-* 'makes'). An adphrase in agreement with the inderived lexicalized phrase would be in front of the possessor, not in between, demonstrating the unbreakable relation between the possessor and its head: *nutaalluinnartumik puisip neqiliorpoq* 'cooks seal meat which is totally fresh caught' – *nutaalluinnartumik* ('totally fresh caught', SG.INST). However, informants would instead of e.g.

On the other hand, it is quite normal to use the lexeme *NILLORTORTORPOQ* 'eat cold food'. A further example is in B in section 6. In fact, this inversion pattern is found very often when head + modifier is a lexicalization for a concept.

savap neqiliorpoq prefer *savaliiorpoq*, expressing 'cooking lamb' (SAVA), but leaving out 'meat'. For 'seal' they would use nothing but *neqiliorpoq*, literally meaning 'cooking meat', due to the past when seal was the basic food. This means that they would avoid the conflict between the two rules.

Sadock (1991:96) mentions another example to prove the productivity of the structure, however, a Greenlandic lexicalization translating 'princess', *kunngip pania*, literally 'a king's daughter'. So, once more, we are dealing with a unified lexicalized concept.

With certain of the object-inderiving morphemes another strategy is possible. They can be suffixed to a 'dummy' root *pi-*, to which the possessed NP can be an appositive.

4.2. IDERIVED INTRANSITIVE PREDICATES. The copula does not exist in Greenlandic as a root morpheme, only as a derivational morpheme *-u-* 'is'. Adphrases to the nderived intransitive predicate are in the absolutive case and are always placed after the verb containing the nderivation. This means that it is not just a difference in meaning, but also in case and linear order that differentiates the copula construction from the nderived object structure. The syntactic structures with *-nngur-* 'become, get' are totally analogous to those with *-u-*, as in 13.

- (13) *Kaali angutaavoq pikkorrissoq.*
- | | | |
|---------|--------------|----------------|
| Kaali-Ø | angute-u-vuq | pikkorrissoq-Ø |
| SG.ABS | IND.3.SG | SG.ABS |
| Kaali | is a man | competent |
- 'Kaali is a competent man.'

In the case of a list of properties or the like, the structure will continue with words in the absolutive case, as in 14.

- (14) *Saamik angajulliuvog. Piniartorsuaq sapilerallassanngitsoq, nipaarluk.*
 Saamik-Ø angajulleq-u-vuq.
 SG.ABS IND.3.SG
 Saamik was the older one
 Piniartorsuaq-Ø sapilerallassanngitsoq-Ø, nipaarluk-Ø.
 SG.ABS SG.ABS SG.ABS
 An excellent hunter who could stand for a lot a person of few words'
 'Samik was the older one. An excellent hunter, one who could stand for
 a lot, a person of few words.'

However, there is another structure, in which the word *tassa* is used to identify two elements.¹² The form is used as a 'dummy' to cope with the structural problems arising whenever a possessed NP is to be an intransitive predicate, as in 15 (cf. above for the analogue in the inderivation of objects).

- (15) *Nunarput tassuavoq Kalaallit Nunaat.*
 nuna-rput tassa-u-vuq Kalaalli-t Nuna-at
 1.PL.POSS:SG.ABS IND.3.SG PL.REL 3.PL.POSS:SG.ABS
 our country is such the Greenlanders' country
 'Our country is Greenland (lit. the country of the Greenlanders).'

This structure is also found in a version without the derivational morpheme *-u-*: *Nunarput tassa Kalaallit Nunaat* which has pretty much the same meaning as the one with *-u-*. Whether *tassa* is to be recognized as a copula is uncertain. Intuitively, it rather corresponds to a colon in the written language, much like an 'i.e.'. The structure with *tassa(avoq)* is the one used for intransitive predicates constituting a list or a definition.

However, the traditional problem with the 'meat' construction is solved, too, by overriding one of the two conflicting rules: *puisip neqaasoraara*, 'I think it is seal meat', where *-u-* is suffixed to *neqe-*, assimilating to *neqaa-* to which is suffixed *-sore-* 'think that', here inflected for IND.1.SG.S:3.SG.O.

4.3. IDERIVED TRANSITIVE PREDICATES. Transitive predicates that are not inderived do not exist in Greenlandic.¹³ Inderived transitive predicates are

12. *Tassa* is a demonstrative. This form is suppletive for the oblique cases of the demonstrative pronoun so these forms do not show any number, even in agreement position.

formed by means of *-Gi-* 'has him/it as _'. This morpheme is productive, but it is extremely rare that the inderived noun gets an adphrase. However, the following example, 16, is grammatical in Greenlandic.

- (16) *Malittarisassat uku qulit malittarisassaraavut unioqqutitassaannigitsut*
malittarisassat uku qulit malittarisassa-Ge-vavut
 PL.ABS PL.ABS PL.ABS IND.1.PL.S:3.PL.O
 rules those ten we have them as rules
unioqqutitassaannigitsut.
unioqqutitassaannigitsu-t
 PL.ABS
 which are not to be broken
 'We have those ten rules as rules which are not to be broken.'

4.4. NOMINAL LEXEMES WITH AN INDERIVED NOUN. The derivational morphemes that – synchronically – inderive nouns into nouns are first and foremost the frequent *-lik-* 'who/which is provided with _', further *-kuaq-* 'who/which has much of _', and *-tuuq-* 'who/which is very much _/has much _'. The inderived noun takes adphrases in the instrumental case. The inderivation has some resemblance to inderivation of objects, both in structure and in meaning.¹⁴ An example (for the first three words, cf. ex. 11 in section 4.1.5) is in 17.

13. Further semantic counterparts to transitive predicates are formed by transitivizing stems with inderived intransitive predicates.
14. Perhaps these morphemes are rather to be analyzed as complex, first verbalizing and then nominalizing. In some contexts, forms with *-lik-* work as if they were verbal and were equivalent to a participial form of stems suffixed by *-qar-* ('has _'). In other contexts, they work as if they were nominalized counterparts to such participial forms, nominalized by means of *-Tuq-*. (For the distinction between participial mood forms using *-Tu-* and nominalizations using *-Tuq-* cf. note 23.) See i.

- i. *Namminersorlutik kioskiutillit oqarput (...)*
 CONT.3.PL.C PL.ABS IND.3.PL
 'The self-employed kiosk-owners say that (...)'

The verb is *oqarput* 'they say that ...'. The head of the subject *namminersorlutik kioskiutillit* is *kioskiutillit* 'those provided with a kiosk'. The clause formed *namminersorlutik* 'being self-employed' is subordinate as an adverbial adphrase to the quasi-verbal stem formed by *-lik-*.

(17) *Kaali angisuumik qimmeqarpoq Kajumik atilimmik.*

Kaju-mik ateq-lik-mik

SG.INST SG.INST

Kaju which is provided with name

'Kaali has a big dog called Kaju.'

Kajumik in the instrumental case is in apposition to the nderived ATEQ 'name' in *atilimmik*. *atilimmik* in the instrumental case is adphrase/appositive to the nderived object QIMMEQ 'dog' in *qimmeqarpoq*.

4.5. NOUN IDERIVATION – LINEAR ORDER AND CASE. The data are not neat here. Constructions with an nderived object have the adphrases in the instrumental case and in most cases at least part of it in front of the nderiving verb. However, they may also be found with the entire adphrase following in the instrumental case. Finally, they may be found with the adphrase following but in the absolutive. Constructions with intransitive and transitive predicates have the entire adphrase in the absolutive case following the nderiving verb.

Sadock (1985:395) has proposed that Greenlandic does not take complements in the absolutive case in front of the verb as one of his basic rules of the language, on a par with the rule that it is an SOV language. Of course, this fits the data. However, it is a rather peculiar rule taken in itself. Kleinschmidt (1851/1968:86)¹⁵ may be closer to an explanation: if nouns in the absolutive case occurred between the subject and the verb, with the subject in the absolutive case, one could not tell where the subject would stop and the adphrase begin, so from a processing point of view the structure would be inefficient.

If nderivations in general, and verb nderivations in particular, point towards a principle to the effect that adphrases are basically positioned in front of the nderiving word, then one is left with two alternatives in noun nderivations, either to retain the adphrase and find some means to differentiate it from the subject, or to find another position and retain the case.

For adphrases of intransitive and transitive predicates the latter solution has been 'chosen' and made obligatory. For constructions with nderived objects one cannot in my opinion but make a guess because the evolution, whatever it has been, has not left enough traces.

15. In fact, Sadock himself refers to this, but in an earlier description (Sadock 1980:313).

Adphrases may have been in the instrumental case all the time. However, there may have been a time when they were in the absolutive case, but then under the influence of the semitransitive construction changed to the instrumental case, so that adphrases could be placed before the nderiving verb.

The splitting up of adphrases of nderived objects is then a way of following two principles at the same time: the slot is basically before the verb, but, influenced by the principle of heaviness, part of the adphrase is placed after the verb. In fact in cases where it is difficult to split the adphrase, the whole of it is placed after the verb (cf. the complex example in E below).

Finally, the structure with nderived objects modified by postverbal adphrases in the absolutive case may of course be a relic of the hypothesized prehistoric absolutive case. My intuition is that it is a more recent development. Kleinschmidt (1851/1968:86) does in fact stress the difference between the use of the instrumental case with *-qar-* and the absolutive case with *-u-* and *-nngur-*. Maybe the use of the absolutive has developed under the influence of Danish. Further research into texts from the past centuries might give a clue.

4.6. NOUN INDERIVATION — HANDLING OF POSSESSOR ADPHRASES. Basically, the structure of Greenlandic is not capable of nderiving possessed nouns. However, since some concepts are expressed as a lexicalized NP containing a possessor, some solutions have become fixed. None of the solutions are neat: either overriding the possessor marking (totally or in part),¹⁶ 'doubling' the noun, or using a dummy. Finally, there is always the possibility of unconsciously avoiding the problem by rephrasing.

5. VERB INDERIVATION. Verb Inderivation has the following subdivisions:

1. Inderivation of verbal stems by valence-preserving derivation
2. Inderivation of verbal stems by nominalization
3. Inderivation of verbal stems by valence-increasing derivation
4. Inderivation of verbal stems by passive nderivation
5. Inderivation of verbal stems by other valence-decreasing derivation

In all types of verb nderivation the nderived verb stem retains its status as clause-constituting, although it cannot retain its interordinated (i.e. *biim-*

16. Cf. note 7 in section 3 on *-liar-*.

plicative/katatactic) relations, i.e. subject and object. However, its clausal status shows itself in its power to control coreferentiality in accordance with the general rules of the language (cf. section 2).

In the last four of the five subdivisions, more substantial changes take place, such as grammatical function change and change of word class. In connection with grammatical function change, inderivation manifests itself through scope and coreferentiality inflection. In connection with change of word class, i.e. here nominalization, inderivation manifests itself further through choice of type of adphrase.

As will be dealt with in 5.2, the inderivation of verbal stems can be 'personal' or 'impersonal'. The inderivations in 5.1 cannot but be 'personal'.

5.1. INDERIVATION OF VERBAL STEMS BY VALENCE-PRESERVING DERIVATION. In the first of the subtypes¹⁷ the derivational morphemes are valence-preserving and classified as modal and epistemic. The reason for speaking of inderivation in these cases is a question of scope. In example 18 below *sikkilerlutik* goes with only part of the indicative, i.e. the stem *Qaanaaliar-* 'go to Qaanaaq', and the meaning of the derivative suffixed to this stem covers both the inderived stem and the clause (i.e. the contemporative form) subordinated to the inderived stem.

- (18) *Amerikamiut sikkilerlutik Qaanaaliarniaraluarput (...).*
- | | | |
|---------------|----------------|------------------------------------|
| Amerikamiut | sikkiler-lutik | Qaanaaliar-niar-Galuar-put |
| PL.ABS | CONT.3.PL.C | IND.3.PL |
| The Americans | biking | would have wanted to go to Qaanaaq |
- 'The Americans would have wanted to go biking to Qaanaaq (...).'

5.2. INDERIVATION OF VERBAL STEMS BY NOMINALIZATION. The three most frequently used nominalizing morphemes are very common indeed. Almost every sentence will include one or more instances of them. Furthermore, they are inderiving and their inderived stems often take rather substantial adphrases. The case inflection of the nominalization itself totally depends on its function in the sentence. There are no restrictions at all. The three

17. Woodbury and Sadock (1986) called attention to this type of derivation without referring to it as incorporation, but using it to argue that in Eskimo languages some derivational processes are syntactic.

morphemes are *-niq-* 'the fact/act of _', *-Tuq-* 'one who/which _' and *-Taq-* 'one who/which has been _'. Since no relative pronouns are found in Greenlandic, much of what is expressed by relative clauses in other languages is in Greenlandic expressed by constructions with *-Tuq-* and *-Taq-* and material subordinated to their inderived verb stems. This should give an idea of the frequency of the structures with inderivation.¹⁸

Apart from scope, the constituting feature is compatibility of the nominalizations with adphrases that elsewhere can only be adverbial adphrases, because the inderived verb stem can still have adverbial adphrases.

5.2.1. Inderiving nominalization with *-NIQ*. The inderived verbal stem of course can not have any inflection for subject or object. However, it retains its clause status and still has syntactic power to govern coreferentiality in verbal and nominal adphrases. A couple of examples with a verbal adphrase are seen in 19 and 20.

- (19) *Piitsuulluni inuuneq.*
 piitsuu-lluni inuu-niq-Ø
 CONT.3.SG.C SG.ABS
 one being poor the act of living
 'The life in poverty.'
- (20) *Piitsuulluta inuunerput.*
 piitsuu-lluta inuu-niq-rput
 CONT.1.PL 1.PL.POSS:SG.ABS
 us being poor our act of living
 'Our life in poverty.'

In 19 the inderivation of *inuu-* is 'impersonal', in 20 it is 'personal'. In the 'personal inderivation' there is 'subject information' concerning what would have been the subject of the corresponding sentence (as shown in 21 below), owing to the possessor marking (and the implicit possessor).

18. The weird asterisked examples in chapter 2.2 in Bittner (1994) are due to her treating nominalizations by means of *-Tuq-* and *-Taq-* as if they were analogous to English relatives.

- (21) *Piitsuulluta inuuvugut.*
 piitsu-lluta inuu-vugut
 CONT. I.PL IND. I.PL
 us being poor we live
 'We live in poverty.'

In the 'impersonal' inderivation there is no 'subject information' and the coreferentiality of the contemporative form shows nothing but the abstract idea of subject coreferentiality. There is no information about person and number and no information about what the subject would have been in the corresponding sentence. Verbal adverbial adphrases, i.e. subordinate clauses, in 'impersonal' inderivations must be contemporative third person singular like the impersonal form itself, which is the most neutral case. That this rule applies invariably is demonstrated by examples with reciprocal forms that are inherently plural, compare 22.

- (22) *Ikioqatigiilluni suleqatigiinneq.*
 ikioqatigii-lluni suleqatigiin-niq-Ø
 CONT.3.SG.C SG.ABS
 being helping one another the act of cooperating
 'Cooperation helping one another.'

An adphrase consisting of a verb form, i.e. a clause, is adverbial. It cannot be an adnominal adphrase: **piitsuulluni inuk* 'being poor + human being'. INUK is a noun with no verbal stem inderived into it. 'A poor human being' is expressed otherwise. But the lexeme with INUK inderived as an intransitive predicate by means of *-u-* and further nominalized by *-niq-* can take the contemporative form subordinated, as the examples in 19 and 20 have shown.

In addition to subordinate clauses, an inderived stem can retain its nominal adverbial adphrases, and the general picture is that nominal adphrases are inflected in the same cases as in the corresponding sentences. This is not only due to meaning, as is shown by a nominalization of 4 for example, *meeqqanik ilinniartitsineq* 'teaching of children', where the instrumental case is required by the semitransitivity of the verb stem *ilinniartitsi-*.

The following example, 23, is ambiguous in the binding of the coreferential inflection in *panimminut*, as in Greenlandic in general whenever there is a coreferential inflection on objects and nominal adverbial adphrases in a

subordinate clause. It can have the subject of its clause or of the next higher clause as pivot. The special thing about the example is that *nuannarinngilau* is the next higher clause because the inderived verb stem *pulaaqattaar-* has retained its status as clause, although it has been nominalized, and thereby functions as a surrounding clause to *panimminut*. Because of the possessor marking in *pulaaqattaarnera* the inderivation is 'personal'.

- (23) *Kaalip panimminut pulaaqattaarnera Aanip nuannarinngilaa.*
- | | | |
|---------|-----------------------------|-----------------------------------|
| Kaali-p | panim-minut | pulaaqattaar-niq-a |
| SG.REL | 3.SG.C:SG.TERM | 3.SG.POSS:SG.ABS |
| Kaali's | to his own/her own daughter | his paying visits again and again |
-
- Aani-p nuannarinngi-lau*
- | | |
|--------|-------------------|
| SG.REL | IND.3.SG.S:3.SG.O |
| Aani | does not like it |
- 'Aani does not like Kaali's many visits to his/her daughter.'

In constructions with transitive verb stems, *-niq* both passivizes and nominalizes. Due to its passivizing function the form with *-niq* will not have any 'subject information' since a possessor marking would be 'object information'.

However, in recent years there has been a massive tendency in Greenlandic not to suffix *-niq* directly to the transitive stem, but to suffix a passivizing derivational morpheme and only then suffix *-niq*.¹⁹ Whenever in discourse it is opportune to avoid passivizing, a semitransitivizing derivational morpheme is suffixed to the transitive stem before adding the nominalizing *-niq*. In this connection the semitransitive suffix is to be considered a 'formative' element. The degree of definiteness of the oblique object will correspond to the defi-

19. This development has opened up a new tendency for the forms without a passivizing derivational morpheme before *-niq* to signal 'a subjective involvement' on the part of a thinking or speaking agent. Bittner (1994) does not describe these forms as passive but translates them as active *-ing* forms. See for example her 30a, page 64: the translation is correct, but not 'literal' (i.e. passive). In fact, the example does not cover what she seems to think it does, but is rather a combination of an impersonal inderivation (with no possibility of a contemporative form coreferential with the subject of the matrix verb) and this new tendency.

niteness of an object. If definiteness has to be stressed, a demonstrative pronoun in agreement with the head in the instrumental case is added.²⁰

In connection with nominalization by means of *-niq*, the difference between the use of the contemporative mood forms in coordinate clauses and its use with the enclitic particle *-lu* meaning 'simultaneously' is neutralized (cf. the example in footnote 9).

5.2.2. Inderiving nominalization with *-Tuq*. *-Tuq* can only be suffixed to intransitive stems.²¹ The 'subject information' is not conveyed by means of possessor marking. Either it is conveyed by the meaning of the nominalized word itself when it is used as head, or it is expressed in the head to which the nominalized word is an adphrase in agreement.

| | | |
|------|---------------------------------|--|
| (24) | <i>Piitsuulluni inuusooq.</i> | <i>Angut piitsuulluni inuusooq.</i> |
| | piitsuu-lluni inuu-Tuq-Ø | angut-Ø piitsuu-lluni inuu-Tuq-Ø |
| | CONT.3.SG.C SG.ABS | SG.ABS CONT.3.SG.C SG.ABS |
| | being poor the one who lives | the man being poor who lives |
| | 'He who lives in poverty.' | 'The man who lives in poverty.' |

However, sometimes one comes across an impersonal inderivation. Most informants reject the structure. It is difficult to tell whether a development will take place towards general codification.

20. The same 'strategy' is often used when adding a transitivity derivational morpheme to a transitive stem.

21. Inflected in the absolutive case it is homonymous with the intransitive participle in the 3rd sg/pl both in the singular and the plural. However, that it is a noun can be seen if one rephrases the expression, either by making the form derived by means of *-Tuq* possessor to a form of *ILA 'one of _'; by adding the derivational morpheme *-ssauq* meaning 'which shall in the future/which is meant to be _' (cf. *annaasussamik* (B) in section 6); or – in a context with the subject in the singular – by changing the verb into a transitive verb. Further, in the 1st and 2nd person, the participial forms are used suppletively for missing nominal forms, as part of what can be seen as a reanalysis of the participial forms as nouns, a reanalysis that has only taken place for the 3rd person because the nominal system of Greenlandic operates with agreement in the 3rd person, and only has agreement in the 1st and 2nd person in personal pronouns and a tiny class of nouns including *TAMAQ 'all'.

- (25) (...) *tuaviuteqarnani angalaartunut* (...).
 tuaviuteqar-nani angalaar-tu-nut
 CONT.NEG.3.SG.C PL.TERM
 without having haste for those who travel around
 '(...) for those who travel around without haste (...).'

For more complex contexts, compare A, B, D, E, and F in section 6.

5.2.3. INDERIVING NOMINALIZATION WITH *-Taq*. The passivizing *-Taq* can only be suffixed to transitive stems. The inderivation can be 'personal', with 'subject information' provided by possessor marking, as well as 'impersonal', as in 26.

- (26) *Biili naalanngisaarluni tillitaq.*
 biili-Ø naalanngisaar-lluni tilliC-Taq-Ø
 SG.ABS CONT.3.SG.C SG.ABS
 the car being naughty the one which was stolen
 'The car that was stolen out of naughtiness.'

A 'personal' inderivation could be with e.g. the contemporative form in the first person plural and a possessor marking in the same person added to *tillitaq*: *biili naalanngisaarluta tillitarput*.

In 11 above, *Kaali angisuumik qimmeqarpoq pigaartutut ator-takkaminik*, *pigaartutut* 'as a guard dog' is a nominal adverbial adphrase in the equative case subordinated to the inderived verb stem *atortar-* (inderived by *-Taq*, here in the variant *-kka-*). Because of possessor marking the inderivation is personal. To show that it is 'personal' a subordinate clause could be added instead of, or in addition to, *pigaartutut*, as in 27.

- (27) *Kaali angisuumik qimmeqarpoq, pisariaqartikkaangamiuk pigaartutut ator-takkaminik.*
 'Kaali has a big dog which he uses as a guard dog whenever he thinks it is necessary.'

pisariaqartikkaangamiuk 'whenever he thinks it is necessary' is CAUS.3. SG.C.S:3.SG.O from *PISARIAQARTIPPAA* 'thinks _ is necessary'. Being a clause it is subordinated as a verbal adverbial adphrase to the inderived verb stem in *atortakkaminik*, as is *pigaartutut*.

5.2.4. OTHER INDERIVING NOMINALIZATIONS. Most of the other nominalizing derivational morphemes are also inderiving, but very infrequent in today's language. The tendency is for these nominalizations to be lexicalized, losing their verbhood.²² *ATUARFIK* for instance consists of the stem of *ATUARPOQ* 'reads', or now also 'goes to school', suffixed by *-fik-*, so literally it is 'a place/time where to read' (or 'go to school'). However, it is firmly lexicalized meaning the exact equivalent of 'school', be it the institution or the building. Probably, the former possibility of inderivation can not be revived in a lexeme like *ATUARFIK*.²³

Finally, as mentioned above, the inderivations of nouns into nouns can be even more complex, as for instance when a verbalizing object inderivation is followed by a nominalizing inderivation. See section 4.4 (especially footnote 15). To this group can be added derivation by means of *-liaq-* 'one that

22. This goes for the following morphemes that I have checked: *-fik-* 'the time/place where to _', *-ssusiq-* (produces an abstract noun), *-usiq-* 'the way to do _/to be _', *-rpaluk-* 'the sound of _', *-rlaaq-* 'one who/which recently _'. All of these can be formulated with personal as well as impersonal inderivation, except the last mentioned which can only – owing to its meaning – be personal. Although they are all productive, they are often part of lexicalizations. Other nominalizing morphemes like *-ute-*, *-qute-* and *-ssute-*, all meaning 'a means to _' are not productively inderiving, since the verb stem loses much of its verbhood when nominalized by these morphemes. However, *-ute-* when used meaning 'the cause of _' can be personally inderiving with a possessor marking. In some cases, a lexicalized nominalization has retained the inderivation, e.g. *NALUNAARPOQ* 'make a statement about' used as a semitransitive verb with a noun phrase in the instrumental case, and *NALUNAARUT* 'statement' as in e.g. *tunuarnerminik nalunaarutua* 'his statement (3.SG.POSS:SG.ABS) about his retiring (3.SG.C.POSS:SG.INSTR)'. In some cases, inderivation is used in created lexicalizations, e.g. *inunnik nalunaarsuisarfik* 'national register (literally, a place (*-fik-*) where one registers (*-nalunaarsui*(semitransitive)*sar-*) people (*inunnik* in the instrumental case governed by the semitransitive verb))'.

23. However, when *-ssaq* 'a future one/one which is meant to' is suffixed to the stem creating the lexeme *ATUARFISSAQ* 'the time/place where one shall read/go to school', then it can be used as inderiving: *ullut tuluttoorluni atuarfissat*. The head of the NP is *ullut* 'days'. The adphrase to this is *atuarfissat* 'times to be at school' with the contemporative form in coreferential 3rd person singular *tuluttoorluni* 'having English classes' subordinated to the verb stem *atuar-*, the total meaning being 'days to have English classes at school'.

is made'. An example is *kagiliara* from *kagi* 'cake' + *-liaq-*, and with possessor marking for first person singular 'my made cake, i.e. the cake that I have baked'. It functions as a passive nominalization to the object-inderiving *-lior-* 'makes _'. To nouns derived by means of *-liar-* may be added adverbial adphrases. The inderivation can be 'personal' as well as 'impersonal'. Some examples are: *tuaviorlunga kagiliara* 'my cake that I made hurrying' (CONT.1.SG + 1.SG.POSS:SG.ABS) and *tuaviorluni kagiliaq* 'the cake that was made in all haste' (CONT.3.SG.C + SG.ABS).

5.2.5. INDERIVING NOMINALIZATIONS AND LINEAR ORDER. In all the examples above, the adphrases of inderived verb stems are found before the inderiving nominalization, and in cases with an explicit possessor or head noun they always appear between this and the inderiving nominalization. This order is the norm. As mentioned under the description of noun inderivation, there seems to be a basic pattern that places adphrases before the inderiving word.

This basic pattern explains why the difference between coordinated contemporative mood and the mood form with the enclitic use of *-lu* (cf. section 2) is neutralized when the construction is nominalized. For an example see B in section 6. However, that does not mean that this pattern cannot be overridden by some other principle, in this case the principle of right dislocation of heavy adphrases. It does not happen very often (almost never with *-niq*), or rather the degree of heaviness has to be high or there has to be a substantial gain in processing efficiency along the patterns described by Hawkins (1994). For an example, cf. F below.

5.3. INDERIVATION BY VALENCE-INCREASING DERIVATION. On a par with the differences within the other types of inderivation, this group of morphemes too shows variation. One morpheme is far more frequent than the others: *-qqu-* 'orders/asks him to _'.

5.3.1. INDERIVATION BY *-qqu-*. This derivation is used partly 'full scale' (i.e. in all mood forms), partly 'CONJUNCTIVELY' meaning 'in order that _'. In the latter case it is only used in contemporative mood forms, and I have termed it 'conjunctive' because its use is very much parallel to subordinating conjunctions. Greenlandic has next to no subordinating conjunctions using its mood forms instead, but also using derivation, as will be seen in several cases in the sections below.

5.3.1.1. -qqu- in 'FULL SCALE USE'. In section 3, I gave two examples with *-qqu-*: *Suaarluni aggeqquaa* and *Taxarluni aggeqquaa*, the latter showing inderivation.

Inderivation with *-qqu-* is always 'personal'. The 'subject information' is given through the object when intransitive stems are inderived. An explicit object would make the structure unambiguous: when placed before the contemporative form *Aani taxarluni aggeqquaa*, the structure would be seen as inderiving; when placed after the contemporative form *Suaarluni Aani aggeqquaa*, as non-inderiving. Or even combined: *Suaarluni Aani taxarluni aggeqquaa* 'Shouting he ordered Aani to come by cab'

Greenlandic, owing to its inflectional type, has at most two slots for two correlated relations to the verb, i.e. the subject and the object (cf. section 5). There is a tendency to avoid trivalence resulting from transitivizing derivation (as in many other languages²⁴) and derivation by so-called 'double-transitives' (cf. Kleinschmidt 1851/1968). Still, double transitives are produced by means of *-qqu-*, however mostly in deeply embedded positions.

The grammatical structure of a double transitive clause retains the logical object of the inderived verb as the grammatical object, while the 'subject information' is given in the form of a NP in the terminal case. This NP behaves like other nominal adverbial adphrases, except for one feature: it is (always?) obligatory in the same way subjects are obligatory, i.e. being implicit whenever the context yields the information. In this it shows a feature that seems retained from the status of subject.

A trivalent question *Kaalip Aani qanoq pivaa?* (cf. section 3) may be answered as in 28.

- (28) *Tuaviorluni panini aaqquaa.*
- | | | |
|---------------|--------------------|--------------------------|
| tuavior-luni | pani-ni | aa-qqu-aa |
| CONT.3.SG.C | 3.SG.C.POSS:SG.ABS | IND.3.SG.S:3.SG.O |
| s/he hurrying | his/her daughter | ask her to go picking up |
- 'Kaalī said to Aani that she should hurry up and fetch his/her daughter.'
- or
- 'Kaalī hurried to say to Aani that she should pick up her/his daughter.'

24. Cf. for instance Dik (1980:79ff.) on the Dutch causative construction.

The nderived stem creates two possible 'pivots' for the coreferential inflection in the contemporative form and in the possessor marking.²⁵ The ambiguity of the contemporative form could in this example too be eliminated by the position of added 'subject information', this time in the terminal case *Aanimut*. However, since this information is already given in the question, it would be in conflict with the normal use of implicitness. In such cases, but also in cases where the nderived stem is intransitive, yet another INQUIT form is often added as matrix verb. The lexeme OQARFIGAA 'says to him (direct object) that ...' is especially frequent in this use. In this structure a 'subject information' in the terminal case will never be used whenever it is coreferential with the object of the INQUIT verb.²⁶

- (29) (*Kaalip Aani*) *oqarfigaa* (**Aanimut*) *tuaviorluni panini auqqullugu*.
 oqarfiga-a (**Aanimut*) tuaviorluni panini
 IND.3.SG.S:3.SG.O SG.TERM CONT.3.SG.C 3.SG.C.POSS:SG.ABS
 he told her **Aani* hurrying his/her daughter
 aa-qqu-llugu
 CONT.[3.SG.C.S]3.SG.O
 ordering her to pick up
 'He told her to hurry to pick up his/her daughter.'

The ambiguity is still there in the possessor marking. However, a normal context would make it unambiguous, or rather the speaker would in most

25. Concerning the control of coreferentiality and the ambiguity of the constructions, nderivation by means of *-qqu-* and *-sore-* are alike. Thus 28 and 31 show that Bittner's idea concerning the role played by semitransitive derivation is not sustained by the data (Bittner 1994:46f., examples 94 and 96a-b). The examples 97a-b in Bittner (ibid.:47) are explained by the fact that the form in the allative case itself is the 'subject information' and thereby cannot bind its own possessor marking, since a possessor marking of a subject can only be coreferential with the subject of the next higher clause (in this case the matrix verb).

26. The best way to describe this structure with OQARFIGAA followed by a contemporative form with *-qqu* is analyzing it as an INQUIT followed by ORATIO OBLIQUA in which the derivation *-qqu* corresponds to the imperative function expressed by e.g. the imperative mood in direct speech.

cases have provided a clarifying context. The adverbial manner expressed by the contemporative form, on the other hand, can not in the same way be taken care of in advance – this is done rather by the construction that includes a matrix verb like *oqarfigaa*.

Some (nowadays many?) speakers seek to overcome the ambiguity in scope of the object in trivalent structures by using a non-coreferential possessor marking (e.g. *pania* (3.SG.POSS:SG.ABS) to signal the narrow scope relation (to Aani), thereby overriding the inderivation. However, this form may cooccur with contemporative forms subordinated to the inderived stem. That is, the output pattern uses two structures simultaneously, one activating the inderivation, the other overriding it, as in 30.

- (30) *(Kaalip Aani) oqarfigaa pania tuaviorluni aaqqullugu.*
- | | | |
|---|--------------------|------------------|
| <i>oqarfiga-a</i> | <i>tuaviorluni</i> | <i>pani-a</i> |
| IND.3.SG.S:3.SG.O | CONT.3.SG.C | 3.SG.POSS:SG.ABS |
| he told her | hurrying | her daughter |
| <i>aa-qqu-llugu</i> | | |
| CONT.[3.SG.C.S]3.SG.O | | |
| ordering her to pick up | | |
| 'He told her to hurry to pick up her daughter.' | | |

In matrix sentences a way to avoid double transitives is to put in a semitransitive morpheme before the suffixing *-qqu-*. As when connected with the derivational affix *-niq-*, the semitransitive here too is more of a functional element for avoiding the lack of available slots than it is a semitransitive making the content indefinite, not least because of the coreferential possessor marking, although the oblique object may be a little less salient, as in 31.

- (31) *(Kaalip Aani) pigisaminik poortueqquaa.*
- | | |
|--|-------------------------|
| <i>pigisa-minik</i> | <i>poortor-i-qqu-aa</i> |
| 3.SG.C.POSS:PL.INST | IND.3.SG.S:3.SG.O |
| her/his belongings | order to/ask to pack |
| 'He ordered her to pack her/his belongings.' | |

The intransitive form of double transitive stems is used reflexively. This means that the object of the inderived stem is coreferential with the subject of the double transitive stem. From TUNIVAA 'he gives him (object) some-

thing (instrumental)' one gets, for example, the form *tuneqquvunga* 'I order him to give me (myself) something'.

In normal contexts, lexemes with *-qqu-* suffixed to an intransitive stem are not reflexive (**iseqquvoq* 'he orders himself to go inside' from *ISERPOQ* 'goes inside'). Nor does the reflexivity of double transitives ever concern the 'matrix' part of the verb, i.e. *-qqu-* (**tigoqquaa* 'he orders himself to take it' from *TIGUAA* 'he takes it'). In this, *-qqu-* differs from *-sore-* and *-nirar-*, cf. section 5.3.3.

5.3.1.2. *-qqu-* IN 'CONJUNCTIVE USE'. Apart from being used full-scale, as exemplified above, *-qqu-* is also used in the contemporative mood with weakened meaning, analogous to the use of a conjunction. In this case the meaning is 'in order that he _'. In this 'conjunctive use' it is inderiving – with the possibility of the nominal adverbial adphrases and objects being ambiguous concerning coreferentiality in their possessor markings, but with the possibility of verbal adverbial adphrases only being adphrases to the inderived stem, not to the derived one, as in 32.

- (32) *Kaalip video atorpaa Aanimut illumini akornuteqarani isiginnaaqqullugu.*
- | | | | |
|--------------------|-----------|---------------------|------------------------------|
| Kaali-p | video | ator-paa | Aani-mut |
| SG.REL | SG.ABS | IND.3.SG.S:3.SG.O | SG.TERM |
| Kaali | the video | rented | Aani |
| illu-mini | | akornuteqar-nani | isiginnaa-qqu-llugu |
| 3.SG.C.POSS:SG.LOC | | CONT.NEG.3.SG.C | CONT.[3.SG.C.S]3.SG.O |
| in his/her home | | being not disturbed | in order that she watched it |
- 'Kaalip rented the video cassette in order that Aani could watch it in his/her home without being disturbed.'

If the contemporative mood form is subordinated to the derived lexeme, the morpheme *-qqu-* will not be understood 'conjunctively'.

5.3.2. INDERIVATION BY *-tiC-*. The transitivity morpheme *-tiC-* is analogous to *-qqu-* in having an additional 'conjunctive' use (cf. 5.3.1). In its 'full-scale' use it means 'lets him _ makes him _'. In its 'conjunctive' use it is found only in contemporative forms where it means 'while he _ (literally: 'while he made him _')'. In general, stems inderived by means of *-tiC-* do not have complex adphrases subordinated to them. In the 'conjunctive' they almost never have

any subordinated elements. However, for some native speakers (prof. emeritus Robert Petersen, pers.comm.), *-tiC-* in full-scale use would be inderiving like *-qqu-* but only when suffixed to intransitive stems, while in its 'conjunctive' use it would be inderiving also when suffixed to transitive stems. I have found very few examples showing this pattern. For instance reading 50 pages in the newspaper *Atuagagdliutit*, volume 1934-35, I came across three inderivations by means of *-tiC-*, e.g. the following clause coordinated with a clause meaning 'the factory shall trade with the Greenlanders'.

- (33) (...) *aamma-lu* (...) *inuutissarsiute-minnik* *aallussi-tiC-niar-lugit* (...).
 aamma-lu inuutissarsiute-minnik aallussi-tiC-niar-lugit
 ADV-CONJ 3.PL.C.POSS:SG.INST CONT.[3.SG.C.s]3.PL.O
 and also their occupation he should make them take
 seriously care of
 'And he should, too, make them take care of their occupation in a serious way (...).'

Following the same pattern as *-qqu-*, but much more frequently, *-tiC-* is used reflexively, leaving only the scope as indicator of inderivation, e.g. *Aani Olimut ikiortippoq* 'Aani let Ole help her (=Aani)'. In today's usage these forms are a kind of 'pseudo-passive'.

Further, inderivation is found when passive *-niqar-* is suffixed to stems in *-tiC-*, subordinate elements often being only within the scope of the stem inderived by means of *-tiC-*, as in 34.

- (34) (...) *namminersorlutik* *niueqatigiissinnaatinneqassapput*.
 namminersor-lutik niueqatigiissinnaa-tiC-niqar-ssa-pput
 CONT.3.PL.C IND.3.PL
 acting on their own they should be made capable of trading among
 themselves
 'They should be made capable of trading (by themselves) among themselves.'

Contemporative forms with *-tiC-* in its 'conjunctive' use are very frequently used reflexively when suffixed to intransitive stems, and 'pseudo-reflexively' when suffixed to transitive stems (i.e. when not the object but the argument in the terminal case, i.e. the 'subject information', refers to the same referent as the subject). When *-tiC-* is suffixed to an intransitive stem, the form is intransitive; when suffixed to a transitive, the form is transitive. In these cases scope would be the only reason to talk about inderivation. Compare *Panini ikiortillugu Aani nerisassiorpoq* 'While helping her daughter Aani cooked').

5.3.3. INDERIVATION BY *-SORE-* AND *-NIRAR-*. Derivations by means of *-sore-* 'thinks that _' and *-nirar-* 'says, that _' are rather frequent. The structures found with these two derivational morphemes may have been analogous to the full-scale use of *-qqu-* (except for some reflexive structures).²⁷ But today, one hardly finds any non-reflexive examples of the double transitive construction. On the other hand, one frequently finds 'pseudo-reflexive' transitive structures, and furthermore reflexives of lexemes suffixing *-sore-* / *-nirar-* to transitive stems as well as to intransitive ones.

First, an example analogous to *-qqu-*.

(35) (*Kaalip Aani*) *illuminut tuaviorluni isersoraa*.

| | | |
|---|---------------------|--------------------------|
| <i>illu-minut</i> | <i>tuavior-luni</i> | <i>iser-sore-vaa</i> |
| 3.SG.C.POSS:SG.TERM | CONT.3.SG.C | IND.3.SG.S:3.SG.O |
| into his/her house | hurrying | he thought that she went |
| 'He thought that she went into his/her house in a hurry.' | | |

27. Robert Petersen (pers.comm.) would accept a double transitive form as grammatical, as in i.

i. (*Kaalip Aanimut*) *kamalluni pujortaatini aserorsoraa/aserornerarpaa*

| | | |
|-------------------|----------------------|---|
| <i>kamaC-luni</i> | <i>pujortaate-ni</i> | <i>aseror-sore-vaa/aseror-nirar-paa</i> |
| CONT.3.SG.C | 3.SG.C.POSS:SG.ABS | IND.3.SG.S:3.SG.O |
| being angry | his/her pipe | thought/said that she had broken |

'He thought/said in anger that she had broken his pipe', or, with inderivation, 'He thought/said that she in anger had broken her pipe'

He would even accept a mixed form, which means two more possibilities. The ambiguity of the contemporative form can partly be eliminated by another linear order, as with *-qqu-*. Concerning my criticism against Bittner, see note 23.

Due to meaning and partly to linear order, the contemporative form of the example can only be subordinated to the inderived verb stem. Subordinated to the matrix, a contemporative form such as e.g. *kamaatigaluni* 'being in the angry mood' would be placed before *illuminit* and before an explicit object.

Unlike *-qqu-*, *-sore-* and *-nirar-* are rather often suffixed to transitive stems when the logical argument that would have been in the terminal case (that is the 'subject information') and the subject of the matrix verb are coreferential (as is seen with the 'conjunctive use' of *-tiC-* above). In this 'pseudo-reflexive' structure the direct object is retained and the verb is still transitive in form, as in 36.

- (36) *(Kaalip Aani) illumini takunerarpaa.*
- | | |
|---|-------------------------|
| illu-mini | taku-nirar-paa |
| 3.SG.C.POSS:SG.LOC | IND.3.SG.S:3.SG.O |
| in his house | he said that he saw her |
| 'He said that he saw her in his house.' | |

The only reason to speak of inderivation in such structures is that the adverbial adphrase is not within the scope of the whole of the matrix verb, but only of the inderived stem.

However, one further finds reflexive forms with *-sore-* or *-nirar-* suffixed to transitive stems, following the pattern of *-qqu-*, as in 37.

- (37) *Kaali anaanaminut ikiorneararluni qujavoq.*
- | | | | |
|--|---------------------|------------------|----------|
| Kaali-Ø | anaana-minut | ikior-nirar-luni | quja-vuq |
| SG.ABS | 3.SG.C.POSS:SG.TERM | CONT.3.SG.C | IND.3.SG |
| Kaali | his mother | saying that she | thanked |
| | | helped himself | |
| 'Kaali said that he had been helped by his mother and thanked for it.' | | | |

More often, a passivizing derivative would be put in between the transitive stem and the transitivizing derivation, leaving the scope to be accounted for only by inderivation, as in 38.

- (38) *Anaanaminit pasineqarsoraluni qimaavoq.*
 Anaana-minit pasi-niqar-sore-luni qimaa-vuq
 3.SG.C.POSS.ABL CONT.3.SG.C IND.3.SG
 by his mother thinking that he himself fled
 was suspected
 'He fled thinking that his mother suspected him.'

Finally, lexemes like *TAMAQ, characterized by a nominative-accusative split in the forms denoting 3rd person, can be used in the nominative form (*inuit tamarmik* in 39) as part of the inderived structure, as well as in the accusative form (*inuit tamaasa* in 39) as the object of the whole contemporative form.

- (39) *Isumaqartarpoq inuit tamarmik/tamaasa taama ingerlasoralugit.*
 Isumaqartar-puq inu-it tamaq-mik/tamaasa
 IND.3.SG PL.ABS NOM/ACC
 he used to think people all
 taama ingerla-sore-lugit
 ADV CONT.[3.SG.C.S]3.PL.O
 in such a way that they lived
 'He used to think that all people lived their lives in such a way.'

Both variants can be seen in the speech of one and the same person.

5.3.4. OTHER VALENCE-INCREASING MORPHEMES AND THE OVERALL PICTURE.

There are other derivational morphemes, but they have a low frequency and when occurring they are almost never inderiving. One can invent examples that some informants will accept as grammatical. Further, some of these are also found in 'conjunctive' uses (cf. 5.3.1).²⁸

However, the examples of transitivizing inderivation found in texts are mostly by means of *-qqu-*, as described above. It might have been the case that inderivation was much more frequent, but nowadays one only encounters it very rarely except in connection with *-qqu-*, and in these cases the inderiving structure is mostly used when the context disambiguates it, often when it is deeply imbedded.

28. E.g. *-tser-* 'awaits that', which has a 'conjunctive use', too, meaning 'until'.

5.4. Inderivation of verb stems by passive derivation. In the grammar of Kleinschmidt (Kleischmidt 1851/1968) and in later grammars, it is mentioned as a special property of passives that the (transitive) contemporative mood form is used without the regular relation as far as subject coreferentiality is concerned.²⁹ However, analyzing these structures as instances of inderivation removes their oddness.

The passivizing and nominalizing morpheme *-Taq* has been described above, with both 'personal' and 'impersonal' inderivation. However, *-Taq* loses its inderiving power when coalescing with *-u-* 'is _' to form the morpheme *-Taa-*, one of two morphemes by means of which passive verbal lexemes are formed in Greenlandic (the more static passive; for the definition of 'lexeme' see 2).

The other passive, the more dynamic one, is a coalescence too. The already mentioned nominalizing and (when suffixed to transitive stems) passivizing *-niq-* coalesces with the object-inderiving *-qar-* to form *-niqar-* which in today's language is a lexicalized morpheme. It is inderiving, but only 'impersonally',³⁰ and consequently verb forms subordinated to the inderived stem can only be in the contemporative mood in the 3rd person singular coreferential case. In most cases the form is transitive, as in 40.

- (40) *Nanoq qimmit atorlugit piniarneqartarpoq.*
- | | | | |
|----------|---------|-----------------------|----------------------|
| nanoq-Ø | qimmi-t | ator-lugit | piniar-niqar-tar-poq |
| SG.ABS | PL.ABS | CONT.[3.SG.C.S]3.PL.O | IND.3.SG |
| the bear | dogs | using | usually be hunted |
- 'The polar bear is hunted with dogs.'

That the contemporative form is 'impersonal' can be seen from intransitive

-
29. Kleinschmidt (1851/1968:92); Rasmussen (1887/1974:188); Langgård and Langgård (1988:110). Bergsland (1955:60) and Fortescue (1984:149) give a greater variation in their examples, but also a far more loose description, partly due to the fact that their examples are placed in the same section as examples analyzed as containing a 'psychological subject'.
30. Bittner (1994:45, ex. 92a) is mistaken in her analysis of the passive because she claims that the passive derived by means of *-niqar-* can produce ambiguous possessor markings in 3.SG.C.POSS:PL. Such a coreferential possessor marking can only refer to the subject of the matrix verb.

examples, and it is 'impersonal' even when an agent and thereby a 'subject information' is added, as in 41.

- (41) *Qatserisartunit tuviorani orminnegaramik navianartorsiortut ilaat toqupput.*
- | | | |
|--------------------|------------------|----------------|
| qatserisartu-nit | tuaviorani | orminnegaramik |
| PL.ABL | CONT.3.SG.C | CAUS.3.PL.C |
| by the firemen | not hasting | they were met |
| navianartorsiortut | ilaat | toqupput |
| PL.REL | 3.PL.POSS:PL.ABS | IND.3.PL |
| those in danger | some of them | they died |
- 'When they were slowly met by the firemen, some of those in danger died.'

The difference between the two passives may be demonstrated by the sentence in 42.

- (42) *Allafigalugu soraarsinneqarpoq / *soraarsitaavoq.*
- | | | |
|-----------------------|---------------------|---------------------|
| allafiga-lugu | soraarsiC-niqar-poq | / soraarsiC-Taa-voq |
| CONT.[3.SG.C.S]3.SG.O | IND.3.SG | / IND.3.SG |
| writing to him | he got fired | / he was fired |
- 'He got fired in a letter.' / 'He was fired *in a letter.'

The power of the inderivation shows up most strongly, perhaps in a common pattern in connection with passives, where some non-coreferential forms are used, although they are ambiguous if the meaning of the lexemes or the broader context does not eliminate the ambiguity, as in 43.

- (43) *Kaali tillimmat soraarsinneqarpoq.*
- | | | |
|---------|---------------|---------------------|
| Kaali-Ø | tillim-mat | soraarsiC-nirar-poq |
| SG.ABS | CAUS.3.SG | IND.3.SG |
| Kaali | when he stole | he got fired |
- 'When Kaali stole, he (Kaali or another one) got fired.'

The reason for the alternative with the matrix subject referring to Kaali is to be found in inderivation. The non-coreferential causative mood is subordinated to the inderived stem *soraarsiC-* and not to the whole of the matrix verb. This use, which at least today is the unmarked one, is even more aston-

ishing because the coreferential form would be unambiguous and furthermore because there is an ongoing development in the language towards using the coreferential forms of the causative mood whenever no ambiguity results.³¹ A coreferential form is the marked form. Users seem to understand the coreferential form to mean that the point of view is placed with the Patient, the meaning equivalent to a report of his thoughts.³² With the more static passive with *-Taa-* only the coreferential form is acceptable: *tillikka-mi soraarsitaavog* vs. **tillimmat soraarsitaavog* (where *tilliC-Gami* is CAUS.3.SG.C). This is in accordance with the fact that this passive derivation does not underlie.

The examples above have all had verbs in the causative mood in the subordinate clause, but could as well have been in the conditional mood if a condition was to be expressed. However, I have not come across any subordinate temporal clauses in participial or contemporative form (to express 'at the time when ...') subordinated to passives – and users respond very hesitantly to them. It seems at best to be a very marginally codified structure. However, there seems to be a tendency that subordinate verb forms are coreferential if they themselves are passive. Perhaps the use of passive forms, especially the passive contemporative mood forms, signals that the perspective is the Patient's, while the use of active transitive contemporative forms is the unmarked pattern, as with the causatives.

However, the structure is fixed whenever the matrix verb is a passive lexeme to which the active counterpart would subcategorize a +HUMAN object and an indirect speech. Although, in the passive, the subject of the matrix verb is coreferential with the subject of the most superordinate verb in the indirect speech, this verb will always be non-coreferential in its form, as in 44.

31. This is the case whenever the matrix verb is 1st or 2nd person. The triggering feature is that the coreferential forms are morphologically analogous with the forms in the 1st and 2nd person, while the non-coreferential forms in 3rd person differ morphologically. The development seems to be part of a process of regularization.

32. However, the pattern can be broken by a question. The most frequently used form in the language in general would be a coreferential form *Sugumi?* 'Because he did what?' – after such a question most speakers would continue with the coreferential form. However, some would use the non-coreferential form *Summat?* 'Because he did what?' often enlarged by the clitic meaning 'they say', *Summanngooq?* 'Because they say he did what?'.

- (44) *Oqaatigineqarput Nuummut aallarniartut.*
 oqaatige-niqar-put Nuum-mut aallarniar-tut
 IND.3.PL SG.TERM PART.3.PL
 they are said to Nuuk that they are intending
 'They are said to intend to go to Nuuk.'

A contemporative mood form (and thereby a coreferential form) instead of the participial is ungrammatical for any speaker. The 'pivot' of the coreferentiality is never the whole of the INQUIT verb, but only its nderived stem *oqaatigi-*.³³

5.5. INDERIVATION OF VERB STEMS BY OTHER VALENCE-DECREASING DERIVATIONS. The most frequent morpheme in the group of valence-decreasing nderiving morphemes is *-nar-* 'make it so that _'. The nderivation is always 'impersonal' and the clauses subordinated to the nderived stem can only be in the neutral 3.SG.C of the contemporative mood form, as in 45.³⁴

- (45) *Qaqqat isiginnaarlugit alutornarput.*
 qaqqat-t isiginnaar-lugit alutore-nar-put
 PL.ABS CONT.[3.SG.C.S]3.PL.O IND.3.PL
 the mountains when looking at them they make one admire them
 'The mountains are impressive to look at.'

The proof that it is only 'impersonal' would be to alter the transitive contemporative form to an intransitive, e.g. *asimiilluni* 'being in the wilderness'.

Analogously to the pattern for passives with *-niqar-*, one finds that the derivations from active stems with +HUMAN objects and indirect speech never have coreferential forms, but only non-coreferential ones subordinated to the nderived stem, as in 46.³⁵

33. For further details see Langgård (1997).

34. Furthermore, lexemes derived by *-nar-* are also used in 3rd person singular with a contemporative mood form in neutral coreferential 3rd person singular as subject, as shown by the fact that the contemporative mood form would be the answer to a question, *suna?* 'what?' (the interrogative pronoun).

35. For further details see Langgård (1997).

- (46) *Paasinarpur Nuummur aallarniartut.*
- | | | |
|-----------------------------|----------|------------------------|
| paasi-nar-put | Nuum-mut | aallarniartut |
| IND.3.PL | SG.TERM | PART.3.PL |
| they make it understandable | to Nuuk | that they intend to go |
- 'They are understandably intending to go to Nuuk.'

However, the pattern is not analogous in the case of the causative mood forms. The derivations by means of *-nar-* in these instances only use the coreferential forms. This shows that these matters are governed by syntactic rules, but the rules are not limited to one and the same pattern. On the contrary, the morphemes show idiosyncratic features.

- (47) *Qimmit tuloriaqaramik (*tuloriaqarmata) ulorianarpur.*
- | | | | |
|----------|--------------------------------|------------------|--------------------|
| qimmit | tuloriaqaramik | (tuloriaqarmata) | uloriage-nar-put |
| PL.ABS | CAUS.3.PL.C | (CAUS.3.PL) | IND.3.PL |
| the dogs | because they have canine teeth | | they are dangerous |
- 'The dogs are dangerous because they have canine teeth.'

In addition to *-nar-* I have found two more derivations of the same kind: *-Tariaqar-* 'ought to be _ (passive)'³⁶ and *-uminar-* 'is easy to _/desirable to _'.³⁷ Although the former is passive in meaning since it can not take an Agent in the ablative but gets its 'subject information' in the terminal case, as do derivations with *-nar-*, I find it most appropriate to group it with *-nar-*. As with 'passive' and derivations by means of *-nar-*, their inderivation can only be 'impersonal', even if 'subject information' is added.

6. MORE COMPLEX/LONGER EXAMPLES. The extremely simple/short examples provided up till now are not adequate to demonstrate normal 'connected speech' in Greenlandic. In fact, some of the examples sound somehow peculiar, not just in want of a larger context, but also because of lack of 'body' in the construction itself, and/or because the structures are most frequent in deeply embedded layers of sentences. To exemplify the complexi-

36. Diachronically, it is a coalescence containing *-qar-* as was the passive. Apart from its inderiving use it can also be used to preserve valence.

37. A lexicalized coalescence with *-nar-*.

ty of 'connected' inderivation, I will quote some examples sampled from written sources.

- (A) *Periarfissaasinnaasut tamaasa niviarsiannguaq taanna qiimasoq angusisaramilu pinnerluinnartoq Tulluartumut qaninniartorujussuanngorpoq nalunarani asannittuusoq.*

| | | | |
|------------------------------|-------------------|-------------------------|---------------|
| periarfissaasinnaasut | tamaasa | niviarsiannguaq-Ø | taanna |
| PL.ABS | PL.ACC | SG.ABS | SG.ABS |
| whenever possible | | the sweet girl | this |
| qiima-Tuq-Ø | angusisar-Gami-lu | pinnerluinnar-Tuq-Ø | Tulluartu-mut |
| SG.ABS | CAUS.3.SG.C-ENCL | SG.ABS | SG.TERM |
| one who is happy | and since she | one who is | towards |
| | looked like her | extremely beautiful | Tulluartoq |
| | father | | |
| qaninniartorujussuanngor-poq | nalunar-nani | asannittuu-Tuq | |
| IND.3.SG | CONT.NEG.3.C | PART.3.SG. | |
| began to make advances | not making it | that she was one | |
| vigorously | not known | that had fallen in love | |

'Whenever possible this happy and – since she looked like her father – extremely beautiful, sweet girl began to make advances towards Tulluartoq so that everybody would know that she was a person that had fallen in love.'

The example shows an instance of indirect speech in non-coreferential form subordinated to inderived verb stems in lexemes with *-nar-* (cf. 5.4), here the form *nalunarani*. This is a verbal adverbial adphrase to the matrix verb in the indicative mood. The example demonstrates the power of inderivation. Because of all the descriptive expressions, the girl is salient both as subject/Agent and as the person the whole thing is about. Nevertheless, the indirect speech is grammatical only if in non-coreferential form. This appears to be clear proof that this is a syntactic structure, governed by syntactic rules.

Further, the causative mood form is subordinated to the inderived stem in one of the two nominalizations by *-Tuq*, *pinnerluinnar-* 'is extremely beautiful'. The proof that the forms ending with *-toq* are nominalizations and not participials is that if we change the main verb to a transitive one, both of them would appear inflected for relative case in agreement with the head of the phrase.

The example above is from a novel, the next one, B, is from a newspaper article on off-shore drilling.

- (B) (...) *angallammik piareersimasoqartuartussaavoq, ajunaarnermik annertuumik pisoqassagualuarpat uuliamik 1.000 tonsit tikillugit annertussusilimmik katersuigasuarsinnaallunilu inunnik 100-it tikillugit amerlassusilinnik annaassisinnausus-samik.*

| | | |
|----------------------------------|------------------------------------|---|
| angallam-mik | piareersima-Tuq-qar-tuartussaa-voq | ajunaamer-mik |
| SG.INST | IND.3.SG | SG.INSTR |
| vessel | there shall always be a stand-by | an accident |
| annertuu-mik | pi-Tuq-qar-ssagualuar-pat | |
| SG.INST | COND.3.SG | |
| a big one | should smth. happen | |
| uulia-mik | 1.000 tonsi-t | tikiC-lugit |
| SG.INST | PL.ABS | CONT.[3.SG.C.S]3.PL.O |
| oil | 1000 tons | amounting to |
| annertu-ssusiq-lik-mik | | katersor-i-gasuarsinnaa-lluni-lu |
| SG.INST | | CONT.3.SG.C-ENCLITIC |
| one which is provided with | | also+being capable of gathering something |
| the property of being voluminous | | quickly |
| inun-nik | 100-it | tikiC-lugit |
| PL.INST | PL.ABS | CONT.[3.SG.C.S]3.PL.O |
| persons | 100 | amounting to |
| amerla-ssusiq-lik-nik | | annaaC'-si-sinnaa-Tuq-ssa-mik |
| PL.INST | | SG.INST |
| some which are provided with | | one that will be able to |
| the property of being many | | save somebody |

'(...) There shall always be a stand-by vessel which can quickly both gather oil of a volume amounting to 1,000 tons and save up to 100 persons.'

Note that *piareersimasoq* is an inderived object. The rest of the quoted words are in apposition. The head in this adphrase is *angallammik*. The adphrase to this is a nominalization by means of *-Tuq-*, *annassisinnasussamik*. This nominalization inderives a semitransitive stem derived by means of *-si-*. Coordinated or subordinated to this inderived semitransitive verb stem is another semitransitive form, the contemporative mood form *katersuigasuarsinnaallunilu*.³⁸ A clause and two oblique objects are subordinated to these two

semitransitive forms. The clause is a conditional mood form *piisoqassagalu-arpāt* with an nderived object *piisoq. ajunaarnermik annertuumik* in the instrumental case is adphrase/apposition to the nderived object. *uuliamik* and *inunnik* are, respectively, the heads of the two oblique objects. These are constructed analogically. Both of them have a modifier in agreement derived by means of the nominalizing *-ssusiq-* (analogous with *-niq.* see above 5.1.1) + *-lik* (se 4.4 above), *annertussusilimmik* and *amerlassusilinnik*, respectively. Both of these nominalizations contain an nderived verb stem, *annertu-* and *amerla-*, respectively. Both of the nderivations are 'impersonal' since neither of the nominalizations have any possessor marking. Therefore, the verbs of the clauses subordinated to the nderived verb stems are in the contemporative mood form and glossed for 3.SG.C in their subject marking, both of these being the same lexeme *tikillugit*. Both of the contemporative mood forms are transitive and each has a direct object, *1000 tonsit* and *100*, respectively. The example thus demonstrates the complex use of subordination combined with nderivation. Language users have no problems processing such sentences, even in spoken language.

Further, the example shows an 'inversion' of head-adphrase in the nderivation of the object. In this instance I believe it is for pragmatic reasons, making the processing of the connection *angallammik* and *annaassisinnaasussamik* easier. The normal NP would be *angallat piareersimasog*, with *piareersimasog* as modifier.

Another example from a newspaper is seen in C.

(C) *Ullaaq taanna tuaviorlunga pigisakka poortoqqullugit oqarfigineqarpunga (—)*

| | | |
|------------------------------|---------------|-------------------------------|
| ullaaq-Ø taanna | tuavior-lunga | pigi-Taq-kka |
| SG.ABS | CONT. I.SG | I.SG.POSS:PL.ABS |
| that morning | me hurrying | the things that belongs to me |
| poortor-qqu-llugit | | oqarfige-niqar-punga |
| CONT.[3.SGC.S.]3.PL.O | | IND. I.SG |
| while one ordered me to pack | | I was told |

'That morning I was told that I should pack my things quickly.'

38. Cf. section 5.1.1 for the neutralization of meaning differences owing to linear order.

The example is interesting in three ways. First, it contains a double transitive form, thus demonstrating that these forms are still fully grammatical.

Secondly, both the passive nominalization by means of *-Taq* in *pigisak-ka* and the transitivizing derivation *-qqu-* involve 'personal' inderivation. Consequently, if we only take form into consideration, the contemporative *tuaviorlunga* could be subordinated to both. However, drawing on the meaning of the lexemes, the only way to understand it is as subordinated to *poortor-*. Thirdly, *poortor-* is inderived 'personally' by *-qqu-*. However, the verb derived by means of *-qqu-* is itself subordinated to a verb stem *oqarfige-* that is inderived by 'impersonal' inderivation, i. e. by means of the passivizing morpheme *-niqar-*.

How is the first person of the contemporative mood form connected with the first person in the matrix subject? First and second person are unambiguous but that is not the reason because that would not explain the contemporative form, and, furthermore, the example can be turned into third person singular and still be grammatical. The connection is due to the pattern found with *-qqu-* + *OQARFIGAA* where the 'subject information' is given through the object of the matrix verb. In the example this connection is not broken by passivization. Passivization creates impersonal inderivations concerning subjects, but this does not destroy the 'subject information' of *-poortoor-*. It is still there, namely in the Patient, now the subject of the passive. In this way, the 'personal' inderivation by means of *-qqu-* still has 'subject information' with which it can govern the coreferentiality inflection of the verb subordinated to its inderived stem.

One more example from a newspaper is seen in D.

(D) *Maniitsumiilerutta sulianik ingerlatsiinnarsinnaanngitsumik sulisoqarsinnaanngilagut (...).*

Maniitsumiiler-Gutta sulia-nik

COND. I. PL

PL. INST

when we will be in Maniitsoq the tasks

ingerlat-si-innarsinnaangiC-Tuq-mik suli-Tuq-qar-sinnaanngi-lagut

SG. INST

IND. NEG. I. PL

one who cannot just go on taking care of we cannot have an employee

'We cannot have an employee who cannot just go on taking care of the tasks
when we will be in Maniitsoq.'

The matrix verb has an nderived object. The nderived object itself is an nderiving nominalization, but this is not exploited in this sentence. To the nderived object, *sulisoq*, on the other hand, an adphrase in agreement is subordinated. The head of this is *ingerlatsiinarsinnaanngitsumik*, a nominalization of a semitransitive verb stem (semitransitivized by means of *-si-*). This nderived semitransitive verb stem takes an oblique object in the instrumental case, *sulianik*, and a subordinate clause, *Maniitsumi-ilerutta*.

The example is meant to demonstrate, once more, the complex use of adphrases to nderived elements in words that are themselves adphrases to other nderived elements. Particularly I want to draw attention to the deep embedding of the clause in the conditional mood form in this example.

Another example, this time from an introductory chapter of a biography, is seen in E.

- (E) *Inuiaqatigiinnguit taama ikitsigaluta tupinnaannartumik taalliortorissaarlutalu erinniortorissarpugut, oqaatsitsinnik tupinnartumik eqaatsumik atuisinnaasunik, killitsitsinnaasunik, erinniorsinnaasunik uagut nammineq nipitsinnik nipilinnik.*

| | | | |
|---------------------------------|------------------|-------------------------------|-----------------------|
| inuiatigiinngui-t | taama | ikitsiga-luta | tupinnaannar-Tuq-mik |
| PL.ABS | ADV | CONT.1.PL | SG.INST |
| (us) a small people | us being so few | | in a just amazing way |
| taallat-lior-Tuq-Gissaa-luta-lu | | erinaq-lior-Tuq-Gissaa-pugut, | |
| CONT.1.PL-ENCLITIC | | IND.1.PL | |
| having so fine authors | | we have so fine composers | |
| oqaatsi-tsinnik | tupinnar-Tuq-mik | eqaat-Tuq-mik | atu-i-sinnaa-Tuq-nik |
| 1.PL.POSS:PL.INST | SG.INST | SG.INST | PL.INST |
| our language | amazingly | supplely | who can use |
| killitsi-tsi-sinnaa-Tuq-nik, | | erinaq-lior-sinnaa-Tuq-nik | |
| PL.INST | | PL.INST | |
| who can move emotionally | | who can compose tunes | |
| uagut | nammineq | nipi-tsinnik | nipi-lik-nik |
| PN.1.PL | PN.C | 1.PL.POSS:SG.INST | PL.INST |
| our own | | our own tone | provided with tone |

'Even though we are such a small people, have amazingly fine authors and fine composers who can use our language with amazing suppleness, can move emotionally, and can compose tunes with a tone that is our own.'

In this example I have marked off occurrences of *-Tuq-* and *-lior-*, *-Gissaar-* ('has a splendid _'; analogous to e.g. *-qar-* 'have') and *-lik-*, all of them inderiving morphemes. The next thing to do is to find out which of these possibilities have been employed in the sentence.

With regard to the inflection, one cannot but notice that the sentence is filled with nouns in the instrumental case. If the language user only went by inflection, it would be a rather impossible task to process it.

The core of the sentence is the subject, *inuiaqatigiinnugit*, and the matrix verb in the indicative form. Subordinated to the indicative mood form is a subordinate clause *taama ikitsigaluta* and a nominalization in the instrumental case used about manner (always in the singular); furthermore a contemporative mood form with an enclitic particle (to underline the simultaneity). Both this contemporative form and the indicative form are derived by means of the same morpheme, *-Gissaar-*, and thereby have inderived objects, *taalliortut* and *erinniortut*, respectively. These two inderived objects have in common a very long adphrase/apposition which has three heads, all of them nominalizations by means of *-Tuq*: *atuisinnaasunik*, *killitsitsinnaasunik*, *erinniorsinnaasunik*.

The verb stem inderived in the first of these is semitransitivized by means of *-i-*. This semitransitive both takes an oblique object in the instrumental case, *oqaatsitsinnik*, and an adverbial adphrase, a nominalization by means of *-Tuq* for manner, *eqaatsumik*. Yet another nominalization by means of *-Tuq* in the instrumental case for manner, *tupinnartumik*, is subordinated to the inderived verb stem, *eqaaT-*, of *eqaatsumik*.

The second head, *killitsitsinnaasunik*, is without adphrases. The third one, *erinniorsinnaasunik*, has an inderived object *erinat* in the plural to which an agreeing adphrase is subordinated. The head of this adphrase is a noun containing a noun inderivation by means of *-lik-*, *nipilinnik* (cf. 4.4). The inderived noun, *nipi*, has a 'doubling' as adphrase, *nipitsinnik*, with explicit possessor *uagut nammineq*. The reason for the 'doubling' is the need to express the possessor.

The example shows how many instances of the same inflection language users can process thanks to the patterns surrounding inderivation — and of course thanks to the meaning. Further, this is an example of how the language exploits 'doubling' when the point is the underlining of the possessed versus the unmarked status of the noun.

The last example, F, is from a short story.

- (F) (...) *inuussiatuarivakka inuusuttuaqqat imerniartarfiup silataani pinnguarrrattut arsaq illup iiguanut isimmeqattaarlugu.*

| | | | |
|-----------------------------------|-----------------|------------------|-------------------|
| inuussiatuari-vakka | inuusuttuaqqa-t | imerniartarfi-up | silate-ani |
| IND.1.SG.S:3.PL.O | PL.ABS | SG.REL | 3.SG.POSS:SG.LOC |
| I came across as the only ones | some youngsters | of the pub | at the outside |
| pinnguarrrattu-t | arsaq-Ø | illu-p | iiga-anut |
| PL.ABS | SG.ABS | SG.REL | 3.SG.POSS:SG.TERM |
| who-many played | ball | of the house | against the wall |
| isimmeqattaar-lugu | | | |
| CONT.[3.PL.C.S]3.SG.O | | | |
| kicking it time and again | | | |

'(...) the only people that I came across were some youngsters who – the whole crowd of them – were playing outside the pub kicking the ball against the wall time and again.'

The matrix verb is transitive, and the rest of the sentence is its object. The head of the object is *inuusuttuaqqat* with an agreeing adphrase. The head of the adphrase is the nominalization *pinnguarrrattut*. Two adphrases are subordinated to the inderived verb stem *pinnguarraC-*. First, the noun before it (in the locative case) and its possessor. Second, a subordinate clause after it. The verb of this subordinate clause is in the transitive contemporative mood form, the object is *arsaq*, and a nominal adverbial adphrase in the terminal case is subordinated to the verb.

The example shows how complex an agreeing adphrase to a noun can be and how the adphrases to the nominalizations are split up into two parts, one before and one after.

7. COMBINATIONS AND BLOCKINGS. One or more syntactic relation is retained in inderived structures, in accordance with my definition. There are many restrictions concerning which relations can be retained and when. In the sections above I have demonstrated how inderivations even in the same group differ from each other.

When it comes to possible combinations, much more research has to be done. However, the more complex examples chosen for section 6 are typical, I think. A feature that holds for all of them is that they do not have more than one inderivation activated per word. Their complexity is caused by a

CHAIN OF INDERIVATIONS, due to a recursive application of inderivation. The adphrase of an inderived stem itself contains an inderivation which has an adphrase and this adphrase has another inderivation, and so on. The constraints on how long chains can be without becoming grammatically unacceptable are comparable to those on relative clauses or coordination in Indo-European languages. This pattern with a chain of inderivations is the typical one, frequently used to express complex meanings, as is seen in the example about off-shore drilling (cf. A. above).

The difficulty lies in finding the limits to combinations of active inderivations in one word. It is an infrequent pattern to have more than one inderivation activated per word. However, it can be found, and constructed examples are accepted by native speakers. Probably, the most frequent combination is an inderiving nominalization derived by means of *-Tuq-* followed by an inderivation by means of *-qar-*, the nominalization becoming an inderived object, as in 48.

- (48) *Qassinik aappaluttumik sodavanditortoqarpa?*
 qassi-nik aappaluttu-mik sodavandi-tor-Tuq-qar-pa
 PL.INST SG.INST INT.3.SG
 how many red are there some who drink fizzy limonade?
 'How many are drinking red fizzy lemonade?'

In this question, the question word *qassinik* in the instrumental case is an adphrase to the inderived object *sodavanditortut* while *aappaluttumik*, likewise in the instrumental case, is an adphrase to the inderived object *sodavandi*. Another example with two adphrases in the instrumental case is seen in 49.

- (49) *Ilinniarsimasunik meeqqanik perorsaasoqartariaqarpoq.*
 ilinniarsimasu-nik meeqqa-nik perorsar-i-Tuq-qar-Tariaqar-puq
 PL.INST PL.INST IND.3.SG
 educated children there need to be some preschool
 teachers
 'There need to be some educated children's preschool teachers.'

But in such expressions it is more common to avoid the use of two adphrases in the instrumental case. Instead, a terminal case form is used as adverbial adphrase to the whole of the verb, as in 50.

- (50) *Meeqqanut ilinniarsimasunik perorsaasoqartariaqarpoq.*
- | | | |
|------------------|--------------------|--|
| meeqqanut | ilinniarsimasu-nik | perorsar-i-Tuq-qar-Tariaqar-puq |
| PL.TERM | PL.INST | IND.3.SG |
| for the children | educated | there need to be some preschool teachers |

'There need to be some educated preschool teachers for the children.'

However, in cases with the lexeme ILINNIARTITSISOQ 'teacher' the usage with two instrumental adphrases is blocked, so that if we insert *ilinniartit-si-Tuq* instead of *perorsar-i-Tuq* in 49, it would be taken to mean 'there need to be some teachers who are educated children'. *meeqqanik* can only be processed as the head of the adphrase to the inderived object, *ilinniartitsisut*, in *ilinniartitsisoqartariaqarpoq*, and as taking *ilinniarsimasut* as its adphrase, and native speakers find the sentence semantically very weird. This blocking seems to be an idiosyncratic feature of the lexicalized lexeme ILINNIARTITSISOQ.

As mentioned in section 5.2, the nominalizing morphemes, apart from the three frequent ones, are very often lexicalizations and we can see a variation between the use of instrumental case and terminal case, e.g. in nominalizations by means of *-fik*: *meeqqanik paarinnittarfik* 'kindergarten' with instrumental case versus *atuareersunut paarinnittarfik* 'afterschool center' (literally: 'place to take care of those who have already been to school') with terminal case.

The difference may be due to a development over time. It may be due to subtle differences of semantics that I am unaware of. It might be due to influence from Danish (the Danish *for/til* – to some extent comparable to English *for/to*) because of the meaning of *-fik* which brings about a choice between the structure terminative + nominalization by means of *-fik* or the structure instrumental + semitransitive inderived verb stem. Once more, further research might answer these questions.

There is no general blocking of two adphrases to the same word both of which in the instrumental case and subordinated to different inderivations. A complex structure like the one in the next example, 51, is correct too, but one does not normally find such examples. Their processing by native speakers is to be sure problematic. Obviously, the pattern in 51 consists of a chain of three successive inderivations, and not three inderivations simultaneously activated in the same word.

- (51) *Qinersisartut kommuninik naammattunik napparsimasunik paarsiso-
qaqqusinissaat ilimanarpoq.*

| | | | |
|---|----------------|---------------|-------------------|
| qinersisartuq-t | kommuni-nik | naammattu-nik | napparsimasu-nik |
| PL.REL | PL.INST | PL.INST | PL.INST |
| of the voters | municipalities | enough | of ill persons |
| paar-si-Tuq-qar-qqu-si-neq-ssaq-at | | | ilimanar-puq |
| 3.PL.POSS;SG.ABS | | | IND.3.SG |
| their demanding concerning there being nurses | | | is to be expected |

'The voters' demand of the municipalities that there shall be enough nurses is to be expected.' i.e. 'One must expect that the voters will demand from the municipalities that there be enough nurses.'

napparsimasunik is an oblique object to the inderived semitransitive verb stem *paarsi-*, *naammattunik* is a nominal adnominal adphrase in agreement with the inderived object *paarsisut*. *kommuninik* is an oblique object to the inderived semitransitive verb stem *paarsisoqaqqusi-*, which in turn is nominalized and together with its possessor *qinersisartut* constitutes the subject of the sentence. This example is invented. No such example is likely to occur in natural language usage.

The examples with combinations of inderivations are dependent on what Baker called the Mirror Principle (Baker 1988). Which word goes with which inderived stem hinges totally on the linear order and the possibility of finding a reasonable meaning (the preceding word determines whether the next word is a modifier to the former, or a modifier to another inderived stem).

Sometimes further derivation blocks activation of former inderivation. In 52 *ajunngitsunik* is in agreement with the inderived object *soqutigisat*.

- (52) *Nukappiaraq ajunngitsunik soqutigisaqarpoq.*

| | | |
|---------------|----------------|-------------------|
| nukappiaraq-Ø | ajunngitsu-nik | soqutisaq-qar-puq |
| SG.ABS | PL.INST | IND.3.SG |
| the boy | good | has interests |

'The boy takes interest in some good things.'

If one adds the transivizing derivation *-fige-* to the verb stem, the derivation by means of *-qar-* is no longer inderiving and *ajunngitsunik* is ungrammatical, as in 53.

- (53) *Nukappiaqqap timersorneq computerilerinerlu *ajunngitsunik
soqutigisaqarfigai.*

| | | | |
|----------------|---------------|-----------------------|----------------|
| nukappiaqqap-p | timersorneq-Ø | computerileriner-Ø-lu | ajunngitsu-nik |
| SG.REL | SG.ABS | SG.ABS-ENCLITIC | PL.INST |
| the boy | sports | and use of computers | good |

soqutigisaqarfige-vai

IND.3.SG.S:3.PL.O

has them as an opportunity to have good interests

'The boy takes a healthy interest in sports and computers.'

The derivation by means of *-fige-* is nothing but a transitivization. However, if the verbal action expressed in the inderived stem *soqutigisaqar-* is to be characterized as 'good', it will be expressed by means of an adverbial adphrase *ajunngitsunik* 'in a good way' subordinated to the matrix verb and not to the inderived stem.

I have not been able to find or to elicit any structure with two transitivizing inderivations. However, some can be put together, but without subordinated adphrases, that is without activated inderivations. I am not sure that they would not be produced as the only good solution if the right triggering context could be found. Further research should be done. However, I know for certain that even if they can be produced, they are marginal structures and would be extremely infrequent.

Blocking may be due to lexicalizations. This is the case with many nominalizations. Above, I mentioned ATUARFIK. However, some lexicalizations are expressions made up on purpose in order to dispense with a word of foreign origin. In the process, inderivation is sometimes used as a means with derivations which otherwise do not often inderive, since the derivation normally means that the verbal action is not salient (cf. section 5.1.4). But even in non-lexicalized phrases inderivation is found as in e.g. *-mik nalunaarut* (cf. 5.1.4).

Much more research is needed to uncover the rules of combination of inderivations and their limits.

8. SUMMARY AND CONCLUSION. The restrictions on inderivation are determined by the morphological structure of the language (for example, a nominalization leaves no slots for the interrelated relations of the inderived verb

stem). They are also determined by the type of subdivisions of both noun inderivation and verb inderivation. Further, the restrictions are created by the specific inderiving morpheme and by further derivations. Finally, lexicalization and usage play a role.

Because of the interplay between the syntactic relations of the inderived stems and the factors which impose the restrictions, the syntactic description of inderivation may have to consist in a syntactic classification of lexemes according to inderived stem and further derivation. In this way, one can define the limits of possible structures, as is done in the sections above, while it is left to the lexical description of Greenlandic, based on usage and lexicalization, to list which of the possible structures are actually used.

In the sections above, the focus has been on the very frequently used inderiving derivational morphemes and then only in their most frequently used constructions. If one includes the less used derivational morphemes and constructions, the patterns are not particularly frequent and, owing to this, much less homogeneously codified. Probably, their use will depend much more on pragmatic factors, even varying from instance to instance within the speech of one and the same speaker.

It might be the case that double transitives are receding, except for *-qqu-* when part of indirect speech, and *-tiC-* in reflexive (including pseudo-reflexive)/passive structures. On the other hand, I think that there is an accelerating tendency to let nominalizations by means of *-niq-* replace indirect speech clauses expressed by verbs, i.e. participial and contemporative mood forms. This tendency has a further parallel in an increased use of constructions with *-nirmit* (*-niq-* inflected in the ablative case), to express cause, for clauses in causative mood. This increasing use of nominal syntagms with *-niq* should be seen in the light of the fact that it takes place in a language where the equivalents of relative clauses are already nominalizations. The outcome will be a language very much characterized by inderivation, at least as long as the nominalizations retain their case inflection.

Structures like *puisip neqitorpoq* (cf. section 4.1 and 4.2) do not show us anything about sequentiality in processing, but rather something about simultaneous processing by means of a unconscious knowledge of morphological and syntactic rules.

My conclusion is that in the production of sentences the impact on syntax of inderivation – including the restrictions on it – is a matter of coprocessing. This points in the direction of the Lexicalist Hypothesis, since the pos-

sibilities of syntax are not just the sum of morphemes and their syntax. On the other hand, in a language with so productive and so dominating a derivational apparatus as that of Greenlandic, lexemes can not synchronically be viewed as a well defined list of lexicalized items. The language user not only disposes of lexicalized items, but also actively produces lexemes and has an unconscious awareness of a lexeme as constructed from several elements, an awareness which is like syntactic intuition of possible combinations of words that may combine as elements of sentences. Research into the acquisition of Inuit languages has shown that children learning these languages learn certain elements earlier than children learning e.g. an Indoeuropean language, and particularly that children early on become aware of derivational morphemes and learn to use them productively (cf. for example Fortescue and Olsen 1992, and especially Allen 1997). I think one will get the most simple and economic description of Greenlandic by retaining the borderline between morphology and syntax, if, simultaneously, one accepts that in a language like Greenlandic syntactic processing not only has access to 'knowledge' of categories and subcategories of inflection as elements of syntax, but also to 'knowledge' of certain features of derivation, that is of those features which entail inderivation and thereby entail more than one set of syntactic relations for some lexemes.

This coprocessing of knowledge of different parts of the language is no more demanding than is the use of the antipassive in Dyirbal or the filling in of 'small words' at the right places in a language like Danish.

To relegate the problematic data to the lexicon will not solve the problem because the lexicon will then contain some lexemes – lexicalized and especially non-lexicalized – that will have features not normally found in most languages, viz. lexemes that are subcategorized for more than one set of syntactic relations.

ACKNOWLEDGEMENTS. The author would like to express her gratitude to the *Carlsberg Foundation* for a grant for the years 1992-1993.

REFERENCES

- ALLEN, SHANLEY. 1997. *Aspects of Argument Structure Acquisition in Inuktitut*. Amsterdam/Philadelphia: John Benjamins.
- BAKER, MARK C. 1988. *Incorporation: A theory of Grammatical Function Changing*. Chicago: University of Chicago Press.
- BERGSLAND, KNUT. 1955. *A Grammatical Outline of the Eskimo Language of West Greenland*. Oslo (mimeo).
- BITTNER, MARIA. 1994. *Case, Scope, and Binding*. Dordrecht: Kluwer.
- BITTNER, MARIA; and KEN HALE. 1996. The structural determination of case and agreement. *Linguistic Inquiry* 27.1-68.
- DIK, SIMON C. 1980. *Studies in Functional Grammar*. London: Academic Press.
- DIXON, R.M.W. 1994. *Ergativity*. Cambridge: Cambridge University Press.
- FORTESCUE, MICHAEL. 1984. *West Greenlandic*. London: Croom Helm.
- 1995. Morphological Versus Syntactic Direct and Indirect Speech in West Greenlandic Eskimo. In Schousboe, Steen (ed.) *Embedding in Functional Grammar* [Publications of the Department of English, University of Copenhagen 20], 7-34. Copenhagen: University of Copenhagen, Department of English.
- FORTESCUE, MICHAEL; and LISE LENNERT OLSEN. 1992. *The acquisition of West Greenlandic*. In Slobin, Dan Isaac (ed.) *The Crosslinguistic Study of Language Acquisition*, Vol. 3, 111-220. Hillsdale NJ: Lawrence Erlbaum.
- HAWKINS, JOHN A. 1994. *A performance theory of order and constituency*. Cambridge: Cambridge University Press.
- KATAMBA, FRANCIS. 1993. *Morphology*. Houndmills/London: MacMillan.
- KLEINSCHMIDT, SAMUEL. 1851/1968. *Grammatik der Grönländischen Sprache*. Hildesheim: Georg Olms Verlagsbuchhandlung.
- KRISTOFFERSEN, LARS. 1992. Derivation and Inflection in a Functional Grammar of West Greenlandic. In Fortescue, Michael; Peter Harder; and Lars Kristoffersen (eds.) *Layered Structure and Reference in a Functional Perspective*, 143-171. Amsterdam/Philadelphia: John Benjamins.
- LANGGÅRD, KAREN. 1993. Inderivation af verbalstammer. *Grønlandsk Kultur- og Samfundsforskning* 93.62-93.
- 1997. Coreferentialitet, oratio obliqua og inderivation – i grønlandsk. *Grønlandsk Kultur- og Samfundsforskning* 97.119-133.
- 2000. Inderivation en kalaallisut, Groenland occidental. In *Les langues eskaléoutes. Sibérie, Alaska, Canada, Groenland*, 203-224. Paris: CNSR editions.

- LANGGÅRD, PER; and KAREN LANGGÅRD. 1988. *Elementær Grønlandsk Grammatik*. Nuuk: Ilisimatusarfik.
- MITHUN, MARIANNE. 1984. The evolution of noun incorporation. *Language* 60.847-894.
- 1986. On the nature of noun incorporation. *Language* 62.32-37.
- RASMUSSEN, CHRISTIAN. 1888/1974. *Grønlandsk Sproglære*. København: Akademisk Forlag.
- RISCHEL, JØRGEN. 1971. Some characteristics of noun phrases in West Greenlandic. *Acta Linguistica Hafniensia* 12.213-45.
- 1972. Derivation as a syntactic process in Greenlandic. In Kiefer, Ferenc (ed.) *Derivational processes*, 60-73. Stockholm: Research Group for Quantitative Linguistics.
- SADOCK, JERROLD. 1980. Noun incorporation in Greenlandic: A case of syntactic word formation. *Language* 56.300-319.
- 1986. Some notes on noun incorporation. *Language* 62.19-31.
- 1991. *Autolexical syntax*. Chicago: University of Chicago Press.
- VAN GEENHOVEN, VEERLE. 1998. *Semantic Incorporation and Indefinite Descriptions. Semantic and Syntactic Aspects of Noun Incorporation in West Greenlandic*. Stanford: Center for the Study of Language and Information (CSLI) Publications.
- WOODBURY, ANTHONY C.; and JERROLD SADOCK. 1986. Affixal Verbs in Syntax: A Reply to Grimshaw and Mester. *Natural Language and Linguistic Theory* 4.229-244.

Complex Predicates and Processing in Danish

OLE NEDERGAARD THOMSEN

INTRODUCTION. The aim of this contribution is to investigate the relationship between COMPLEX PREDICATE formation, i.e. INCORPORATION, and word order processing in Danish. Incorporative complex predicates in Danish are formally coded both by prosody, namely by UNIT ACCENTUATION of the host predicate verb, and by topology, namely by specific positioning of the incorporated modifier co-predicate, in so-called CO-PREDICATE POSITION, which in grammar is discontinuous with respect to the head verbal position. In actual discourse, however, this potential discontinuity is reduced to a considerable degree by minimizing the material between host and copredicate; this minimization can also be seen as a (non-discrete) coding of complex predicate formation.

1.0. THE CONTENT AND EXPRESSION SIDES OF DANISH COMPLEX PREDICATES. An analytically incorporative complex predicate in Danish consists of a host predicate verb and an incorporated modifier copredicate, and these items, that of the totality ('mother') and those of its immediate parts ('daughters'), are signs, i.e. pairings of CONTENT ('meaning') and EXPRESSION ('form'). Schematically, a complex predicate – like every other construction – can be represented by a tree diagram as in Figure 1a, using, arbitrarily, the first letters of the alphabet to designate the items and relations of the representation. Capital letters indicate items, small letters relations.

| CONTENT | | | EXPRESSION | | | |
|---------|-----|-----|------------|-----|-----|----------|
| 'C' | | | /C/ | | | Totality |
| 'a' | 'd' | 'b' | /a/ | /d/ | /b/ | ----- |
| 'A' | 'c' | 'B' | /A/ | /c/ | /B/ | Parts |

FIGURE 1a. A complex predicate as a sign.

In the diagram, C is the mother (totality), in our case a complex predicate, seen as both a contentive representation, 'C', and an expression, /C/. Notice that in the linguistic code there obtains a SIGN RELATION between the content side and the expression side of the complex predicate. A sign relation is unidirectional. Semiotically, it is a SYMBOLIZATION rule (roughly a directive, 'If you want to convey content 'C', you should use expression /C/.'). This rule functions as major premise in the linguistic coding of a complex predicate. The minor premise is the instantiation of 'C' (the speaker wants to convey 'C'), and the conclusion is the instantiation of /C/ in accordance with the symbolization rule, both instantiations occurring in a concrete usage event. Grammar is thus logically a deductive system and production is a deduction.

These remarks can be fleshed out by a concrete example, *han læste avis* 'he was reading (a) newspaper', where the complex predicate (C) is in bold-face. The stem *læs-* 'read' is the host predicate ('A') and the stem *avis* 'newspaper' is the copredicate ('B'). The host predicate is coded by UNIT ACCENTUATION (i.e. destressing, signaled by a hyphen in front of the stem), the copredicate is coded by a special positioning (not signaled specifically here, but see below). The semantic relation – of conceptual integration – between the host and copredicate ('_') is coded in Danish ANALYTIC INCORPORATION, in actual speech events, by a minimized distance (/^/), in number of words, between the linear manifestation of the host and copredicate. Semantically, the complex predicate ('C') is analyzable into its constituent predicates ('A', 'B'), and this is captured by two daughter 'dominance' relations, 'a' and 'b'. They, too, have corresponding expressions (/a/, /b/). Provisionally this can be represented as in Figure 1b. (The composite relation d will be dealt with below.)

| CONTENT | | | EXPRESSION | | | Totality |
|----------------------|----------|--------|-------------|-----|--------|----------|
| 'læs- _ avis' | | | /-læs^avis/ | | | |
| 'a' | 'd' | 'b' | /a/ | /d/ | /b/ | ----- |
| 'læs-' | _ | 'avis' | /-læs/ | /^/ | /avis/ | Parts |

FIGURE 1b. The complex predicate *læs-avis* as a sign.

Semiotically, a complex predicate – like any other linguistic sign – occurs in three modes: as a potentiality of the linguistic system, as a textu-

al manifestation in a concrete usage event, and in its on-line productive and receptive processing. Processing and processing principles will be prominent in this contribution.

Before we can embark on the specifics of complex predicates and processing in Danish, we shall have to go into some detail as regards the components of Figure 1, since they will be relevant in the further investigation.

A Danish complex predicate is on its content side PHRASEOLOGICAL: it denotes an INSTITUTIONALIZED activity or state and is thus partly lexicalized, or norm-governed. In terms of (semantico-) syntactic category it is a subtype of V, on a par with a simplex V. It will be designated V2.

The daughter dependencies obtaining between C and its immediate constituents, A and B, namely the relations a and b in Figure 1 may be viewed either bottom-up, as 'dependency' relations, or top-down, as 'dominance' relations. In the latter case, one may speak about ANALYZABILITY, as mentioned above – there are different degrees of semantic compositionality or idiomaticity of C. Also 'sister' dependencies are recognized, indicated as the relation c in Figure 1a. They mediate between a head, A, and its dependent, B (A c B). With regards to the content side of Danish complex predicates, these sister dependencies concern the semantic coherence of the complex predicate V2 (and could be abbreviated 'v2') – the degree to which the semantic relations between the host and copredicate manifest an integrated or unified (complex) concept. It goes without saying that the degree of IDIOMATICITY of the complex predicate V2 is a function of the coherence relation between its host and copredicate. The coherence relation between host and copredicate is a function of the AUTONOMY of these constituents. In the complex predicate in Figure 1b the copredicate is semantically non-autonomous in that it is a 'non-referential' modifier rather than a referential complement – it is not a TERM. This dependent status is reflected formally among other things by avoidance of permutation: *?avis læste han* 'newspaper read he' is dispreferred (highly marked).¹ The host predicate of a complex predicate is also semantically less autonomous – 'weaker' – than a 'normal' V. It will be designated V1. In

1. A complex predicate may exceptionally involve a permutation between the host predicate and the copredicate, whereby the copredicate is 'fronted' and placed in clause-initial, preverbal position (the so-called FUNDAMENT of structuralist, Diderichsenian Danish grammar), and the host verb 'regains' main stress as a signal of the exceptional manifestation of the complex predicate. Permutation, severely restricted in its application, often

the example at hand V1 denotes an activity rather than an action (i.e. the causal combination of an activity and a resultant state), the goal of the action being 'reduced to' a specification of the activity: V2 *-læse avis* 'be newspaper reading' versus the action VP *+læste avisen* 'read the newspaper'.² V1 has a valency slot for its incorporated dependent, the modifier termed COPREDICATE. It will be abbreviated Co-P.

In the diagram in Figure 1 a derived, constructional relation *d*, takes, bottom-up, the head and its dependents and CONSTRUCTS *C*, semantically '*d*(A,B)=*C*'. This is the operation of UNIFICATION (merging). (Conversely, it BIFURCATES *C*, top-down, into *A* and *B*.)

The following observations are important when considering the expression side of a complex predicate: /V1/ is a UNIT-ACCENTED, i.e. weakly stressed variant of a full verb (involving lack of 'normal' main stress and often also length and glottal catch, STØD). Unit Accentuation (of a lexical verb) is a signal to the hearer (i.e. his 'parser') to construct a complex predicate node, V2. /V1/ is a DISCRETE coding (MINUS stress, etc.). A copredicate also has a discrete expression, the coding in a special discontinuous co-predicate word order position between two adverbial slots, A1 and A2, SEVERAL POSITIONS AFTER the head verb position. In actual usage the distance /v2/, in terms of number of words, between /V1/ and /Co-P/ may be rather long, even though it seldom is so. /v2/ is used as a coding of the sister dependency 'v2'. It concerns the TENDENCY in ACTUAL USAGE to AVOID AS MUCH AS POSSIBLE (GIVEN THE DISCONTINUOUS CHARACTER OF THE CONSTRUCTION) DISCONTINUITY in the ordering of a copredicate with respect to its host. /v2/ is a VARIABLE expression, measurable in terms of number of words between /V1/ and /Co-P/. Proportional symbolization between 'v2' and /v2/ is hypothesized: the 'tighter' 'v2' is the smaller the distance /v2/ will be, i.e. the more continuous will /V1/ and /Co-P/ be (with idiomatic expressions being tightest and thus closest manifested). This is an instance of BEHAGHEL'S LAW ('what belongs together goes together'), a universal principle constraining the manifestation of linguistic complexes (overruled however by the existence of DISCONTINUOUS incorporation). This principle includes Andersen's (1991) general PROJECTION PRINCIPLE, stating that 'relations of EQUALITY in paradigmatics are PRO-

seems to suspend the idiomaticity of a complex predicate, and is therefore not well-suited for (especially) idiomatic complex predicates.

2. + means stressed.

JECTED as relations of CONTIGUITY in syntagmatics'. The contentive paradigmatics concerns the markedness relations obtaining within the linguistic system, such that for example an action verb is unmarked with respect to a corresponding activity variant; a referential noun (phrase) is unmarked, and a non-referential one is marked; and a stressless /V1/ variant is marked, as is the Co-P word order positioning of an NP.³ The Projection Principle then claims that unmarked categories go with unmarked categories and marked categories with marked categories in the syntagmatics of the language. Thus, semantically, the marked activity variant *læs-* 'read (activity)' is combined with the marked non-referential variant of the noun *avis* 'newspaper (non-referential)'. On the expression side of the complex predicate the marked, unstressed variant of the verb is constructed with the specially positioned copredicate (marked) in a unit accentuation combination. This construction tends to be tight and tighter than a 'normal' VP. Behaghel's Law also includes Hawkins' general principle of EARLY IMMEDIATE CONSTITUENTS whereby a contentive syntactic structure is expressed as easily, effectively, and rapidly as possible, in unmarked (non-exceptional) cases (Hawkins 1994, 1998, 2000).

1.1. CONTENT AND EXPRESSION, 'MEDIATING SYNTAX' AND PROCESSING: QUANTITATIVE SYNTACTIC WEIGHT. In processing, a contentive syntagm is assigned, by a 'MEDIATING SYNTAX', a quantitative measure of SYNTACTIC WEIGHT (OR COMPLEXITY, HEAVINESS – Hawkins' CONSTITUENT RECOGNITION DOMAIN, Hawkins 1994). This weight is relevant to the ordering of the syntagm on the expression side, for word order processing is regulated according to the principle of Early Immediate Constituents mentioned above, resulting in a statistical tendency of 'well-behaved' orders of SHORT-BEFORE-LONG constituents (in head-initial languages), where constituent CONSTRUCTORS are kept as close to each other as possible, *ceteris paribus*. I will be more explicit about this in the present section.

Let the complex syntagm D consist of two complex daughters E and H, and let an ordering rule yield /E-H/. If the head of E, namely the constructor F, is left-peripheral then its dependent G will 'intrude' between F and the likewise left-peripheral head of H, namely the constructor I, whereas the dependent of the latter, namely J, will not affect syntactic weighing – it lies outside the Constituent Recognition Domain, CRD, consisting of F, G, and

3. Normally an NP occurs in Subject or Object position.

I. The longer the 'intrusive' dependent G is the heavier the syntagm D will be. A heavy syntagm is difficult to process, and given that processing 'should' be easy, rapid, and efficient, long 'intrusive' material will tend to be avoided, for instance by EXTRAPOSING G – or part of it, as below – thereby removing it from the CRD. In this description the immediate constituents F and I will come 'early' in the linear arrangement, and by being constructors/heads they will tend to be 'short' (possibly consisting of one word each), whereas the dependent J will have the possibility of being 'longer'.

The present model with a syntax mediating between content and expression by assigning quantitative syntactic weight to contentive syntagms and by constraining the ordering of the syntagms thus weighed is summarized in Figure 2a, elaborated in Figure 2b.

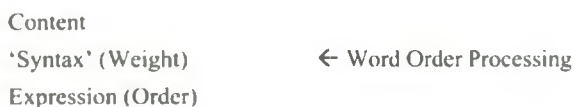


FIGURE 2a. Syntax as mediating between content and expression.

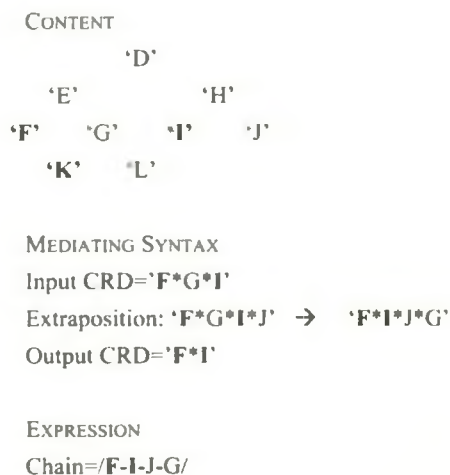


FIGURE 2b. Syntax as mediating between content and expression, an illustration (boldface indicates heads/constructors).

Given that F 'constructs' E and I constructs H, the receiver of the chain /F-I-J-G/ can recognize E and H immediately (and if E constructs D, also D), because the constructors F and I are right next to each other. An 'intrusive' G would delay processing. Notice that Extraposition is located within the mediating syntax. The model does not posit an ACTUAL order which is only afterwards permuted, but a VIRTUAL input order is implied. This virtual order would, without undergoing permutation, result in a non-optimal actual order on the expression side (/F-G-I-J/).

Before illustrating the above, it should be emphasized that linguistic structure may involve complicating factors (e.g. ambidependency) which will result in competing orderings. Take object-governing particle verbs in the Scandinavian languages. In Danish the particle Co-P is obligatorily ordered after the object, in Swedish V1 and Co-P are contiguous, whereas in Norwegian there is variation. Given that the object NP (in very many cases) functions as a subject of the Co-P functioning as the predicate in a secondary predication, it is natural in a SVO language that the object should be ordered before the Co-P. This gives a tension between two 'natural' orderings: (a) object after Co-P (short-before-long constraint); (b) Co-P after object (subject-predicate order).

A clear-cut illustration of the above process (cf. Figure 2) is the EXTRAPOSITION (to the right) of heavy relative clauses occurring in object NPs of verb-particle constructions (instances of complex predicates, V2). The WHOLE object conceptually belongs BETWEEN the host verb, V1, and the incorporated particle Co-P and is ordered accordingly (given that Danish has discontinuous incorporation and that the object NP functions as the subject of the Co-P as a secondary predicate). But if the relative clause is 'heavy' (consists of many words), it may be extraposed to the right of /V2/. This extraposition takes place more often the heavier the relative clause is, to the effect that the distance, /v2/, between the verbal head V1 and its dependent particle Co-P is reduced. The MEDIATING SYNTAX measures the heaviness of the object-containing verb-particle construction V2, and the greater this measure is the stronger is the tendency to avoid the eventually resulting processing complexity by placing the intrusive material in a non-complicating position. This may be diagrammed as in Figure 2c.

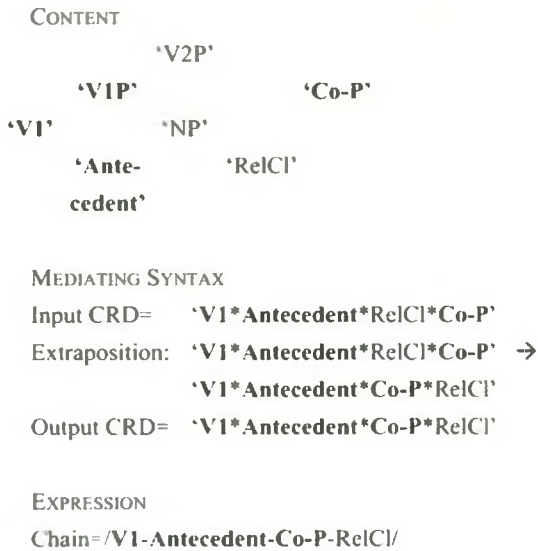


Figure 2c. Word order processing of a complex verb-particle construction, involving an object NP containing a relative clause.

1.2. MORPHOSYNTACTIC TYPES OF COMPLEX PREDICATES IN DANISH. Before continuing with the kind of complex predicate introduced above, namely discontinuous, analytic incorporation in Danish, a synopsis should be given of the total system of complex predicates, as in Table 1. The primary distinctions are between the morphosyntactic techniques of ANALYSIS and SYNTHESIS, and between HEAD-DEPENDENT and DEPENDENT-HEAD ORDERING. (The examples are not authentic, object-linguistic, but purely metalinguistic.)

| VP | ANALYTIC V2 | SYNTHETIC V2 |
|--|---|---|
| V-O: 1'. (fange _V en _D fisk _N) | 1. fange _V fisk _N (Dispound) | fange _V -fisk _N -e _V (Dutch) (Compound) |
| O-V: 0'. (en _D fisk _N fange _V) | 0. fisk _N fange _V | 2. fisk _N -e-fange _V (Compound) |
| SIMPLEX V | | SYNTHETIC DERIVATION V2 |
| 3'. (fisk _V -e _V) | | 3. fisk _N -Ø _V -e _V |

TABLE. 1. A synopsis of types of complex predicates.

The table shows all possible types,⁴ some of which are in use now, some earlier in the history of Danish. Type (1) is the major productive analytic 'dis-pounding' type (with V-O order), the focus of the present investigation, (2) a minor productive compounding type (with O-V order), and (3) a type termed *INDERIVATION* by Langgård (this volume). (For the sake of completeness, a fourth compounding type with V-O order, which is marginally found in Dutch (cf. Nedergaard Thomsen, this volume), is also adduced.)

The following examples illustrate the distinction between complex predicates and normal or antipassivized VPs.⁵

- (0) a. *Se dér! Løven +æder kødet.* (type 1') (Action V) (Sbj=spec) (Obj=ref)
'Look! The lion is eating the meat.'
b. *Se dér! Løven +æder af kødet.* (Activity V) (Sbj=spec) (Obl=ref,part)
'Look! The lion is eating (of) the meat.'
- (1) a. *Se dér! Løven -æder kød.* (type 1) (Activity V1) (Sbj=spec) (Co-P=non-ref)
'Look! The lion is eating meat.'
b. *Hør nu her! En løve -æder kød.* (type 1) (State V1) (Sbj=gen) (Co-P=non-ref)
'Listen! A lion eats flesh.'
c1. *Løven er kød-ædende.* (type 2) (State NV) (Sbj=gen) (Co-P=non-ref)
'The lion is flesh-eating/carnivorous.'
c2. *Løven er en kød-æder.* (type 2) (State NV) (Sbj=gen) (Co-P=non-ref)
'The lion is a carnivore.'

2. DIFFERENT ISSUES IN THE WORD ORDER PROCESSING OF COMPLEX PREDICATES IN DANISH. In this section I shall briefly summarize some issues in the word order processing of Danish discontinuous incorporative complex predicates which will be investigated empirically in section 3.

4. NB: *fange* 'catch', *fisk* 'fish', *en* 'a', *-e* 'infinitive'. The constructions are only illustrative – there is no verbal compounding construction in Modern Danish *fisk(e)fange* 'fish-catch (V)' (nominal compounds like *fiskN-e-fangV-stV-N* 'fish-catch (N)' are always grammatical), but with other morphemes the construction occurs, e.g. *fejlfN-søgeV* 'fault-seeking (V)'.

5. Abbreviations: *Spec* specific; *gen* generic; *ref* referential, *non-ref* non-referential; *part* partial.

2.1. THE TOPOLOGICAL DISCONTINUITY OF COMPLEX PREDICATES AS COMPARED TO VPs IN DANISH, THE CASE OF OBJECT INCORPORATION. The first issue is the topological discontinuity of complex predicates (V2s) and normal VPs in Danish.

Danish is a verb-second language, and this means that a **FINITE** verb in the major type of main clause occurs right after the clause-initial constituent, the so-called **FUNDAMENT** (in GB-terminology: Specifier of CP, in first clause-internal position). The object NP of a simple finite transitive V (in so-called **v-position**) occurs in the objects slot (**N**) to the right in the clause, after a **NEXUS** subject (**n**) and adverbials with clausal scope (**a**). However, if the finite verb is an incorporating V1, its copredicate NP ('incorporated object') occurs further to the right, in the **Co-P** position (mentioned in the introduction and in section 1.0), not only after a subject and clausal adverbials but also, potentially, after a predicate-central adverbial (for example of *Manner*) in the position **A1**. This state of affairs is shown in Table 2.

| | NEXUS FIELD | | | CONTENT FIELD | | | | | |
|--------------------|-------------|---|---|---------------|----------|----|-------------|----|------------------------|
| | v | n | a | V | N | A1 | Co-P | A2 | |
| V2 _f : | V1 | + | + | - | - | + | IN-O | | (discontinuous V2: 3+) |
| VP _f : | V | + | + | - | O | | - | | (discontinuous VP: 2+) |
| V2 _{nf} : | - | | | V1 | - | + | IN-O | | (discontinuous V2: 1+) |
| VP _{nf} : | - | | | V | O | | - | | (continuous VP: 0+) |

Positions: **v** finite verb, **n** nexus subject, **a** clausal adverbials, **V** non-finite verb, **N** objects, **A1, A2** predicate-central adverbials, **Co-P** copredicate. Fillers: **IN-O** incorporated object, **O** 'normal' object. + possible 'intrusive' material; - impossible instantiation. Subscripts: **f** finite, **nf** non-finite.

TABLE 2. Topological discontinuities of complex predicates and VPs in Danish.

The crucial thing about the above state of affairs is that a complex predicate in Danish is **POTENTIALLY** more discontinuous, topologically, than a normal VP, as seen in Table 2 (note the number of +'s). This is counterintuitive and against Behaghel's Law mentioned in section 1.0 above: one would expect an ordering scheme whereby a VP would have the possibility of being more discontinuous in terms of number of intrusive positions than a complex

predicate, assuming that the semantic coherence relation in Figure 1 above ('c') would be 'tighter' for a V2 than for a VP, and thus, diagrammatically, that its topological expression would be a tighter ordering contiguity. In terms of ANALOGY, however, a copredicate would be expected among predicate-central adverbials because it is a MODIFIER (however bound), restricting the contents of the host predicate (cf. Heltoft 1997). Predicate-central adverbials are ordered after the VP, in conformity with the fact that they are adjuncts of the VP. Structural analogy (implying discontinuity) has thus been a competing motivation to the continuity-favoring processing principle mentioned above and it 'won' in the history of Danish.

However, the fact that a VP is topologically more continuous than a complex V2 only relates to the GRAMMAR of Danish (the potentiality mode alluded to above), not to USAGE, i.e. actually occurring texts containing instantiated complex predicates. We do not know *a priori* whether V1 and an incorporated object are in fact more contiguous in actual usage than V and a 'normal' object, i.e. what degree, by how many words (from 0 onwards), the positions are instantiated in running text. The principle of Early Immediate Constituents would predict for actually occurring texts a performance regulation of the wording of semantic purport: immediate constituents between V1 and copredicate should be minimal in terms of number of words per immediate constituent. This means that there is a 'backwards' causality ('look ahead' planning) between the target of coding a conceptually unitary complex predicate (however expressionally discontinuous) and the intended wording of other constituents of the clause.

2.2. PARTICIPLES IN NON-FINITE VERB POSITION VS. IN CO-P POSITION IN CAUSATIVE-RESULTATIVE CONSTRUCTIONS. Related to the above matter is the issue of the placement in Danish of perfect participles in construction with the transitive causative-resultative verbs *få* 'get' and *have* 'have'. These causative-resultative verbs are grammaticalized variants of the simple Vs *få* 'receive' and *have* 'possess'. They are semi-lexical/semi-grammatical, not fully grammatical AUX verbs. There is a contrast (when they are finite in the finite verb slot, v) between their semi-grammatical use, with their dependent participle in non-finite V position, and their semi-lexical use, with their dependent participle in Co-P position. As in the case of verb-particle constructions mentioned in section 1.1 above, the object of the semi-lexical verb, V1, is the subject of the predicative Co-P par-

ticiples, thus motivating the discontinuity of the complex predicate. The principle of early immediate constituents would predict that the longer the object is (and potentially more rhematic/less topical) the stronger would be the tendency to use the semi-grammatical construction and place the participle in non-finite V position (and thus overrule the coding of the secondary nexus), and conversely, the shorter the object the stronger the tendency to use the semi-lexical construction and place the participle in Co-P position (and thus respect the coding of the secondary nexus). An alternative proposal would be that rather than the wording of the object determining the ordering of the participle, it is the choice of construction – semi-grammatical or semi-lexical – that determines the wording POSSIBILITIES of the object (i.e. the tendency for a long object in the former case vs. the tendency for a short object in the latter case). Adjustment according to information-structuring principles is also plausible: if the object is rhematic, it would be expected to occur post-participially (not being a good candidate for subject function in a secondary nexus). However, in the case of more thematic objects (good candidates for subject function in a secondary nexus) a pre-participial position would be expected.

2.3. EXTRAPOSITION OF RELATIVE CLAUSES OUT OF OBJECT NPs OF TRANSITIVE VERB-PARTICLE CONSTRUCTIONS. As mentioned in section 1.1, relative clauses of objects of transitive verb-particle constructions may be extraposed, i.e. right dislocated. The longer the relative clause the stronger the tendency would be to extrapose it, according to the principle of Early Immediate Constituents, thus optimizing the CONSTITUENT RECOGNITION DOMAIN of the complex predicate and thereby furthering the performance efficiency. (The informational status of the relative clause may also contribute to determining the choice of extraposition, but I shall not pursue this possibility further here.)

2.4. THE USE OF THE ADVERBIAL POSITIONS AROUND THE Co-P POSITION: A1 vs. A2. The last issue to be dealt with in this contribution is that of the use of either pre-copredicate adverbial position, A1, or of post-copredicate adverbial position, A2. Some examples involving complex verb phrases and predicate-central adverbials will illustrate the matter – compare 2, 3, and 4.

| NEXUS FIELD | | | | CONTENT FIELD | | | | |
|------------------|-------|--------------|---|---------------|---------------|---------------|-----------------|----------------|
| | v:AUX | n | a | V | N | A1 | Co-P | A2 |
| (2) ⁵ | a. | <i>havde</i> | - | - | <i>+læst</i> | <i>avisen</i> | <i>flittigt</i> | |
| | a*. | <i>havde</i> | - | - | <i>+læst</i> | - | <i>flittigt</i> | <i>*avisen</i> |
| | b. | <i>havde</i> | - | - | <i>-læst</i> | - | <i>flittigt</i> | <i>avis</i> |
| | b'. | <i>havde</i> | - | - | <i>-læst</i> | - | - | <i>avis</i> |
| (3) ⁶ | a. | <i>havde</i> | - | - | <i>-sendt</i> | <i>hende</i> | <i>tidligt</i> | <i>hjem</i> |
| | a'. | <i>havde</i> | - | - | <i>-sendt</i> | <i>hende</i> | - | <i>hjem</i> |
| (4) ⁷ | a. | <i>havde</i> | - | - | <i>+skilt</i> | <i>den</i> | <i>hurtigt</i> | <i>ad</i> |
| | a'. | <i>havde</i> | - | - | <i>+skilt</i> | <i>den</i> | - | <i>ad</i> |

(Note that the examples in 4 show that there are non-incorporative complex predicates, whose host predicate does not undergo Unit Accentuation, but which nevertheless behave similarly with respect to copredicate placement *vis à vis* the adverbial positions A1 and A2.)

Here, as evident from the above proposals, the hypothesis is that the shorter the adverbial the easier it may 'intrude' between the constituents of the complex predicate V2, and *vice versa*, the longer it is the more difficult it will be for it to occur inside the topological manifestation of V2. This processing description takes the Constituent Recognition Domain of the total complex predicate into account. Alternatively, the ordering of adverbial and copredicate could be processed locally (i.e. without regard to the semantics of the V2), only comparing the relative complexity of the adverbial and the copredicate, such that a short adverbial will precede the copredicate, especially if the latter is long, but follow if it is longer (the SHORT-BEFORE-LONG principle).

5. Literal translations:

- a. had read newspaper:the studiously
- a*. had read studiously newspaper:the
- b. had read studiously newspaper
- b'. had read newspaper studiously

6. Literal translations:

- a. had sent her early home
- a'. had sent her home early

7. Literal translations:

- a. had pulled it quickly to pieces
- a'. had pulled it to pieces quickly

3. COMPLEX PREDICATES AND WORD ORDER PROCESSING IN DANISH.

3.1. AN INVESTIGATION OF THE WORD ORDER PROCESSING OF COMPLEX PREDICATES IN DANISH. An actual text is a **PRODUCT**, and as such it carries **INDEXICAL SIGNS** pointing to the processing principles which have been at work in its production. These indexes can be used by the linguist in the abduction of the processing principles: we hypothesize these principles and deduce hypothetical effects. Afterwards, we look in texts to see if the hypothesized effects are actually present, and if not, we revise the principles accordingly. **PROCESSING** could of course be studied on-line in psycholinguistic experiments, but insofar as I am interested here in the **GOVERNING PRINCIPLES**, (off-line) text measurements seem a viable method and have consequently been applied, in line with Hawkins' (1994) **PERFORMANCE THEORY OF ORDER AND CONSTITUENCY (PTOC)**. In the following, I shall investigate empirically each of the issues, mentioned in section 2, in the word order processing of Danish complex predicates.

3.1.1. THE PROCESSING OF THE OBJECT INCORPORATION CONSTRUCTION. The example of Object Incorporation mentioned in section 2.1 will be investigated empirically in this subsection. As Table 2 indicated (the non-periphrastic part of which is repeated here in 5 for convenience), a normal object-containing VP (VP-O) is potentially more continuous in Danish than an Object Incorporation construction (V2-O).

- | | | | | |
|-----|----|-------|------------------|----------------------------------|
| (5) | a. | V2-O: | v:V1 – Co-P:IN-O | = 3 intrusive positions (n,a,A1) |
| | b. | VP-O: | v:V – N:O | = 2 intrusive positions (n,a) |

However, we hypothesize that the semantic coherence relation 'v2' obtaining between the host predicate V1 and its incorporated-object copredicate within a complex predicate V2 is 'tighter' than the one obtaining between a normal V head and its dependent object NP ('vp'), and that this stronger semantic proximity will be coded diagrammatically by a greater topological continuity in actual discourse. The processing principles of PTOC (Hawkins 1994) would predict no difference between the two constructions, since processing principles are taken to be semantically 'blind', or 'informationally encapsulated'. This 'zero hypothesis' is the backdrop of the present **FUNCTIONAL-SEMIOTIC** perspective. The empirical question is thus: to what degree are the intrusive positions utilized in actual Danish dis-

course? The following Tables (3 ff.) show this. (Only non-periphrastic forms are investigated because only here is VP potentially discontinuous.)

The first of the tables, Table 3 (A,B), shows that even though there is no difference as to the average number of intrusive positions employed in the two constructions (thus confirming PTOC on this point), there is a significant difference if the PROPORTION of the intrusive positions is taken into account. In normal VPs the intrusive positions count 50% each (there are two positions for potential use), whereas in the Incorporation Construction the intrusive positions count 33% each (there are three positions for potential use). If zero position is manifested, 0% of the potential space is used in both distributions, but if one position is manifested, 50% of the potential space is occupied in the case of a normal VP whereas only 33% is occupied in the case of the Incorporation Construction.

A. SHORT STORIES: STILLING 1974, 118 PAGES OF DATA; 1ST CODING

VP-O (N=360;75%)

| P | Weight(P) | N | % | NxWeight(P) | NxP |
|----------------|-----------|-----|--------------|---------------------------|--------------|
| 0 | 0% | 194 | 53.89 | 0 | 0 |
| 1 | 50% | 142 | 39.44 | 7100 | 142 |
| 2 | 100% | 24 | 6.67 | 2400 | 48 |
| Total | - | 360 | 100 | 9500 | 190 |
| Average | | | | 21.94% (=9500/360) | 0.53P |

V2-O (N=120;25%)

| P | Weight(P) | N | % | NxWeight(P) | NxP |
|----------------|-----------|-----|--------------|------------------------------|--------------|
| 0 | 0% | 63 | 52.5 | 0 | 0 |
| 1 | 33.33% | 53 | 44.17 | 1766.49 | 53 |
| 2 | 66.67% | 4 | 3.33 | 266.68 | 8 |
| 3 | 100% | 0 | 0 | 0 | 0 |
| Total | - | 120 | 100 | 2033.17 | 61 |
| Average | | | | 16.94% (=2033.17/120) | 0.51P |

B. NOVEL: RIFBJERG 1966, 73 PP OF DATA

VP-O (N=327: 87.90%)

| P | Weight(P) | N | % | NxWeight(P) | NxP |
|---------|-----------|-----|-------|--------------------|-------|
| 0 | 0% | 194 | 59.33 | 0 | 0 |
| 1 | 50% | 119 | 36.39 | 5950 | 119 |
| 2 | 100% | 14 | 4.28 | 428 | 28 |
| Total | - | 327 | 100 | 6378 | 147 |
| Average | | | | 19.50% (=6378/327) | 0.45P |

V2-O (N=45: 12.10%)

| P | Weight(P) | N | % | NxWeight(P) | NxP |
|---------|-----------|----|-------|---------------------|-------|
| 0 | 0% | 27 | 60 | 0 | 0 |
| 1 | 33.33% | 17 | 37.78 | 566.61 | 17 |
| 2 | 66.67% | 1 | 2.22 | 66.67 | 2 |
| 3 | 100% | 0 | 0 | 0 | 0 |
| Total | - | 45 | 100 | 633.28 | 19 |
| Average | | | | 14.07% (=633.28/45) | 0.42P |

TABLES 3. (A,B). Discontinuity of VP-O vs. V2-O, in terms of number of manifested positions between head and dependent.

Table 3 (A,B) shows that an object-containing VP (VP-O) is 5% heavier than an Object Incorporation construction (V2-O). Distance between head and dependent thus seems to be a semiotic cue (INDEX) of the two different constructions in actual discourse. (A Chi-square test, shown in Table 1 (A,B) in Appendix I, indicates that only in the short stories is the difference of distance between head and dependent statistically significant on a 1% level of probability – but there the different weights of a given position in the two constructions is not taken into account.)

We do not know whether word order POSITION is a psycholinguistically real factor in linguistic performance, but there is ample evidence as to the psychological reality of the WORD and of the morphosyntactic structure built up by words. The next strategy in the investigation of the INDEXICALITY of topological distance between head and dependent is to deploy word as the unit of measure. First, however, the total picture of the manifestation of the positional potential between head and dependent was analyzed, as shown in Table 4.1(A,B).

A. STILLING 1974, 118 PAGES OF DATA; 2ND CODING; M,N IS P,W, E.G. 2 POSITIONS WITH 3 WORDS in total

| VP-O | 0,0 | 1,1 | 1,2 | 1,3 | 1,4 | 1,7 | 2,2 | 2,3 | 2,4 | 2,5 | 2,7 | Total |
|--------------|-------|-------|-------|-------|------|------|------|------|------|------|------|--------|
| N | 185 | 115 | 16 | 11 | 2 | 1 | 13 | 6 | 2 | 2 | 1 | 354 |
| % | 52.26 | 32.49 | 4.52 | 3.11 | 0.56 | 0.28 | 3.67 | 1.69 | 0.56 | 0.56 | 0.28 | 99.98 |
| P | - | 115 | 16 | 11 | 2 | 1 | 26 | 12 | 4 | 4 | 2 | 193 |
| W | - | 115 | 32 | 33 | 8 | 7 | 26 | 18 | 8 | 10 | 14 | 271 |
| %W | - | 42.44 | 11.81 | 12.18 | 2.95 | 2.58 | 9.59 | 6.64 | 2.95 | 3.69 | 5.17 | 99.96 |
| W/P | | | | | | | | | | | | 1.40W |
| W/N | | | | | | | | | | | | 0.77W |
| CRD=2/2+0.77 | | | | | | | | | | | | 72.20% |

| V2-O | 0,0 | 1,1 | 1,2 | 1,4 | 2,2 | Total |
|--------------|-----|-------|------|------|-------|--------|
| N | 60 | 54 | 1 | 1 | 4 | 120 |
| % | 50. | 45. | 0.83 | 0.83 | 3.33 | 99.99 |
| P | - | 54 | 1 | 1 | 8 | 64 |
| W | - | 54 | 2 | 4 | 8 | 68 |
| %W | - | 79.41 | 2.94 | 5.88 | 11.76 | 99.99 |
| W/P | | | | | | 1.06W |
| W/N | | | | | | 0.57W |
| CRD=2/2+0.57 | | | | | | 77.82% |

Conclusion of Table 4.1(A): CRD(V2-O) is around 5% better than CRD(VP-O).

B. RIFBJERG 1966, 73 PP OF DATA

| VP-O | 0,0 | 1,1 | 1,2 | 1,3 | 1,4 | 1,5 | 1,7 | 1,8 | 1,19 |
|------|----------|-------|------|-------|------|------|------|------|------|
| N | 194 | 89 | 11 | 10 | 4 | 2 | 1 | 1 | 1 |
| % | 59.33 | 27.22 | 3.36 | 3.06 | 1.22 | 0.61 | 0.31 | 0.31 | 0.31 |
| P | - | 89 | 11 | 10 | 4 | 2 | 1 | 2 | 1 |
| W | - | 89 | 22 | 30 | 16 | 10 | 7 | 16 | 19 |
| %W | - | 35.74 | 8.84 | 12.05 | 6.43 | 4.02 | 2.81 | 6.43 | 7.63 |
| W/P | | | | | | | | | |
| W/N | | | | | | | | | |
| CRD | 2/2+0.76 | | | | | | | | |

| V2-O | 0,0 | 1,1 | 1,3 | 2,2 | Total |
|------|----------|-------|-------|------|--------|
| N | 27 | 16 | 1 | 1 | 45 |
| % | 60 | 35.56 | 2.22 | 2.22 | 100% |
| P | - | 16 | 1 | 2 | 19 |
| W | - | 16 | 3 | 2 | 21 |
| %W | - | 76.19 | 14.29 | 9.52 | 100% |
| W/P | | | | | 1.11W |
| W/N | | | | | 0.47W |
| CRD | 2/2+0.47 | | | | 80.97% |

Conclusion of Table 4.1(B): CRD(V2-O) is around 8% better than CRD(VP-O).

| 2,2 | 2,3 | 2,4 | 2,5 | Total |
|------------|------------|------------|------------|----------------|
| 8 | 2 | 2 | 2 | 327 |
| 2.45 | 0.61 | 0.61 | 0.61 | 100.01% |
| 16 | 4 | 4 | 4 | 148 |
| 16 | 6 | 8 | 10 | 249 |
| 6.43 | 2.41 | 3.21 | 4.02 | 100.02% |
| | | | | 1.68W |
| | | | | 0.76W |
| | | | | 72.46% |

Conclusion of Tables 4.1(A,B): filling of the positions inside V2-O gives a better CRD than the filling of the positions inside VP-O.

TABLE 4.1(A,B). Discontinuity of VP-O vs. V2-O, in terms of average number of words (per manifested position) between head and dependent (W/P), average number of words between head and dependent (W/N); and Constituent Recognition Domain.

As pointed out above, topological distance (/c/) measured in terms of number of words is a psycholinguistically significant factor in the processing ease of morphosyntactic constructions (Hawkins 1994). Table 4.2(A,B) below gives Chi-square measures for this factor. As seen, VP-O and V2-O have different distributions.

CHI-SQUARE TESTS FOR INDEPENDENCE

A. SHORT STORIES

| /c/ | = | 0W | 1W | 2W | 3+W | sum |
|------|---|-----|-----|----|-----|-----|
| O | | 185 | 115 | 29 | 25 | 354 |
| VP-O | E | 183 | 126 | 25 | 19 | |
| O | | 60 | 54 | 5 | 1 | 120 |
| V2-O | E | 62 | 43 | 9 | 7 | |
| sum | | 245 | 169 | 34 | 26 | 474 |

$$X^2 = 12.389, df = 3; p < 1\% \text{ (two-tailed)}$$

B. NOVEL

| /c/ | = | 0W | 1W | 2+W | sum |
|------|---|-----|-----|-----|-----|
| O | | 194 | 89 | 44 | 327 |
| VP-O | E | 194 | 92 | 40 | |
| O | | 27 | 16 | 2 | 45 |
| V2-O | E | 27 | 13 | 6 | |
| sum | | 221 | 105 | 46 | 372 |

$$X^2 = 3.575, df = 2; p < 20\% \text{ (two-tailed)}$$

A'. SHORT STORIES

| /c/ | = | 0-1W | 2+W | sum |
|------|---|------|-----|-----|
| O | | 300 | 54 | 354 |
| VP-O | E | 309 | 45 | |
| O | | 114 | 6 | 120 |
| V2-O | E | 105 | 15 | |
| sum | | 414 | 60 | 474 |

$X^2 = 8.524$, $df = 1$; $p < 1\%$ (two-tailed); $p < 0.5\%$ (one-tailed)

B'. NOVEL

| /c/ | = | 0-1W | 2+W | sum |
|------|---|------|-----|-----|
| O | | 283 | 44 | 327 |
| VP-O | E | 287 | 40 | |
| O | | 43 | 2 | 45 |
| V2-O | E | 39 | 6 | |
| sum | | 326 | 46 | 372 |

$X^2 = 2.964$, $df = 1$; $p < 10\%$ (two-tailed); $p < 5\%$ (one-tailed)

TABLE 4.2. Cross-tabulation of discontinuity in VP-O vs. V2-O between head and dependent as measured in terms of number of words.

The above Chi-square measures show that VP-O and V2-O have topologically different distributions – but also, and this is important, that there are other factors involved: they are not especially ‘well-behaved’. (For instance, the coding of the head V1, i.e. Unit Accentuation, must be a decisive factor for processing – it signals to the parser that a V2 complex predicate is to be constructed.)

Stylistics (medium and register) is also involved, as demonstrated in Tables 5.0-2.

A. WRITTEN: NOVEL AND PHILOSOPHICAL ESSAY

Ai1. NOVEL: SEEBERG 1957:7-18

| /v2-O/ = | Ø | 1 | 2 | 3 | 4 | 5 |
|--------------|------|------|------|-----|-----|-----|
| N | 81 | 47 | 17 | 8 | 4 | 1 |
| % | 50.9 | 29.6 | 10.7 | 5.0 | 2.5 | 0.6 |
| DxN | 0 | 47 | 34 | 24 | 16 | 5 |
| W/N | | | | | | |
| CRD=2/2+0.84 | | | | | | |

Ai2. NOVEL: SEEBERG 1957:19-36

| /v2-O/ = | Ø | 1 | 2 | 3 | 4 | 5 |
|--------------|------|------|-----|-----|-----|-----|
| N | 107 | 44 | 17 | 7 | 4 | 1 |
| % | 59.4 | 24.4 | 9.4 | 3.9 | 2.2 | 0.6 |
| DxN | 0 | 44 | 34 | 21 | 16 | 5 |
| W/N | | | | | | |
| CRD=2/2+0.67 | | | | | | |

Aii1. PHILOSOPHICAL ESSAY: SØRENSEN 1976, PP 7-24

| /v2-O/ = | Ø | 1 | 2 | 3 | 4 | 5 |
|--------------|-------|-------|------|------|------|------|
| N | 94 | 40 | 13 | 12 | 8 | 3 |
| % | 55.29 | 23.53 | 7.65 | 7.06 | 4.71 | 1.76 |
| DxN | 0 | 40 | 26 | 26 | 32 | 15 |
| W/N | | | | | | |
| CRD=2/2+0.82 | | | | | | |

| ... | 8 | Total |
|-----|-----|---------|
| 0 | 1 | 159V2-O |
| 0.0 | 0.6 | 99.9% |
| 0 | 8 | 134W |
| | | 0.84W |
| | | 70.42% |

| Total |
|---------|
| 180V2-O |
| 99.9% |
| 120W |
| 0.67W |
| 74.91% |

| Total |
|---------|
| 170V2-O |
| 100.0% |
| 139W |
| 0.82W |
| 70.92% |

Aii2. PHILOSOPHICAL ESSAY: SØRENSEN 1976, PP 24-41

| /v2-0/ = | Ø | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 12 | 15 | Total |
|----------|----------|-------|-------|------|------|------|------|------|------|------|------|---------|
| N | 89 | 38 | 18 | 12 | 1 | 6 | 1 | 1 | 1 | 1 | 1 | 169V2-O |
| % | 52.66 | 22.49 | 10.65 | 7.10 | 0.59 | 3.55 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 99.9% |
| DxN | 0 | 38 | 36 | 36 | 4 | 30 | 6 | 7 | 8 | 12 | 15 | 192W |
| W/N | | | | | | | | | | | | 1.14W |
| CRD | 2/2+1.14 | | | | | | | | | | | 63.69% |

Conclusion: CRD(V2) is slightly better in novel (Ai) than in philosophical essay (Aii).

B. SPOKEN (CA. 1½ HRS OF SPONTANEOUS SPEECH DATA)

| /v2-0/ = | Ø | 1 | 2 | 3 | Total |
|----------|---------|------|------|-----|---------|
| N | 125 | 41 | 21 | 10 | 197V2-O |
| % | 63.5 | 20.8 | 10.7 | 5.1 | 100.1% |
| DxN | 0 | 41 | 42 | 30 | 113W |
| W/N | | | | | 0.57W |
| CRD | 2/20.57 | | | | 77.82% |

Conclusion: CRD(V2) is better in spoken speech (B) than in written (A).

TABLE 5.0. Discontinuity of V2-O: number of words between V1 and copredicate; CRD: written (A) versus spoken (B) text; novel (Ai) versus philosophical essay (Aii).

CHI-SQUARE TEST FOR INDEPENDENCE

| /v2-O/ = | | 0W | 1W | 2W | 3+W | sum |
|----------|---|-----|-----|----|-----|-----|
| Ai | O | 188 | 91 | 34 | 26 | 339 |
| | E | 186 | 84 | 32 | 36 | |
| Aii | O | 183 | 78 | 31 | 47 | 339 |
| | E | 186 | 84 | 32 | 36 | |
| sum | | 371 | 169 | 65 | 73 | 678 |

$$\chi^2 = 7.247, df = 3; 10\% > p > 5\% \text{ (two-tailed)}$$

TABLE 5.1. CRD(V2-O) in novel (Ai) versus philosophical essay (Aii).

CHI-SQUARE TEST FOR INDEPENDENCE

| /v2-O/ = | | 0W | 1W | 2W | 3+W | sum |
|----------|---|-----|-----|----|-----|-----|
| A | O | 371 | 169 | 65 | 73 | 678 |
| | E | 384 | 163 | 67 | 64 | |
| B | O | 125 | 41 | 21 | 10 | 197 |
| | E | 112 | 47 | 19 | 19 | |
| sum | | 496 | 210 | 86 | 83 | 875 |

$$\chi^2 = 8.520, df = 3; p < 5\% \text{ (two-tailed)}$$

TABLE 5.2. CRD(V2-O) in written (A) versus spoken (B) medium.

Table 5.2 indicates that the real difference is between written and spoken language. The spoken medium manifests a more efficient word ordering than does the written medium (but within the latter there are different degrees of efficiency, with philosophical essays slightly more inefficient than novels).

3.1.2. THE ORDERING OF PARTICIPLES IN CAUSATIVE-RESULTATIVE CONSTRUCTIONS: CO-P VS. PREDICATE. In section 3.1.1 it was shown that in processing terms an object-containing VP is less efficient than an Object Incorporation construction, and this difference was taken to be an indication (INDEX) of the semantic strength of the contentive sister dependency relation obtaining between head and dependent in the two constructions, the incorporated copredicate being more coherent than the full object. However, even though the constructions were indeed significantly different in terms of processing ease, they were not especially 'well-behaved'.

In this section, a different alternation is investigated. Where a 'normal' object-containing VP and an Object Incorporation construction are connected via an Object Incorporation transformation (understood as a system-internal mapping relation, or opposition between two constructions), the alternation to be dealt with in this section is not transformational but grammaticalizational, i.e. between a construction with a semi-grammatical causative-resultative verb as dependent operator and a perfect participle in nonfinite V-position as predicate head, and an Incorporation Construction with a semi-lexical causative-resultative verb as host predicate, V1, and a perfect participle in Co-P position as dependent copredicate. The processing prediction is that the longer the object the stronger is the tendency to use the semi-grammatical construction with a relatively short distance between causative-resultative verb and perfect participle (in finite constructions, two 'usable' positions, *n* and *a*), and conversely, the shorter the object the stronger the tendency to use the semi-lexical incorporation construction (resulting in a V2) with a relatively long distance between the two constituents (in finite constructions, four usable positions, *n*, *a*, *N*, and *A1*).

The difference between these two construction types can be seen in Table 6 (see Appendix II for textual examples of the above causative-resultative constructions). The constructions involve the verbs *få* 'get' and *have* 'have', the latter only when governed by modal AUX verbs (*måtte*, *skulle*, *ville*). The constructions are abbreviated according to the ordering between participle and object (VO or OV) and the initial letter of the causative-resultative verb (*f* vs. *h*) is prefixed: FVO and HVO for the construction with the participle as predicate, FOV and HOV for the construction with the participle as copredicate.

PARTICIPLE AS PREDICATE

FVO, HVO

Ex. FVO *Han -fik repareret bilen.*

(lit.) 'He got repaired his car.'

FVO

VP

V

VP

V

NP

fik repareret bilen

Unidependency

Predicted pragmatic tendencies:

O rhematic

O non-pronominal (including S' and VP')

PARTICIPLE AS PREDICATIVE COPREDICATE

FOV, HOV

Ex. FOV *Han -fik bilen repareret.*

(lit.) 'He got his car repaired.'

FOV

V2P

VIP

Co-P

V1

NP

fik bilen repareret

Ambidependency (+secondary predication)

Predicted pragmatic tendencies:

O thematic

O pronominal

TABLE 6. The difference between perfect participle as predicate head and as copredicate dependent in causative-resultative constructions.

I shall argue that the cognitive purport of the two constructions is the same: a causative-resultative state of affairs is conveyed. However, the different constructions construe this cognitive matter differently. If the causality is in focus, the causal-resultative verb is host predicate and the result is a predicative participle copredicate. If the result is in focus, the resultative participle is predicate, and the causative-resultative verb is a semi-auxiliary operator. The two constructions differ with respect to degree of grammaticalization, the former being less grammaticalized than the latter.

To investigate the processing difference between the two constructions, the complex predicate FOV/HOV and the verbal complex FVO/HVO, a corpus (Bergenholtz') of written and spoken language (respectively nine million and one million running words) was consulted (by Jan Daugaard, to whom I am greatly indebted). The 128 most frequent perfect participles of transitive verbal stems were collected and listed in concordance with the causative-resultative verbs, for convenience restricted to FOV and FVO. (HOV was compared to FOV and was found to be identical with it. Being an all too extensive group, non-modalized HVO was left out of the investigation.)

Grammatical complexity of the governed object, in terms of number of words, is seen to be a decisive factor in word ordering, compare Tables 7 and 8.

CHI-SQUARE TEST FOR INDEPENDENCE

| O = | 1W | 2W | 3W | 4W | 5W | 6-8W | 9-18W | sum | |
|-------|-------|-------|-------|------|------|-------|-------|------|---------|
| O | 594 | 203 | 80 | 22 | 13 | 8 | 0 | 920 | 57.32% |
| FOV E | 436 | 186 | 96 | 42 | 28 | 57 | 76 | | |
| % | 64.57 | 22.07 | 8.70 | 2.39 | 1.41 | 0.87 | 0 | 100% | |
| O | 166 | 121 | 87 | 51 | 36 | 91 | 133 | 685 | 42.68% |
| FVO E | 324 | 138 | 71 | 31 | 21 | 42 | 57 | | |
| % | 24.23 | 17.66 | 12.70 | 7.45 | 5.26 | 13.28 | 19.42 | 100% | |
| sum | 760 | 324 | 167 | 73 | 49 | 99 | 133 | 1605 | 100.00% |

$\chi^2 = 462.487$, $df = 6$; $p < 0.001$ (2-tailed)

Mean(O)/fov = $1445W/920 = 1.57W$

Mean(O)/fvo = $3309+W/685 = 4.83+W$

(+ : some Os are longer than the registration; they have arbitrarily been measured as one word longer)

Implications: fov \rightarrow 1-2W; $p = (797/920) = 87\%$ (iconic motivation)

3-18W \rightarrow fvo; $p = (398/525) = 76\%$ (economic motivation)

TABLE 7. Grammatical complexity of O as determining factor in FOV vs. FVO.

CHI-SQUARE TEST FOR INDEPENDENCE

| O = | 1W | 2W | 3+W | sum |
|-------|-----|-----|-----|-----|
| O | 49 | 16 | 10 | 75 |
| HOV E | 48 | 17 | 10 | |
| O | 594 | 203 | 123 | 920 |
| FOV E | 595 | 202 | 123 | |
| sum | 643 | 219 | 133 | 995 |

$\chi^2 = 0.023$, $df = 2$; $97.5\% > p > 95\%$

TABLE 8. Grammatical complexity of O as determining factor in HOV, implied by a comparison with FVO.

As Tables 7 and 8 very clearly indicate, the length of an object, as an informal measure of its grammatical complexity, is highly correlated with choice of construction, either FVO/HVO for long objects or FOV/HOV for short objects. This means that the complex predicate (V2) tolerates an object

between the head verb V1 and its predicative copredicate participle if the object is short (preferably shorter than three words); but when it is long, the participle 'usurps' the function as predicate head. Only in the former case is the object (secondary subject) ordered with respect to its predicative (secondary predicate) as a subject is ordered with respect to its predicate in Danish, namely in anteposition (topic-before-comment ordering). That is, length (economic motivation) overrules iconicity, and the more grammaticalized construction is chosen.

The syntactic category of the object, pronominal vs. non-pronominal, was also investigated because it is known that center-embedding is ungrammatical in Danish, and thus is ruled out in FOV. The results are as shown in Tables 9 and 10.

CHI-SQUARE TESTS FOR INDEPENDENCE

| O = | | Pn | *PnS' | <u>S'</u> | sum | (S': embedded clause) |
|-----|-----|-------|-------|-----------|------|---|
| O | | 327 | 611 | 0 | 938 | (0 S': center-embedding: ungrammatical) |
| FOV | E | 212 | 693 | 33 | | |
| | % | 34.86 | 65.13 | 0 | | |
| | O | 40 | 589 | 58 | 687 | |
| FVO | E | 155 | 507 | 25 | | |
| | % | 5.82 | 85.73 | 8.44 | | |
| | sum | 367 | 1200 | 58 | 1625 | |

$$\chi^2 = 250.038, df = 2; p < 0.001 \text{ (2-tailed)}$$

| O = | | Pn | *PnS' | sum |
|-----|-----|-----|-------|------|
| O | | 327 | 611 | 938 |
| FOV | E | 220 | 718 | |
| | O | 40 | 589 | 629 |
| FVO | E | 147 | 482 | |
| | sum | 367 | 1200 | 1567 |

$$\chi^2 = 170.541, df = 1; p < 0.0005 \text{ (1-tailed)}$$

Implications: Pn \rightarrow fov; $p = (327/367) = 89\%$
 fvo \rightarrow *Pn; $p = (589/629) = 94\%$

TABLE 9. Syntactic category of object as determining factor in FOV vs. FVO.

CHI-SQUARE TEST FOR INDEPENDENCE

| O | Pn | +Pn | sum |
|-------|-----|-----|------|
| O | 26 | 49 | 75 |
| HOV E | 26 | 49 | |
| O | 327 | 611 | 938 |
| FOV E | 327 | 611 | |
| sum | 353 | 660 | 1013 |

$$X^2 = 0.001, df = 1; p \sim 97.5\%$$

TABLE 10. Syntactic category of object as determining factor in HOV, as implied by a comparison with FOV.

Syntactic category, as can be concluded from Tables 9 and 10, is a competing motivation, in that it is even better correlated with choice of construction. Insofar as syntactic category is also a semantic and pragmatic phenomenon, processing is not informationally encapsulated. Pronouns prefer FOV/HOV and non-pronouns FVO/HVO. Pronouns are higher on Silverstein's ANIMACY HIERARCHY and are correlated with topicality, being prototypical subjects. In the Incorporation Construction there is a secondary predication between the object and the copredicative participle, and this corresponds with the preference for the object (alias secondary subject) to be pronominal in this construction.

Object length is still a decisive ordering factor when one only considers non-pronominal and non-sentential objects, as Table 11 shows.

CHI-SQUARE TEST FOR INDEPENDENCE

| O = | 1W | 2W | 3W | 4W | 5W | 6-8W | 9-18W | sum |
|-------|-----|-----|-----|----|----|------|-------|------|
| O | 272 | 214 | 79 | 27 | 13 | 9 | 0 | 614 |
| FOV E | 212 | 175 | 78 | 38 | 23 | 38 | 50 | |
| O | 136 | 123 | 71 | 46 | 32 | 65 | 97 | 570 |
| FVO E | 196 | 162 | 72 | 35 | 22 | 36 | 47 | |
| sum | 408 | 337 | 150 | 73 | 45 | 74 | 97 | 1184 |

$$\chi^2 = 221.349, df = 6; p < 0.001 \text{ (2-tailed)}$$

$$\text{Mean(O)/fov} = 1168W/614 = \underline{1.90W}$$

$$\text{Mean(O)/fvo} = 2564+W/570 = \underline{4.5+W}$$

(+ : some Os are longer than the registration; they have arbitrarily been measured as one word longer)

Implications: fov \rightarrow 1-3W; $p = (565/614) = 92\%$

4-18W \rightarrow fvo; $p = (240/289) = 83\%$

TABLE 11. Grammatical complexity of object as determining factor in FOV vs. FVO when only non-pronominal and non-sentential objects are taken into account.

As can be seen, the syntactic categories pronoun and embedded sentence improve the statistical significance (with twice as good a chi-square measure). What can be deduced from this is that length, or grammatical complexity (economic motivation), and syntactic category (semantic-pragmatic 'heaviness', iconic motivation) are collaborative motivations.

Behaghel's Law is operative in the instantiation of objects occurring between host predicate and copredicate (FOV/HOV). An object is kept more than twice as short in this distribution than it is when occurring in the periphrastic FVO/HVO construction: 1.57W (Table 7)/1.90W (Table 11) vs. 4.83+W (Table 7)/4.5+W (Table 11). The CRD then is, when only considering the influence of the length, or grammatical complexity, of the object, $2IC/2+1.57W = 56.02\%$ ($2/2+1.90 = 51.28\%$), as against a possible $2IC/2+4.83+W = 29.28\%$ ($2/2+4.5+ = 30.77\%$). Notice that /v2/ in the Incorporation Construction FOV/HOV is longer, on average, than /vp/ in the periphrastic construction FVO/HVO. This would imply a hypothesis to the effect that the 'v2' in the causative-resultative V2 (FOV/HOV) is looser than the 'vp' in the periphrastic construction. This seems to be semantically plausible — an operator is even more integrated than an incorporated constituent.

To repeat, the ordering of an object is economically (processually) as well as iconically (semantically) motivated, and both these heteronomous motivations are collaborative here – they point in the same direction. Note that there is a correlation between the processing explanation (long O/FVO,HVO vs. short O/FOV,HOV) and the pragmatic hypothesis whereby the object in construction with a predicative copredicate participle is more thematic, but in construction with a predicate participle more rhematic. A long object normally represents new information, a short object given information, and a new object is normally long, a given object short (cf. Hawkins 1994).

3.1.3. EXTRAPOSITION OF RELATIVE CLAUSES OUT OF OBJECTS GOVERNED BY DISCONTINUOUS VERB-PARTICLE CONSTRUCTIONS. The construction to be investigated in this section also involves the influence of the grammatical complexity (operationalized as length) of an object on its ordering with respect to a copredicate, in this case a 'displaced' particle. Here the particle, being non-verbal, cannot occur in non-finite V-position, as could the perfect participle dealt with in section 3.1.2. It must 'remain' in Co-P position. Nevertheless, the object may be provisionally shortened, by extraposing a relative clause out of it. The 'landing site' of the relative clause is the sentence-final right extraposition slot (termed 'heavy-member field' in the Danish tradition).

Two examples are given, in 6 and 7, to show the distinction between the two constructions, the transitive Verb-particle Construction MINUS EXTRAPOSITION (–Ex, ex. 6) and the transitive Verb-particle Construction PLUS EXTRAPOSITION (+Ex, ex. 7).

- (6) *Kan vi ikke klare det, så vil de slet ikke snakke med os, siger Johann Møller, mens han viser det store anlæg, som er bygget op midt inden i det store fabrikskompleks, der er beliggende mellem Vamdrup og Lunderskov, frem.* (Bergenholtz)

(lit.) 'If we cannot manage, then they won't talk to us, says Johann Møller, while he shows_ the big plant, which is built up just in the middle of the big factory structure, which is situated between Vamdrup and Lunderskov, _forward.'

- (7) *Ved færgelejet i Travemünde haler Bente de mange told- og speditionspapirer frem, som gør en eksportchauffør til en halv kontormand.* (Bergenholtz)

(lit.) 'At the ferry berth in Travemünde Bente pulls_ the many toll and expedition papers _forward, which make of an export vehicle driver almost an office clerk.'

Table 12 shows that the length of the object MINUS its relative clause (its 'matrix' antecedent) is identical in the two distributions, -Ex and +Ex, that is, that the length of the relative clause is certain to be the decisive factor in the triggering of its right extraposition. Table 13 shows that a long (6+W) relative clause is extraposed, while a short one (2-5W) may be retained *in situ*.

CHI-SQUARE TEST FOR INDEPENDENCE

| anteced.= | 1W | 2+W | sum |
|-----------|----|-----|-----|
| O | 3 | 7 | 10 |
| +Ex E | 2 | 8 | |
| O | 41 | 125 | 166 |
| +Ex E | 42 | 124 | |
| sum | 44 | 132 | 176 |

$X^2 = 0.141$, $df = 1$; $95\% > p > 70\%$ (two-tailed) (Caveat: < 5 E in 1 cell)

Conclusion: length differences between antecedents of relative clauses are insignificant.

TABLE 12. Length of antecedent of a relative clause which is either *in situ* (-Ex) or occurs after a copredicate particle (+Ex).

CHI-SQUARE TEST FOR INDEPENDENCE

| Rel-S= | 2-5W | 6+W | sum |
|--------|------|-----|-----|
| O | 7 | 3 | 10 |
| +Ex E | 3 | 7 | |
| O | 46 | 120 | 166 |
| +Ex E | 50 | 116 | |
| % | 87% | 98% | |
| sum | 53 | 123 | 176 |

$X^2 = 8.015$, $df = 1$; $p < 1\%$ (Caveat: < 5 E in 1 cell; => Yates correction: $4.0833 + 1.75 + 0.245 + 0.1056 = 6.1839$; $p < 2\%$ (two-tailed); $p < 1\%$ (one-tailed))

Conclusion: length of relative clause is correlated with minus/plus extraposition: long relative clauses prefer extraposition.

TABLE 13. Length of relative clause which is either *in situ* (-Ex) or occurs after a copredicate particle (+Ex).

Table 14 shows that relative clauses of objects governed by verb-particle complex predicates are relatively shorter when they occur *in situ* than when they are extraposed.

| | N | Length of relative clause (W=word) | | | | |
|--------------|-----|------------------------------------|-----|--------|-----|-----|
| | | Min | 25% | Median | 75% | Max |
| -Ex | 10 | 3W | 3W | 4W | 7W | 17W |
| +Ex | 166 | 2W | 5W | 7W | 10W | 19W |
| Total | 176 | 2W | 5W | 7W | 10W | 19W |

Median-Test: infelicitous

Mann-Whitney U:

| | |
|---------------------------|-----------------|
| U | 1226.500000 |
| U' | 433.500000 |
| z(U) (corrected for ties) | 2.540093 |
| One tailed p(z(U)) | 0.005541 |

TABLE 14. Extraposition of relative clauses out of objects governed by verb-particle V2s.

The Mann-Whitney U-test reproduced in Table 14 shows a significant difference of a half percent level. The longer the relative clause the stronger the tendency to extrapose it. Extraposition is economically motivated – it makes processing of the Incorporation Construction more efficient. Length functions as a constraint on the ordering continuity of a 'matrix' antecedent and the embedded relative clause of an object.

3.1.4. THE DIFFERENTIAL USE OF THE ADVERBIAL POSITIONS A1 AND A2 WITH RESPECT TO A COPREDICATE. As seen in section 2.4, there are two positions for predicate-central adverbials, one occurring before the position of a copredicate, namely A1, the other after, A2. On the face of it, the use of A1 makes processing of the complex predicate V2 less effective (see section 3.1.1) – A1 is 'intrusive'. In conformity with this, A2 is the more frequent of the two adverbial positions, as can be seen in Table 15, where the length of the adverbial is not taken into account. It seems important to distinguish between cases where the adverbial may occur in both A1 and A2, OPTIONAL PLACEMENT, and cases where it has to occur in either position, OBLIGATORY PLACEMENT. A1 is significantly more frequent in the former case, A2 in the latter. This has to be explained. However, first the data must be reported.

SEEBERG 1957; 127 PP OF DATA; 1ST CODING

CHI-SQUARE TEST FOR INDEPENDENCE

| | A2 | A1 | sum | |
|-------|--------------|--------------|-----|----------|
| O | 236 | 15 | 251 | (69.92%) |
| % | 94.02 | 5.98 | | |
| obl E | 183 | 68 | | |
| O | 26 | 82 | 108 | (30.08%) |
| % | 23.68 | 76.32 | | |
| opt E | 79 | 29 | | |
| sum | 262 | 97 | 359 | |

 $X^2 = 187.367$, $df = 1$; $p < 0.1\%$ (two-tailed); $p < 0.05\%$ (one-tailed)

Conclusion: optional ordering: 30%. Obligatory ordering prefers A2, i.e. less discontinuous V2. Optional ordering prefers A1, i.e. more discontinuous V2.

TABLE 15. Deployment of A1 versus A2, no length considerations.

A similar state of affairs as the above is seen (in Table 16) when the length of the adverbial is the same in both distributions. (NB: the results are obtained from an independent second coding, hence the discrepancies.)

(SEEBERG 1957; 127 PAGES OF DATA; 2ND CODING)

CHI-SQUARE TEST FOR INDEPENDENCE

| | A2 | A1 | sum | |
|-------|-------|-------|------|--------------------------------------|
| O | 25 | 9 | 34 | |
| % | 73.53 | 26.47 | | |
| (N | 235 | 15 | 250) | (A2:10.64%; A1:60%; A2+A1:13.6%) |
| obl E | 16 | 18 | | |
| O | 9 | 29 | 38 | |
| % | 23.68 | 76.32 | | |
| (N | 44 | 65 | 109) | (A2:20.45%; A1:44.62%; A2+A1:34.86%) |
| opt E | 18 | 20 | | |
| sum | 34 | 38 | 72 | |

 $\chi^2 = 17.889$, $df = 1$; $p < 0.1\%$ (two-tailed); $p < 0.05\%$ (one-tailed)

Conclusion: less discontinuous V2 is preferred in the obligatory ordering (around 75%), more discontinuous V2 in the optional ordering (around 75%).

TABLE 16. Deployment of A1 versus A2, length of A equals length of copredicate.

If processing is local, i.e. if only the length relation between adverbial and copredicate is decisive, one should expect no difference between the use of A1 and A2 in Table 16, because there is no length difference between A1 and A2 here. Nevertheless, the same skewing as in Table 15 is observed in Table 16. This has to be explained. Before this can be done, however, the total picture must be given. First, the average lengths of adverbial (A1) as compared to copredicate is given in Table 17.

SEEBERG 1957, 127 PAGES OF DATA

I. OBLIGATORY ORDERING

| A1=W | N | % | W | Co-P=W | N | % | W |
|-----------|-------------------------|--------|------|-----------|----|--------|-------|
| 1 | 12 | 80 | 12 | 1 | 7 | 46.67 | 7 |
| 2 | 3 | 20 | 6 | 2 | 5 | 33.33 | 10 |
| | | | | 3 | 3 | 20.00 | 6 |
| Total | 15 | 100.00 | 18 | Total | 15 | 100.00 | 26 |
| Average W | | | 1.2W | Average W | | | 1.73W |
| CRD(V2) | $\leq 2/2+1.2 = 62.5\%$ | | | | | | |

A1(1.2W) < Co-P(1.73W): /Co-P/+A1/=0.53W

Conclusion: copredicate is slightly longer than A1.

II. OPTIONAL ORDERING

| A1=W | N | % | W | Co-P=W | N | % | W |
|-----------|---------------------------|--------|-------|-----------|----|-------|-------|
| 1 | 39 | 60 | 39 | 1 | 30 | 45.45 | 30 |
| 2 | 12 | 18.46 | 24 | 2 | 10 | 15.15 | 20 |
| 3 | 11 | 16.92 | 33 | 3 | 12 | 18.18 | 36 |
| 4 | 3 | 4.62 | 12 | 4 | 2 | 3.03 | 8 |
| | | | | 5 | 6 | 9.09 | 30 |
| | | | | 6-9 | 4 | 6.06 | 31 |
| | | | | 10-25 | 2 | 3.03 | 38 |
| Total | 65 | 100.00 | 108 | Total | 66 | 99.99 | 193 |
| Average W | | | 1.66W | Average W | | | 2.92W |
| CRD(V2) | $\leq 2/2+1.66 = 54.64\%$ | | | | | | |

A1(1.66W) < Co-P(2.92W): /Co-P/+A1/=1.26W

Conclusion: copredicate is (significantly) longer than A1.

TABLE 17. Average lengths of A1 and copredicate.

Interestingly (compared to Table 16), A1 is shorter than the copredicate, in conformity with the 'short-before-long' processing principle.

Table 18 shows that A2 is longer than copredicate, still in conformity with the aforementioned processing principle.

SEEBERG 1957, 127 PAGES OF DATA

I. OBLIGATORY ORDERING

| A2=W | N | % | W | Co-P=W | N | % | W |
|-------|-----|-------|-------|--------|-----|-------|-------|
| 1 | 18 | 7.59 | 18 | 1 | 151 | 63.71 | 151 |
| 2 | 46 | 19.41 | 92 | 2 | 36 | 15.19 | 72 |
| 3 | 37 | 15.61 | 111 | 3 | 37 | 15.61 | 111 |
| 4 | 29 | 12.24 | 116 | 4 | 5 | 2.11 | 20 |
| 5 | 17 | 7.17 | 85 | 5 | 7 | 2.95 | 35 |
| 6 | 16 | 6.75 | 96 | 6 | 1 | 0.42 | 6 |
| 7 | 17 | 7.17 | 119 | | | | |
| 8 | 12 | 5.06 | 96 | | | | |
| 9 | 5 | 2.11 | 45 | | | | |
| 10-19 | 26 | 10.97 | 343 | | | | |
| 20-40 | 11 | 4.64 | 257 | | | | |
| 40+ | 3 | 1.27 | 143 | | | | |
| Total | 237 | 99.99 | 1521 | Total | 237 | 99.99 | 395 |
| Av. W | | | 6.42W | Av. W | | | 1.67W |

A2(6.42W) > A1(1.2W); /A2+/-/A1/=5.22W; Co-P(1.67W) < A2(6.42W); /A2+/-/Co-P/=4.75W

Conclusion: A2 is significantly longer than A1. A2 is significantly longer than the copredicate.

TABLE 18. Average lengths of A2 and copredicate.

I. Obligatory ordering

II. OPTIONAL ORDERING

| A2=W | N | % | W | Co-P=W | N | % | W |
|-------|----|-------|-------|--------|----|-------|-------|
| 1 | 3 | 6.82 | 3 | 1 | 24 | 54.55 | 24 |
| 2 | 8 | 18.18 | 16 | 2 | 7 | 15.91 | 14 |
| 3 | 8 | 18.18 | 24 | 3 | 9 | 20.45 | 27 |
| 4 | 8 | 18.18 | 32 | 4 | 2 | 4.55 | 8 |
| 5 | 4 | 9.09 | 20 | 5 | 1 | 2.27 | 5 |
| 6 | 3 | 6.82 | 18 | 6 | 1 | 2.27 | 6 |
| 7 | 3 | 6.82 | 21 | | | | |
| 8 | 1 | 2.27 | 8 | | | | |
| 9 | 1 | 2.27 | 9 | | | | |
| 10-25 | 5 | 11.36 | 79 | | | | |
| Total | 44 | 99.99 | 230 | Total | 44 | 100 | 84 |
| Av. W | | | 5.23W | Av. W | | | 1.91W |

$A2(5.23W) > A1(1.66W)$; $A2/+/A1=3.57W$; $Co-P(1.91W) < A2(5.23)$; $A2/-/Co-P=3.32W$

Conclusion: A2 is significantly longer than A1. A2 is significantly longer than the copredicate.

TABLE 18. Average lengths of A2 and copredicate.
II. Optional ordering

Table 19 summarizes the data concerning the sequencing of adverbial and copredicate: A1s are shorter, on average, than the copredicate. A2s are, on average, longer than the copredicate. (A detailed examination can be found in Appendix III which contains chi-square testing of all length differences. The results are all statistically significant.)

SEEBERG 1957, 127 PP OF DATA

| | <u>A1</u> | <u>≤</u> | <u>Co-P</u> | <u>&</u> | <u>Co-P</u> | <u>≤</u> | <u>A2</u> |
|------------------|-----------|----------|-------------|--------------|-------------|----------|-----------|
| obl. ord. | 1.2 | (+0.53=) | 1.73 | (-0.06=) | 1.67 | (+4.75=) | 6.42 |
| opt. ord. | 1.66 | (+1.26=) | 2.92 | (-1.01=) | 1.91 | (+3.32=) | 5.23 |

Conclusion: 'short-before-long' principle is obvious.

TABLE 19. Length correlations and sequencing: A1 < Co-P & Co-P < A2.

An investigation of the deviances from the 'short-before-long' principle shows Hawkins' (1994) PTOC to hold for Danish – compare Table 20.

SEEBERG 1957, 127 PAGES OF DATA

I. OBLIGATORY ORDERING OF A IN RELATION TO Co-P: SHORT BEFORE LONG

(V1 (XP) (Co-P,A)) (IC1: shorter constituent; IC2: longer constituent)

| n=251 | Co-P=A | IC2>IC1:1 | :2 | :3-4 | :5-6 | :7+ |
|------------|--------|-----------|--------|-------|------|-----|
| X(IC1 IC2) | - | 50 | 30 | 42 | 26 | 52 |
| | 34 | | | | | |
| Y(IC2 IC1) | - | 10 | 6 | 1 | 0 | 0 |
| Ratio Y/X | - | 16.67% | 16.67% | 2.33% | 0% | 0% |

Early Immediate Constituents predictions:

Unmarked case: 234/251 = most optimal (X+=), i.e. **93.23%** **Correct**

Marked case: Ratio of Y/X for IC2>IC1:1 >= :2 >= :3-4 >= :5-6 >= :7+ **All correct**

II. OPTIONAL ORDERING OF A IN RELATION TO Co-P: SHORT BEFORE LONG

(V (XP) (Co-P,A)) (IC1: shorter constituent; IC2: longer constituent)

| N=108 | Co-P=A | IC2>IC1:1 | :2 | :3-4 | :5-6 | :7+ |
|------------|--------|-----------|--------|-------|------|-----|
| X(IC1 IC2) | - | 17 | 14 | 17 | 4 | 8 |
| | 38 | | | | | |
| Y(IC2 IC1) | - | 6 | 3 | 1 | 0 | 0 |
| Ratio X/Y | - | 26.09% | 17.65% | 5.56% | 0% | 0% |

Early Immediate Constituents predictions:

Unmarked case: 98/108 = most optimal (X+=), i.e. **90.74%** **Correct**

Marked case: Ratio of Y/X for IC2>IC1:1 >= :2 >= :3-4 >= :5-6 >= :7+ **All correct**

Conclusion: data conform to EIC. The principle may be broken when the difference between the long and short constituent is small, and the greater the difference the smaller the frequency of the violation of the principle.

TABLE 20. Deviance from the 'short-before-long' principle.

As can be seen from the preceding table, the data confirm the expectations of PTOC in around 90% of the cases, but one should also be interested in finding explanations for the exceptional cases. I therefore investigated the semantic correlates of the exceptions. The results are shown in Table 21.

SEEBERG 1957, 127 PAGES OF DATA

| Level/ | Core | | Extended | | | | |
|------------|-------------|-------------|-------------|-------|-------------|--------|-------|
| | predication | | predication | | | | |
| Exceptions | (Reclass.) | N | (Reclass.) | N | +Expl. | -Expl. | Total |
| Obl. ord. | (1 *A2) | <u>1 A2</u> | (1 *A2) | 14 A2 | 14 (93.33%) | 1 | 15 |
| Opt. ord. | (1 *A1) | 6 A1 | | 3 A2 | 9 (100%) | 0 | 9 |

(NB: 3 examples were reclassified in the 2nd coding)

Conclusion: semantic level of the As is a straightforward explanatory factor. Thus semantic level may be a competing motivation.

TABLE 21. Semantic correlates of exceptions: scope of A in either core or extended predications.

Adverbials on the level of the core predication (e.g. of Manner) are placed in A1 (6 examples; NB: one outlier in A2). Adverbials on the level of the extended predication (e.g. of Time and Place) occur in A2. Thus A-placement is iconic in the exceptional cases: more central adverbials are placed nearer the governing verb, V1, than the less central ones.

As claimed in section 2, and evidenced in section 3.1.1-3, one would expect a tendency to avoid using the A1 position because it is non-optimal for the processing of a complex predicate, but in fact it is not known whether an A1-placed adverbial, rather than being a modifier of V2, could be a modifier of the constituent head V1 (or, perhaps, the copredicate), and as such should be placed differently (i.e. in A1) from a V2-modifier (in A2). When the adverbial occurs inside V2, having scope over V1, V1 and A construct a 'V1*'.⁸ If this is the case, the CRD is optimized, in that V1 constructs V1*. As an example where all three constituents are one word long consider 8.

- (8) (V1 (...) - A1 - Co-P)_{V2}
 1W 1W 1W

- a. CRD(V2=2IC): 2IC/3W = 66.67% (A is modifier of V2)

8. My unorthodox label for the combination of a head and an adjunct.

- b. CRD(V1*=2IC): 2IC/2W = 100% (A is modifier of V1)

As a case where A2-placement does not fit a V1* constituent consider 9.

- (9) (V1 (...) - Co-P)_{V2} - A2
 1W 1W 1W

- a. CRD(V2=2IC): 2IC/2W = 100% (A is modifier of V2)
 b. CRD(V1*=2IC): 2IC/3W = 66.67% (A is modifier of V1)

If we instantiate this reasoning by the actual figures from the previous tables, the results are as in Table 22.

Note that A1-placement of an adverbial is bad for V2 processing but not for SEEBERG 1957, 127 PAGES OF DATA

| CRD | V1 (...) - A1 - Co-P | | V1 (...) - Co-P - A2 | | |
|------|-------------------------------------|------|-------------------------------------|------|-----------|
| | Type: -læse <u>overfladisk</u> avis | | Type: -læse avis <u>overfladisk</u> | | |
| | 'read superficially newspaper | | 'read newspaper superficially' | | |
| | A1, Co-P left-peripheral | | Co-P, A2 left-peripheral | | |
| | V2 | V1* | V2* | V2 | V2* |
| obl. | 2/2+1.2= | 2/2= | 3/2+1.2= | 2/2= | 3/2+1.67= |
| CRD | 62.5% | 100% | 93.75% | 100% | 81.74% |
| opt. | 2/2+1.66= | 2/2= | 3/2+1.66= | 2/2= | 3/2+1.91= |
| CRD | 54.64% | 100% | 81.97% | 100% | 76.73% |

TABLE 22. Average CRDs for V2 (= 2ICs) and V2* (= 3ICs).

the processing of a V2* (V2 plus A1, three constituents). A2-placement does not affect the processing of the V2, but the copredicate (being somewhat longer here) makes the V2* processing less efficient. It can be concluded that processing considerations make it probable that adverbials in A1 (in the normal cases) are V1 modifiers, not modifiers of the total complex predicate V2. However, this should be investigated more specifically, also from a theoretical perspective.

3.1.5. CONCLUSION OF THE CASE STUDIES IN 3.1.1-4. Complex predicates, V2s, are in general more tightly constructed than normal VPs (section 3.1.1), but less tightly constructed than more grammaticalized constructions where the governing verb functions like an operator (section 3.1.2). All sorts of strategies are employed to make a complex predicate processually 'well-behaved': intrusive positions in topology tend to be instantiated less than in normal VPs (section 3.1.1), right extraposition makes the CRD of a V2 more efficient and is accordingly used more often (section 3.1.3), and post-copredicate adverbial position (A2) tends to be used instead of the intrusive pre-copredicate position A1 (section 3.1.4) – indeed A1 need not be conceived as 'intrusive', given that an adverbial occurring in A1 could be said to modify not the total complex predicate V2, but its head V1 (section 3.1.4).

3.2. DISCUSSION: WORD ORDER PROCESSING OF A COMPLEX PREDICATE. I shall conclude this section with a discussion of how the ordering of a complex predicate can be understood in the light of a theory of production understood as a unidirectional, logically deductive 'teleological' process with two major phases, the first from intention to wording, the second from wording to ordering, with syntactic 'weighing' as an interface.

3.2.1. FIRST PHASE: FROM INTENTION TO 'WEIGHED' WORDING. An intentional-conceptual representation is created. This representation is input to a wording encoding. The creation of a conceptual unity corresponding to a complex predicate in wording (the result of word formation and selection as a clausal nucleus) (in unmarked cases) causes the concepts of the subject and the sentence and predicate-central adverbials – all to be ordered between host and copredicate and thus constituting potential processing 'obstructions' – to be worded as simply and shortly as possible. Thus factors further 'downstream', factors on the expression side (the discontinuous word order of a complex predicate) may 'teleologically' co-determine factors on the content side, namely the complexity of the wording of 'intrusive' material. Wording and ordering are mediated by a SEMIOTIC SYMBOLIZATION FUNCTION, and this 'mediating syntax' also includes a complexity metric which 'weighs' the content structure, so that a weighed content is input to ordering. Example 10 summarizes this state of affairs.

- (10) a. *-læse overfladisk avis* (A1 – Co-P) (optional ordering)
 ‘read_ superficially _newspaper’ (adverbial inside CRD(V2))
 a’. *-læse avis overfladisk* (Co-P – A2) (optional ordering)
 ‘read_newspaper superficially’ (adverbial outside CRD(V2))
 b. *-læse avis på en overfladisk måde* (Co-P – A2) (obligatory ordering)
 ‘read_newspaper in a superficial manner’
 b*. **-læse på en overfladisk måde avis* (A is a term and heavy, 4W)
 ‘read_ in a superficial manner _newspaper’

Part of the above conception of processing is illustrated in Figure 3.

| INTENTIONAL-CONCEPTUAL REPRESENTATION | WORDING INFLUENCED BY FINAL PROCESSING EFFICIENCY |
|--|--|
| -Unitary predicate concept | Worded as V1 and copredicate (→ discontin. Co-P position) |
| LÆSE_AVIS ‘read_newspaper’ | (V1: ‘læs-’ -‘v2’- Co-P: ‘avis’) _{V2} |
| -Concepts of subject (→ n-position), clausal adverbials (→ a-position), predicate-central adverbials (→ A1,A2) | Minimally worded: maximization of CRD(V2) Minimally worded: maximization of CRD(V2) a. Minimally worded: maximization of CRD(V2): b. Outside CRD(V2): ‘på en overfladisk måde’ (→ A2) ‘in a superficial manner’ |
| (OVERFLADISKHED) _{Manner} ‘superficiality’ | ‘overfladisk’ (→ A1,A2) ‘superficially’ |

FIGURE 3. From intention to ‘weighed’ wording.

3.2.2. SECOND PHASE: FROM ‘WEIGHED’ WORDING TO ORDER. The next step is to order the weighed wording of the constituents. This can be understood as in Figure 4.

ORDERING OF VERB-CENTRAL ADVERBIAL WITH RESPECT TO COPREDICATE ACCORDING TO WEIGHT

Processing principle: %Short-before-long (%: tendency)

Topology: V1 – %A1 – Co-P – %A2

- a. Content structure: (overfladisk_A(avis_{Co-P}(læse_{V1}))_{V2})
 Weighing: A=1W (short); Co-P=1W (short)
 Textual outputs: 75%læse_{V1} – **overladisk**_{A1} – avis_{Co-P} (= 10a)
 25%læse_{V1} – avis_{Co-P} – **overladisk**_{A2} (= 10a')
- b. Content structure: (((overfladisk (måde))(en))(på))_A(avis_{Co-P}(læse_{V1}))_{V2})
 Weighing: A=4W (long); Co-P=1W (short)
 Textual outputs: 100%læse_{V1} – avis_{Co-P} – (**på en overfladisk måde**)_{A2}(= 10b)

(%= probability; %A1= preferably short; %A2= preferably long)

FIGURE 4. From 'weighed' wording to order.

Alternatively, as proposed in 3.1.4, the adverbial formed from a term in 10b could inherently be a modifier of the total V2, whereas an adverbial not formed from a term could freely be either a V1 or a V2 modifier, as in 10 vs. 10'. There would then be a tendency for V2 modifiers to be longer than V1 modifiers and to be placed in A2. However, this is only speculation and awaits a separate investigation. The alternative scope relations are shown in 10'.

- (10') a. (avis (overfladisk (læse))) 'superficial_reading_newspapers'
 a'. (overfladisk (avis (læse))) 'reading_newspapers superficially'
 b. (på_en_overfladisk_måde 'reading_newspapers in a superficial
 (avis (læse))) manner'

4. OVERALL CONCLUSION. There is ample evidence that Danish in its grammatical system has a rule of complex predicate formation which interacts with the rules for wording the conceptual constituents of a clause, namely those concepts which when worded would 'displace' the host and copredicate of a complex predicate and thereby reduce processing efficiency. This effect of the interaction is that, in unmarked cases, a complex predicate can

be effectively processed, in line with its status as a conceptual unity. To account for this, an intermediary level is hypothesized, ordered between the content level and the expression level. It is termed 'mediating syntax'. This syntax 'weighs' the content-syntactic structure in terms of morphosyntactic complexity (length of constituents in wording). The actual weight is part of the input to the constructional SYMBOLIZATION between content and expression, to the effect that the word ordering conforms to the processing principle of early immediate constituents. The syntax may 'govern' the resulting complexity of the content-syntactic structure with a view to early-immediate-constituent effects on the expression side: intrusive positions in the topology of a complex predicate are worded in such a way that processing is optimized. However, not only purely quantitative ('economic') principles of ordering are observed, but competing, semantic-pragmatic ('iconic') motivations are operative too (cf. also Wasow 1997), in that the syntactic categories involved in wording (and the potential for pragmatically-based grammatical relations) may codetermine its ordering.

ACKNOWLEDGMENTS. I gratefully acknowledge the financial support from the Carlsberg Foundation (1996-1999) in connection with the present (and other) research concerning syntactic processing in Danish. I am also grateful to John Hawkins (USC) for his very useful comments, but of course I alone am responsible for the faults and shortcomings of the present report.

APPENDIX I. DISCONTINUITY OF VP-O vs. V2-O

CHI-SQUARE TESTS FOR INDEPENDENCE

A. SHORT STORIES

| | | No P | Some | All | sum |
|----|-----|------|------|-----|-----|
| | O | 194 | 142 | 24 | 360 |
| VP | E | 193 | 149 | 18 | |
| | O | 63 | 57 | 0 | 120 |
| V2 | E | 64 | 50 | 6 | |
| | sum | 257 | 199 | 24 | 480 |

$$X^2 = 9.441, df = 2; p < 1\% \text{ (two-tailed)}$$

B. NOVEL

| | | No P | Some | All | sum |
|----|-----|------|------|-----|-----|
| | O | 194 | 119 | 14 | 327 |
| VP | E | 194 | 120 | 12 | |
| | O | 27 | 18 | 0 | 45 |
| V2 | E | 27 | 17 | 2 | |
| | sum | 221 | 137 | 14 | 372 |

$$X^2 = 2.069, df = 2; 50\% > p > 10\%$$

(Caveat: less than 5 observations expected in 1 cell)

TABLE 1.1(A,B). Cross-tabulation of discontinuity in terms of 'intrusive' positions (P) manifested.

CHI-SQUARE TESTS FOR INDEPENDENCE

A. SHORT STORIES

| P | | Not all | All | sum |
|----|-----|---------|-----|-----|
| | O | 336 | 24 | 360 |
| VP | E | 342 | 18 | |
| | O | 120 | 0 | 120 |
| V2 | E | 114 | 6 | |
| | sum | 456 | 24 | 480 |

$$X^2 = 8.421, df = 1; p < 1\%$$

B. NOVEL

| P | | Not all | All | sum |
|----|-----|---------|-----|-----|
| | O | 313 | 14 | 327 |
| VP | E | 315 | 12 | |
| | O | 45 | 0 | 45 |
| V2 | E | 43 | 2 | |
| | sum | 58 | 14 | 372 |

$$X^2 = 2.002, df = 1; 50\% > p > 10\%$$

(Caveat: less than 5 observations expected in 1 cell)

TABLE 1.2(A,B). Cross-tabulation of discontinuity in terms of 'intrusive' positions (P) manifested.

Conclusion: Table 1(A,B) shows that the constructions VP-O and V2-O differ with respect to the deployment of 'all positions': VP tolerates instantiation of both intrusive positions whereas V2 does not accept instantiation of all three intrusive positions.

APPENDIX II. PERFECT PARTICIPLE AS EITHER PREDICATE OR COPREDICATE IN CAUSATIVE-RESULTATIVE CONSTRUCTIONS

When the perfect participle occurs in V-position, the causative-resultative verb is a semi-grammatical predicate operator, and is thus light. Therefore, enclitic pronominal objects occur in objects position (N) after the fully lexical participle positioned in the V-slot, as in i. When the perfect participle occurs in Co-P position, a pronominal object is found after the semi-lexical causative-resultative verb positioned in the v-slot, in the so-called light-member field (L), as in ii.

- i. a. (...) *men nu har jeg fået FORTALT_V dig_N, hvad jeg mener om dig.*
- ii. a. (...) *Og så får man sig_L ikke_a TAGET SAMMEN_{Co-P} på grund af mangel på tid.*
- b. – *på trods af, at det er ca. to måneder siden, man har behandlet sagen, fik vi det_L først_a BEKRÆFTET_{Co-P} den 3. september, hvorefter vi mødte op til byrådsmødet – 26 forældre.*

- c. *Troværdighed og klog udspørgen får altid_a gåden_N LØST_{Co-P}.*
- d. *Jeg tror, vi fik ministeren_N for alvor_{A1} GJORT OPMÆRKSOM_{Co-P} på problemerne (...).*
- e. *(...) men fik det_I alligevel_a gjort_{Co-P}.*
- f. *Jeg fik ham_I også LÆRT AT KENDE_{Co-P} som en hyggelig og humoristisk rejsefælle.*
- g. *Jankel skal bare have dit ønske så får du det_I OPFYLDT_{Co-P}.*
- h. *Jeg får mig_I PRESSET NED_{Co-P} ved et bord ud til gaden.*
- i'. *Interessen for at få LAVET_V nye vandhuller eller*
- ii'. *få bestående_N RENSET OG GJORT VELEGNED FOR DYR OG FAUNA_{Co-P} er meget stor (...).*

The object in ii.g is thematic. The object in i' is effected, whereas the object in ii' is affected.

APPENDIX III. ORDERING OF COPREDICATE WITH RESPECT TO A1 AND A2

CHI-SQUARE TEST FOR INDEPENDENCE

| | | 1W | 2W | 3-4W | 5+W | sum | |
|-----|---|----|----|------|-----|-----|--------------------------|
| A1 | O | 51 | 15 | 14 | 0 | 80 | (should have been equal) |
| | E | 44 | 15 | 15 | 6 | | |
| CoP | O | 37 | 15 | 17 | 12 | 81 | (should have been equal) |
| | E | 44 | 15 | 16 | 6 | | |
| sum | | 88 | 30 | 31 | 12 | 161 | |

$$X^2 = 14.512, df = 3; p < 1\% \text{ (two-tailed)}$$

TABLE 1.0 Cross-tabulation A1 x Co-P, obligatory and optional orderings.

CHI-SQUARE TEST FOR INDEPENDENCE

| | | 1W | 2+W | sum |
|-----|---|----|-----|-----|
| O | | 12 | 3 | 15 |
| A1 | E | 10 | 6 | |
| O | | 7 | 8 | 15 |
| CoP | E | 10 | 6 | |
| sum | | 19 | 11 | 30 |

$$X^2 = 3.589, df = 1; p < 1\% \text{ (two-tailed)}; p < 0.5\% \text{ (one-tailed)}$$

TABLE 1.1 Cross-tabulation A1 x Co-P, obligatory ordering.

CHI-SQUARE TEST FOR INDEPENDENCE

| | | 1W | 2W | 3W | 4+W | sum | |
|-----|---|----|----|----|-----|-----|--------------------------|
| O | | 39 | 12 | 11 | 3 | 65 | (should have been equal) |
| A1 | E | 34 | 11 | 11 | 8 | | |
| O | | 30 | 10 | 12 | 14 | 66 | (should have been equal) |
| CoP | E | 35 | 11 | 12 | 9 | | |
| sum | | 69 | 22 | 23 | 17 | 131 | |

$$X^2 = 8.510, df = 3; p < 5\% \text{ (two-tailed)}$$

TABLE 1.2 Cross-tabulation A1 x Co-P, optional ordering.

CHI-SQUARE TEST FOR INDEPENDENCE

| | | 1W | 2W | 3W | 4W | 5W | 6W | 7+W | sum |
|-----|---|-----|----|----|----|----|----|-----|-----|
| O | | 21 | 54 | 45 | 37 | 21 | 19 | 84 | 281 |
| A2 | E | 98 | 48 | 46 | 22 | 14 | 10 | 42 | |
| O | | 175 | 43 | 46 | 7 | 8 | 2 | 0 | 281 |
| CoP | E | 98 | 48 | 46 | 22 | 14 | 10 | 42 | |
| sum | | 196 | 97 | 91 | 44 | 29 | 21 | 84 | 562 |

$$X^2 = 246.302, df = 6; p < 0.1\% \text{ (two-tailed)}$$

TABLE 2.0 Cross-tabulation A2 x Co-P, obligatory and optional orderings.

CHI-SQUARE TEST FOR INDEPENDENCE

| | 1W | 2W | 3W | 4W | 5W | 6+W | sum |
|-------|-----|----|----|----|----|-----|-----|
| O | 151 | 36 | 37 | 5 | 7 | 1 | 237 |
| CoP E | 84 | 41 | 37 | 17 | 12 | 46 | |
| O | 18 | 46 | 37 | 29 | 17 | 90 | 237 |
| A2 E | 84 | 41 | 37 | 17 | 12 | 46 | |
| sum | 169 | 82 | 74 | 34 | 24 | 91 | 474 |

$X^2 = 214.040$, $df = 5$; $p < 0.1\%$ (two-tailed)

TABLE 2.1 Cross-tabulation A2 x Co-P, obligatory ordering.

CHI-SQUARE TEST FOR INDEPENDENCE

| | 1W | 2W | 3W | 4W | 5+W | sum |
|-------|----|----|----|----|-----|-----|
| O | 24 | 7 | 9 | 2 | 2 | 44 |
| CoP E | 14 | 8 | 8 | 5 | 10 | |
| O | 3 | 8 | 8 | 8 | 17 | 44 |
| A2 E | 14 | 8 | 8 | 5 | 10 | |
| sum | 27 | 15 | 17 | 10 | 19 | 88 |

$X^2 = 31.901$, $df = 4$; $p < 0.1\%$ (two-tailed)

TABLE 2.2 Cross-tabulation A2 x Co-P, optional ordering.

CHI-SQUARE TEST FOR INDEPENDENCE

| | 1W | 2W | 3-4W | 5+W | sum |
|-------|-----|----|------|-----|-----|
| CoP O | 37 | 15 | 17 | 12 | 81 |
| /A1 E | 47 | 13 | 16 | 5 | |
| CoP O | 175 | 43 | 53 | 10 | 281 |
| /A2 E | 165 | 45 | 54 | 17 | |
| sum | 212 | 58 | 70 | 22 | 362 |

$X^2 = 16.619$, $df = 3$; $p < 0.1\%$ (two-tailed) (Caveat: < 5 E in 1 cell)

TABLE 3. Difference between Co-P/A1 and Co-P/A2, obligatory and optional orderings

CHI-SQUARE TEST FOR INDEPENDENCE

| | | 1W | 2W | 3-4W | 5+W | sum |
|----|-----|-----------|----|------|-----|-----|
| | O | 51 | 15 | 14 | 0 | 80 |
| A1 | E | 16 | 15 | 21 | 27 | |
| | O | 21 | 54 | 82 | 124 | 281 |
| A2 | E | 56 | 54 | 75 | 97 | |
| | sum | 72 | 69 | 96 | 124 | 361 |

$X^2 = 137.388$, $df = 3$; $p < 0.1\%$ (two-tailed)

TABLE 4. Difference between A1 and A2, obligatory and optional orderings.

REFERENCES

- ANDERSEN, HENNING. 1972. Diphthongization. *Language* 48.11-50.
- 1973. Abductive and deductive change. *Language* 49.765-793.
 - 1984. Language structure and semiotic processes. *APILKU* 3.33-54 (orig. 1975).
 - 1991. On the projection of equivalence relations into syntagms. *New vistas in Grammar: invariance and variation*, ed. by Waugh, Linda R; and Stephen Rudy, 287-311. Amsterdam/Philadelphia: John Benjamins.
- BEHAGHEL, OTTO. 1909. Beziehungen zwischen Umfang und Reihenfolge von Satzgliedern. *Indogermanische Forschungen* 25.110-142.
- BOLINGER, DWIGHT. 1967. Apparent constituents in surface structure. *Word* 23.47-56.
- BOLKESTEIN, A. MACHTELT. 1992. Limits to layering: Locatability and other problems. *Layered structure and reference in a functional perspective*, ed. by Fortescue, Michael; et al., 387-407. Amsterdam/Philadelphia: John Benjamins.
- BRØNDAL, VIGGO. 1932. *Morfologi og syntax. Nye bidrag til sprogets teori*. Copenhagen: Bianco Luno.
- CHOMSKY, NOAM. 1995a. *The Minimalist program*. Cambridge, MASS: The MIT Press.
- 1995b. Language and nature. *Mind* 104.1-61.
- DIDERICHSEN, PAUL. 1946. *Elementær dansk grammatik* (= 1962³). Copenhagen: Gyldendal.
- 1976. *Ganzheit und Struktur. Ausgewählte sprachwissenschaftliche Abhandlungen*. München: Wilhelm Fink (= *Helhed og struktur. Udvalgte sprogvitenskabelige afhandlinger*. Copenhagen, 1966: Gad).
- DIK, SIMON C. 1989. *The Theory of Functional Grammar*. Part I: *The structure of the clause*. Dordrecht/Providence: Foris.
- GIBSON, EDWARD; CARSON T. SCHÜTZE AND ARIEL SALOMON. 1996. The relationship between the frequency and the processing complexity of linguistic structure. *Journal of Psycholinguistic Research* 25.59-92.
- GORRELL, PAUL. 1996. Parsing theory and phrase-order variation in German V2 clauses. *Journal of Psycholinguistic Research* 25.135-156.
- HALLIDAY, MICHAEL A.K. 1985. *An introduction to functional grammar*. London, etc.: Edward Arnold.
- HANSEN, ERIK. 1984³. *Dæmonernes Port. Støttemateriale til undervisningen i nydansk grammatik*. Copenhagen: Hans Reitzels Forlag.
- HARDER, PETER. 1996. *Functional Semantics. A theory of meaning, structure and tense in English*. Berlin/New York: Mouton de Gruyter.
- HAWKINS, JOHN A. 1994. *A performance theory of order and constituency*. Cambridge: Cambridge University Press.

- 1998. A processing approach to word order in Danish. *Acta Linguistica Hafniensia* 30.63-101.
 - 2000. The relative order of prepositional phrases in English: Going beyond Manner-Place-Time. *Language Variation and Change* 11.231-266.
- HELTOFT, LARS. 1992. The topology of verb-second and SVO languages. A study in the sign functions of word order. *Copenhagen Studies in Language* 15.13-64 (spec. issue: *Word order. Two studies on central issues in the syntax of Danish and French*, ed. Michael Herslund. Frederiksberg: Samfundslitteratur).
- 1997. Analogy, weight and content. *Acta Linguistica Hafniensia* 30.103-128.
- HELMSEV, LOUIS. 1953. *Prolegomena to a theory of language* (transl. Francis Whitfield). Baltimore: Indiana University Publications in Anthropology and Linguistics, Memoir 7 of IJAL (= *Omkring Sprogteoriens Grundlæggelse*. Copenhagen, 1943: Bianco Luno).
- 1948. Structural analysis of language. *Studia Linguistica* 1.69-78.
- HUDSON, RICHARD. 1997. Inherent variability and linguistic theory. *Cognitive Linguistics* 8.73-108.
- JAKOBSON, ROMAN. 1965. Quest for the essence of language. *Selected Writings* Vol. II (1971), 345-359. The Hague: Mouton. (original 1965)
- JOURNAL OF PSYCHOLINGUISTIC RESEARCH. 1997. Vol. 26, No.2. *Special issue on sentence processing*, Part 1.
- 1997. Vol. 26, No.3. *Special issue on sentence processing*, Part 2.
- LANGACKER, RONALD W. 1987. Nouns and verbs. *Language* 63.53-94.
- 1988a. A usage-based model. *Topics in Cognitive Linguistics*, ed. by Rudzka-Ostyn, Brygida, 127-161. Amsterdam/Philadelphia: John Benjamins.
 - 1988b. The nature of grammatical valence. *Topics in Cognitive Linguistics*, ed. by Rudzka-Ostyn, Brygida, 91-125. Amsterdam/Philadelphia: John Benjamins.
 - 1988c. A view of linguistic semantics. *Topics in Cognitive Linguistics*, ed. by Rudzka-Ostyn, Brygida, 49-90. Amsterdam/Philadelphia: John Benjamins.
 - 1997. Constituency, dependency, and conceptual grouping. *Cognitive Linguistics* 8.1-32.
- LEVELT, WILLEM J.M. 1989. *Speaking. From intention to articulation*. Cambridge, MASS: The MIT Press.
- NEDERGAARD THOMSEN, OLE. 1991. Grammar in Danish conversational discourse. A framework for analysis and some preliminary quantitative results. *The Copenhagen Study in Urban Sociolinguistics* Part Two, ed. by Gregersen, Frans; and Ingelise Pedersen, 337-446. Copenhagen: Hans Reitzel.
- 1992a. Unit Accentuation as an expression device for predicate formation. The case of syntactic noun incorporation in Danish. *Layered structure and reference in a functional perspective*, ed. by Fortescue, Michael; et al., 173-229. Amsterdam/Philadelphia: John Benjamins.

- 1992b. Pronouns, word order, and prosody. *Copenhagen Working Papers in Linguistics* 2.119-232.
 - 1993. The grammatical typology of spoken Danish, manuscript. Copenhagen: University of Copenhagen.
 - 1996. Pronouns, word order, and prosody. *Acta Linguistica Hafniensia* 28.131-138.
 - 1998. Syntactic processing and word order in Danish. *Acta Linguistica Hafniensia* 30.129-166.
- PESETSKY, DAVID. 1997. Optimality Theory and syntax: Movement and pronunciation. *Optimality Theory. An overview*, ed. by Archangeli, Diana; and D. Terence Langendoen, 134-170. Malden/Oxford: Blackwell.
- RADFORD, ANDREW. 1997. *Syntax. A minimalist introduction*. Cambridge: Cambridge University Press.
- SIEWIERSKA, ANNA. 1992. Layers in FG and GB. *Layered structure and reference in a functional perspective*, ed. by Fortescue, Michael; et al., 409-432. Amsterdam/Philadelphia: John Benjamins.
- VIKNER, STEN. 1995. *Verb movement and expletive subjects in the Germanic languages*. Oxford/New York: Oxford University Press.
- WASOW, THOMAS. 1997a. Remarks on grammatical weight. *Language Variation and Change* 9.81-105.
- 1997b. Endweight from the speaker's perspective. *Journal of Psycholinguistic Research* 26.347-361.

CORPUS MATERIAL

Klaus RIFBJERG. 1966. *Operaelskeren*. Copenhagen.

Peter SEEBERG. 1957. *Fugls føde*. Copenhagen.

Herman STILLING. 1974. *En dreng ved navn Herman*. Copenhagen.

Villy SØRENSEN. 1976. *Seneca. Humanisten ved Neros hof*. Copenhagen.

Henning BERGENHOLTZ. Ca. 10 mill. running words, 9 mill. written, 1 mill. spoken speech data.

SPOKEN corpus. 1½ hrs. of spontaneous speech data. *The Copenhagen Urban Sociolinguistics Project*. Copenhagen 1986. Institute of Danish Dialectology.

Incorporation and Transitivity in Romance

MICHAEL HERSLUND

INTRODUCTION. Incorporation has not traditionally been recognised as a grammatical feature of the Romance languages. An analysis of the transitivity systems of these languages will show, however, that there are indeed, as suggested in Herslund (1994, 1997, 1999), good reasons for assuming the existence of a process of object incorporation in these languages as part of a more or less finely graded differentiation of the OBJECT ZONE (cf. Lazard 1994). This process is manifested by oppositions like those in 1.

- | | | | |
|-----|----|--------------|------------------------------------|
| (1) | a. | VERB + N | (Incorporation) |
| | b. | VERB + DET N | ('Normal' transitive construction) |

The proper assessment of the phenomenon in question requires a global and thorough examination of the Romance transitivity systems in view of establishing an overall typological picture, which is the aim of this contribution.

1. LATIN. Latin has sporadic formation of verbal compounds which to some extent resemble incorporation (cf. Fugier 1991), as in 2.

- | | | | |
|-----|--------------------------|---|----------------------|
| (2) | <i>animum ad-vertere</i> | → | <i>animadvertere</i> |
| | 'mind to-turn' | | 'notice' |

However, such lexicalisations by compounding do not constitute a systematic grammatical process of incorporation as it is normally understood (cf. Benveniste 1974; Mithun 1984). Since Latin appears not to have had a compulsory creation of phrasal structure – there is no obligatory use of determiners or articles – and to have had a rather free word order, there are no productive means of transitivity differentiation in the object itself, as in 3.

- (3) *legere librum/librum legere*
 'read book/a book/the book'

Since, furthermore, the case system is not used for the distinction of different kinds of direct objects,¹ there seems to be no question of identifying incorporation as a grammatical process in Latin. But this situation changes drastically in the Romance languages.

2. ROMANCE

2.1. ROMANCE INCORPORATION. The crucial development from Latin into Romance is the creation of a system of determiners and the consequent emergence of phrasal structure. In Vulgar Latin and Proto-Romance, the possibility of functionally exploiting the opposition between 'bare' and 'articulated' noun thus emerges, and this development leads to the possibility of differentiating objects and thereby to a distinction between (normal) transitive and incorporated constructions, as in 4.

- | | | | |
|-----|---|-----|------------------------------------|
| (4) | <i>legere unu/illu libru</i> 'read a/the book' | vs. | <i>legere libru</i> 'read book' |
|-----|---|-----|------------------------------------|

The Romance languages do not hesitate to exploit this possibility. In early Romance the phenomenon is best attested and therefore easiest to illustrate in the Gallo-Romance languages Old French and Old Provençal.

2.1.1. EARLY GALLO-ROMANCE. Bare nouns occur in several syntactic functions in Old French and Old Provençal (cf. Goyens 1994; Carlier and Goyens *forthc.*). Their primary and most natural use is as predicatives or in comparisons. These uses are illustrated in 5.

- (5) OLD FRENCH
- a. *Vos fustes compaignon de la Table reonde.* (Mort 86.63)
 'You were a fellow of the Round Table.'

1. The use of the ablative with verbs such as *utor* 'use', *fruor* 'enjoy, benefit', *vescor* 'eat' is a remnant of the original instrumental use of the ablative and does not contrast synchronically with other cases (cf. Ernout and Thomas 1964:92).

- b. *Li uns estoit si blans come cisne et ausi granz.* (Queste 170.32)
 'One was as white as (a) swan and just as big.'

OLD PROVENÇAL

- a. *Neus m'es flors blanch' e vermelha.* (Bernart 5.12)
 'Snow is to me (a) white and red flower.'
- b. *Que bel'es sobre las gensors plus que roza sobr'autras flors.* (Peire Vidal 8.31)
 'For beautiful is (she) among the noblest more than (a) rose among other flowers.'

The bare noun only denotes the concept, i.e. it has a purely intensional reading, and is therefore in principle restricted to predicative uses. An articulated noun, on the other hand, denotes an instance of the concept, i.e. it has an extensional reading too. A bare noun in syntactic environments where an extensional reading and therefore an articulated noun is expected will induce a rather special meaning, i.e. the intensional meaning of a qualifying or quantifying modifier rather than the extensional meaning of an argument: by the tight combination of a verb and a nominal concept a complex predicate is created.

The grammatical relation (GR) which is most often realised by a bare noun, and thus most liable to be supplanted by an incorporation construction is the object relation (O), which seems also universally to be the most common case (cf. Mithun 1984), as in 6.

(6) OLD FRENCH

- a. *Et ele s'en essi et fist appareller viande.* (Pontieu 400)
 'And she went out and had food prepared.'
- b. *Car il i cuide trover gent.* (Queste 57.27)
 'For he thinks that he'll find people there.'

OLD PROVENÇAL

- c. *La parladura francesca val mais et es plus avinenz a far romanz et pasturelas.* (Razos 72)
 'The French language is better and more agreeable for making romances and pastorals.'
- d. *que comensei a chanso far desse* (Peire Vidal 12.7)
 'that I at once started to make (a) song'

The second most common GR to be exposed to incorporation is the intransitive subject (S_i). The opposition between a 'regular' and an incorporated S_i is illustrated by the following pair of examples in 7.

- (7) a. *Li sans li issoit a grant randon par mi une plaie.* (Mort 24.26)
 'The blood was pouring out of him from a wound.'
 b. *Ne il ne li avoient encore fet tant de mal que sans fust issuz de lui.*
 (Queste 121.10)
 'And they had not injured him so much that blood had come out of him
 (i.e. that he had started to bleed).'

Further examples of S_i are seen in 8.

(8) OLD FRENCH

- a. *Et sembloit que foudre cheist des ciex.* (Joinville 6.3)
 'And it seemed that lightning was falling from the skies.'

OLD PROVENÇAL

- b. *que d'aqui mou deportz e chans* (Bernart 11.27)
 'for from here spring pleasure and song'

The medieval Gallo-Romance languages retain a rudimentary case system in determiners as well as in nouns, mostly in the masculine, distinguishing a nominative from an oblique case, the nominative being marked with an -s in the singular of nouns, and, in Old French, by the vowel *i* in determiners. Whether incorporation of an S_i also entails a precocious abolition of case inflection in Old French, viz. the loss of nominative -s, as suggested by Guiraud (1962), is more doubtful (cf. Woledge et al. 1967), but it would be entirely in accordance with what is found in other languages where similarly incorporated nouns lose their case inflection. An illustrative instance would be constituted by the following examples in 9 (from Herslund 1994:11).

- (9) a. (...) *e li soleiz fut cler.* (Roland 157)
 '(...) and the sun was bright.'
 b. *Soleill n'i luist ne blet n'i poet pas crestre.* (Roland 980)
 'Sun doesn't shine there, corn cannot grow.'

Here the emphasised bare nouns of the second example have no case ending whereas the noun phrase *li soleiz* of the first is inflected in the nominative.

Incorporated Os most often follow the finite verb – as seen from the examples in 10a-e, often in connection with a negation (see 2.1.4. below). But they often precede the infinitive (10f-i). An incorporated S_i is most of the time also postverbal, either inverted (10k-l) or extraposed (10m-o), i.e. in construction with a formal subject *il*. It seems only exceptionally to be the case that an incorporated S_i , as in 9b repeated as 10n, precedes the verb.

(10) POSTVERBAL O

- a. *Et sachiez que il n'a fame el monde qui plus vos aint que ge faz.* (Mort 50.54)
'And know that there is no woman in the world who loves you more than I do.'
- b. *Car il ne puet trouver chevalier qui por lui entre en champ.* (Mort 79.4)
'For he cannot find (a) knight who will go into battle for him.'
- c. *Car il ne veoit chose qui li despleüst.* (Mort 128.3)
'For he didn't see (a) thing which displeased him.'
- d. *Et n'encontroient cevalier qu'il ne portassent a terre.* (Didot, E 1646)
'And they didn't meet (a) knight whom they didn't unsaddle.'
- e. *Tel estoit a cheval quy n'avoit frein. qui n'avoit lance. qui n'avoit espee.* (Novare 106.4)
'This one was on horse which had no bridle, this other had no lance, this had no sword.'

PRE-INFINITIVAL O

- f. *Ele n'avoit talent de baron prendre.* (Mort 139.3)
'She had no wish to take (a) husband.'
- g. *et dirent que il passeroient mer por cevalerie querre.* (Didot, E 1926)
'and said that they would cross (the) see to seek chivalrous adventures.'
- h. *Car çou est grans peciës de cevalier ocire.* (Didot, E 682)
'For it is a great sin to kill a knight.'
- i. *Il ala en la vile ostel querre.* (Mort 143.8)
'He went into town to seek a lodging.'

POSTVERBAL S_i

- k. *Onques dedenz celui terme ne vint hom a cort qui aportast noveles de Lancelot.* (Mort 34.51)
'Never within that delay came (any) man to court who brought news about Lancelot.'

- l. *Et sanz lui ne vient **grace** qui vaille.* (Mort 154.24)
 'And without him no grace comes which is genuine.'

EXTRAPOSED S_i

- m. *Il ne remest **chevalier** en tot le palès.* (Queste 11.30)
 'There remained no knight in the whole palace.'

- o. *ou il ne croist **flor ne fruit*** (Queste 157.10)
 'where there grows neither flower nor fruit'

PREVERBAL S_i

- n. ***Soleill** n'i luist ne **bleit** n'i poet pas crestre.* (Roland 980)
 'Sun doesn't shine there, corn cannot grow.'

Not only does the incorporated noun follow the verb, in most cases it follows it immediately, as in 11.

- (11) *Il n'en set **mot**, n'i a **culpès** li bers.* (Roland, cit. Marchello-Nizia 1995:56)
 'He knows no word thereof, he has no guilt, the nobleman.'

But one does find structures where something has been interposed, most noticeably the subject, as in 12.

- (12) a. *Le samedi fist li roys **voile**.* (Joinville 4.3)
 'On Saturday the king set sail.'
 b. *De Guenelun atent li reis **nuveles**.* (Roland, cit. Marchello-Nizia 1995:55)
 'Of Ganelon the king awaits news.'

In what follows I shall discuss only those two cases, the object and the intransitive subject.²

2. Apart from O and S_i , the two GRs universally most exposed to incorporation, Old French and Provençal also have bare nouns as indirect objects, as in i, and transitive subjects, as in ii.

- i. *Mais a **damoisele** n'afiert qu'ele soit si mesdisans.* (Perceval 7002)
 'But it does not become a young lady that she is so slanderous.'

ii. **Old French**

- a. *qu'il ne voudroit pour riens que **chevalier** le trovast.* (Erec VI, 655)
 'for he would not for anything in the world that (a) knight found him.'

2.1.2. SPANISH, ITALIAN AND RUMANIAN. In most of the modern Romance languages phenomena are found comparable to those of Medieval Gallo-Romance. The situation in Spanish is illustrated by the following examples with a definite noun phrase contrasting with a bare noun.³

- (13) a. *Pero nadie les habia puesto la mano encima.* (45)
 'But nobody had lain a hand upon them.'
 b. *El conde (...) se echó por encima de él y puso mano a la espada.* (17)
 'The count (...) threw himself on top of him and grabbed at the sword.'

As in Gallo-Romance the GR most liable to incorporation is the O-relation, as in 14.

- (14) a. *Jusepa Vaca empezó a aplicar cera dulce a sus labios.* (30)
 'Jusepa Vaca began to apply soft cream to her lips.'
 b. *Se vio muy enriquecido por este cargo que da mucho dinero.* (37)
 'He saw himself much enriched by this charge which pays much money.'

As seen in these examples, an incorporated noun can be modified by an adjective. It can also be the antecedent of an anaphoric pronoun, as in 15.

Old Provençal

- b. *e las charcers (...) no pot claus obrir.* (Bernart 1.22)
 'and the prison no key can open.'

The incorporation of a transitive subject seems, universally, extraordinary, but not excluded (cf. Mithun 1984). In the present case, the incorporation should probably be linked to the general Pro-drop nature of the Romance languages, i.e. the existence of structures with no overt subject. It is of course debatable whether such constructions constitute genuine cases of incorporation or are rather instances of a wider use of bare nouns such as is also found after prepositions, as seen in iii.

- iii. *Mes je vos coment que de chevalier ocire ne vos chaille, ne de gesir avec fame.*
 (Didot, D 713)
 'But I command you that you should not dare to kill (a) knight, nor to sleep with (a) woman.'

3. Examples followed by a number within parentheses are from Néstor Luján: *Decidnos ¿quién mató al conde? Las siete muertes del conde de Villamediana*, 1987.

- (15) – *Paréceme, mi Señora, que había mucha diferencia entre vuestro augusto padre y el conde. – Claro que la había.* (49)

'It seems to me, Mylady, that there was much difference between your august father and the count. – Of course there was.'

As in Gallo-Romance the S_i also incorporates, see 16.

- (16) *Parecía salir fuego de las paredes.* (25)

'It seemed that fire came out from the walls.'

In Italian the situation is entirely comparable to Spanish (cf. Korzen 1996:147ff., this volume). The following examples, in 17, constitute characteristic instances of simple, usual activities.

- (17) a. *Ho chiesto consiglio.*

'I have asked advice.'

- b. *Luca vende libri in un negozio del centro.*

'Luca sells books in a shop in the center.'

- c. *Mi piace imparare. Riuscirò a leggere libri.* (38)⁴

'I like to learn. I'll succeed in reading books.'

As in Spanish the incorporated noun can be the antecedent of an anaphoric pronoun, compare 18.

- (18) *Ma è più facile aver denaro quando abbiamo imparato a spenderlo.* (cit. Korzen 1996:209)

'But it is easier to have money when we have learned how to spend it.'

As in Gallo-Romance an incorporated S_i is most of the time postverbal, see 19.

- (19) *Non c'è uscio aperto. Non si muove foglia.* (cit. Korzen 1996:236)

'There is no door open. Not a leaf moves.'

4. Examples followed by a number within parentheses refer to Giovanni Arpino: *Un delitto d'onore*, 1961.

In Rumanian essentially the same phenomena are found, i.e. incorporation by way of a bare noun as object or intransitive subject. In the following examples (20) the construction describes everyday, conventional activities.

(20) O

- a. *Am cumpărat pește.* (cit. Sandfeld & Olsen 1936:56)

'I have bought fish.'

- b. *Aprinse un chibrit și-i oferî foc.* (ib.)

'He struck a match and gave him a light.'

S_i

- c. *Din pământul udă de zăpezi și încălzit de soare a eșit iarbă verde.* (cit. ib.)

'From the ground moistened by snow and warmed by sun has come forward green grass.'

2.1.3. MODERN FRENCH. Modern French differs from the other Romance languages by not allowing the productive use of bare nouns outside the predicative function. The occurrence of such nouns is limited to remnants of Old French incorporating structures such as *rendre justice* 'make justice', *avoir peur* 'have fear', etc., or compounds such as *maintenir* 'maintain' or *colporter* 'peddle' (cf. Benveniste 1974). This means that French, in order to make the transitivity differentiation characteristic of incorporating languages, has had to seek another solution than that of the other Romance languages. The solution is offered by the preposition *de*, which has occurred with bare nouns after negation since Old French, as discussed in 2.1.4 below. So instead of the opposition *V un N* vs. *V N*, French has the opposition *V un N* vs. *V de N*, where the prepositional construction signals the adverbial, modifier-like status of the noun: instead of an argument noun phrase one has an adverbial-like noun – the defining feature of incorporation. This opposition is however severely restricted lexically, occurring only with a few verbs such as *changer* 'change', *doubler* 'double' and *manquer* 'lack', as in 21.

- | | | | |
|------|---|-----|---|
| (21) | <i>changer un programme</i> 'change a program' | vs. | <i>changer de programme</i> 'switch program' |
|------|---|-----|---|

But the opposition has, on the other hand, been extended and generalised to objects in negative contexts, which constitute perhaps the most favourable environment for incorporation, compare 22.

- (22) *Il n'a pas acheté de chemise.*
 'He hasn't bought (a) shirt.'

2.1.4. CONTENT AND FUNCTIONS OF INCORPORATION. The extension in Romance of bare nouns to environments where they alternate with full-fledged noun phrases induces a special reading: instead of stating the verbal situation in terms of the verb and an (extensional) argument, one has the combination of the verb with a pure nominal concept, an intension, with no referential value. This is what characterises traditionally recognised instances of incorporation (cf. Mithun 1984). The resulting readings show a great array of possibilities, from the purely hypothetical or virtual to the description of institutionalised or ritualised activities. The creation of a complex predicate by incorporation of a nominal object is clearly seen in some cases discussed by Van Pethegem (1989:49f.) where not only verb and object fuse, but where also the description contained in the object noun is a consequence of the verbal action: in the Spanish example, *buscar novio* 'seek a fiancé', the noun *novio* is not an accurate description of anything until someone is actually found (who was not previously a fiancé). The same is true of Rumanian *Au căutat gazdă* 'They looked for a host' and Old French *Il oncques aventures ne trova ne ostel* 'He never found adventures nor a lodging' (Didot, D 222). Adventures are only adventures when you encounter them and a lodging is only that when you actually find and accept it as that. Examples such as these, with what could be called 'role terms', are clearly special instances of EFFECTED objects and hence related to the creation of verbo-nominal predicates (cf. Baron and Herslund 1997, 1998), and incorporating structures are especially exploited in this way in Middle French, viz. in constructions like *faire demande* 'ask a question', *faire promesse* 'make a promise', *faire jugement* 'make a judgment' (see Herslund 1997).

The extension of bare nouns to argument positions is primarily found in environments where referentiality is reduced or non-existent, especially in negatives, questions, conditionals, and different subordinate structures, mainly in the subjunctive.

NEGATIVES. The negative construction constitutes the clearest instance of the kind of environment where one finds incorporation, i.e. the occurrence of a bare noun in an environment where an articulated noun is expected. The

incorporated noun occupies in Old French the position which in constructions with an articulated argument is filled by the auxiliary of the negation (*pas* 'step', *mie* 'crum', *point* 'dot'), as in 23.

- (23) a. *Il ne voit N.*
 'He doesn't see N.'
 b. *Il ne voit mie le N.*
 'He doesn't see the N.'

This identical distribution of incorporated nouns and negative auxiliaries is of course due to the fact that the auxiliaries, historically, are themselves incorporated nouns. This status also explains that they, like other nouns or quantifiers, are followed by the preposition *de* before an unarticulated noun: the suppression of the O relation makes the use of a preposition necessary when a noun is added (cf. Mithun 1984).⁵ Compare the contrast in 24.

- (24) a. *Le serf n'avoit cuer.* (Novare 154.12)
 'The serf had no courage.'
 b. *Le serf n'avoit point de cuer.* (ib. 154.15)
 'The serf had not a bit of courage.'

The different negative auxiliaries are illustrated in 25.

- (25) a. *Quar toutes celes de vostre cort n'ont pas de beauté envers la soe.*
 (Didot, D 863)
 'For all those (Fem.) of your court have no beauty equal to hers.'
 b. *De mon nom, fet il, ne puez tu mie savoir.* (Queste 29.27)
 'My name, he says, can you know nothing of.'

5. There are exceptions to this rule, probably because of the blend of different chronological layers in our texts, see i.

- i. *Car ce n'est mie chose que on doie dire.*
 'For that is not a thing one should say.' (Queste 29.28)

By topicalisation it seems that the negative auxiliary can take over the position vacated by the fronted incorporated object, as in ii.

- ii. *Car vilanie ne feroit il pas au vaslet.*
 'For cruelty he would not do unto the youngster.' (Queste 89.10).

- c. *Car il ne puet point trover d'entree.* (Queste 82.3)
 'For he cannot find (an) entrance.'

Examples from Old Provençal of incorporated nouns under negation are seen in 26.

- (26) a. *Ni chans no pot dal cor mover.* (Bernart 2.3)
 'Neither can song spring from the heart.'
 b. *Ara no vei luzir solelh.* (Bernart 5.1)
 'Now I don't see (the) sun shine.'
 c. *Non ai enemich tan brau.* (Peire Vidal 9.8)
 'I have no enemy so cruel.'

Both in Spanish and Italian the most typical instances of incorporation are found in the same referentiality-reducing contexts as in Gallo-Romance. First and foremost negation, as in 27.

(27) SPANISH

- a. – ¿*No tiene descendencia directa el conde?* (37)
 'Doesn't the count have any direct descendents?'

ITALIAN

- b. – *Avrei preferito vederla con suo marito, signora (...).*
 – *Non ho marito, – dice mamma.* (cit. Korzen 1996:234)
 'I would have preferred to see you with your husband, Mrs. (...) – I don't have a husband, says mummy.'

As in the other Romance languages, negation is especially favourable to incorporation in Rumanian, as in 28.

- (28) a. *O singură dată n'a auzit vorbă bună din gura lui.* (cit. Sandfeld & Olsen 1936:55)
 'Not once has he heard a good word from his mouth.'
 b. *De multă vreme picior omenesc n'a pătruns acolo.* (ib.)
 'For (a) long time no human foot has stepped there.'

The negation of a transitive verb with its object in fact constitutes a referential zero point: nothing can be more non-referential or unindividualised

than a negated object, because in many cases what is negated is the very existence of a referent of the object phrase. And the negation of the existence of a referent is precisely the condition for the use of the Modern French version of Romance incorporation, viz. the construction with a bare noun with *de* – compare the contrast in 29.

- (29) a. *Il n'a pas vu de petit chat.*
 'He saw no little cat.'
 b. *Il n'a pas vu un petit chat (qui s'était caché sous la table).*
 'He didn't see a little cat (who had hidden under the table).'

In 29a, the *de*-incorporation construction is used because there is no cat to be seen; in 29b, it cannot be used because there is a cat, it is only that he does not see it.

The incorporation in negative constructions is, as should also be expected, found with postverbal intransitive subjects too, whether inverted or extraposed with the formal subject *il*, as in 30.⁶

- (30) a. *Longtemps dans la nuit, ils poursuivaient leur dialogue (...) mais sans qu'intervint d'élément nouveau.* (cit. Gaatone 1971:5)
 'For a long time in the night they continued their dialogue
 (...) but without any new element appearing.'
 b. *Il ne vient donc jamais de Français, chez vous?* (cit. ib. 2)
 'So there never comes any Frenchman, to your place?'

QUESTIONS. Also in questions with low referentiality, i.e. where the mere existence of a referent is questioned, the use of incorporating constructions is common, compare 31.

- (31) OLD FRENCH
Avés vous dont borse trovee? (Cortois 262)
 'Have you found a purse?'

This example is in fact not an enquiry as to whether someone has found a

6. This 'postverbality' condition is due to the simple fact that only postverbal elements are within the scope of negation.

purse or not: the speaker is simply wondering how it is possible for the addressee to spend so much money.

CONDITIONALS. The third common environment is conditionals, either explicit with *se* 'if' or implicit, as in 32.

(32) OLD FRENCH

- a. *Mes se je eüsse cheval, jel te cuidaïsse ramener par tens.* (Queste 90.13)
'But if I had (a) horse I think I could bring him back to you in time.'

OLD PROVENÇAL

- b. *s'agues bon destrier.* (Peire Vidal 14.1)
'If I had (a) good steed.'

ITALIAN

- c. *Se non potrò aver figli, anch'io voglio morire.* (15)
'If I can't have children, I want to die too.'

OTHER SUBORDINATE STRUCTURES. Furthermore, incorporated nouns are found in different subordinate structures, mainly in the subjunctive and often in a wider negative context, such as the following in 33.

(33) OLD FRENCH

- a. *Prierai au boin sengneur qu'il nos doinst oïr.* (Pontieu 47)
'I shall pray to the good Lord that he gives us (an) heir.'
- b. *Ne il ne li avoient encore fet tant de mal que sans fust issuz de lui.* (Queste 121.10)
'And they had not injured him so much that blood had come out of him (i.e. that he had started to bleed).'

OLD PROVENÇAL

- c. *E-lh lauzenger e-lh trichador portesson corns el fron denan.* (Bernart 1.35)
'And the flatterers and deceivers should wear horns in their forehead.'

Also in the other Romance languages incorporation is often found in such contexts, as evidenced in 34.

(34) SPANISH

- a. *Me agradaría que nuestro convidado – dijo don Antonio – catara platos más ligeros pero típicos de los bodegones de Madrid.* (95)

'I would be pleased if our guest – said don Antonio – would taste lighter courses, but courses typical of the taverns of Madrid.'

ITALIAN

- a. *Potrei minacciarla, dirle che torno in America, che prendo casa a Roma.* (20)

'I could threaten her, tell her that I'll return to America, that I'll buy (a) house (i.e. settle) in Rome.'

TEXTUAL FUNCTIONS OF INCORPORATION. Apart from these referentiality-reducing contexts, incorporating constructions are also found in the descriptions of actual activities, but here clearly with an institutionalised or indeed ritualised meaning, i.e. without actual reference to a particular instance of the noun's denotation, compare 35.

(35) OLD FRENCH

- a. *Et porta corone dedens le premier mois.* (Didot, E 2552)

'And he wore crown within the first month (i.e. was crowned).'

- b. *Le samedi fist li roys voile.* (Joinville 4.3)

'On Saturday the king set sail (i.e. put out to sea).'

In these cases the nouns are clearly non-referential: *corone* or *voile* are not referring to any specific instances of their denotations, but describes with their respective verbs, conventional types of activities.

The textual functioning of incorporation in a wider context is very well illustrated by the following passage from Spanish.

- (36) (...) *al anochecer nueve hombres entraron en casa de una viuda que tenía dos hijas y después de haber burlado a las tres les robaron más de cuatro mil ducados.*

Un estudiante (...) dijo maliciosamente:

— *Maravilloso que guardaran tanto dinero estas damas en sus arquetas.*

Engallóse el hidalgo (...):

— *Pues así fue, y cualquiera tiene derecho a guardar dinero en casa antes que darlo a arbitristas o esconderlo en el huerto.* (70-71)

'(...) when night came, nine men entered the house of a widow who had two daughters and after having taken their pleasure of the three, they stole more than 4,000 ducados. A student (...) said maliciously: – Strange that those ladies should have kept so much money in their caskets. The hidalgo got superior (...): – But that was what happened, and everyone has the right to keep money in his house rather than giving it to usurers or hiding it in the garden.'

One has here the typical textual progression from *más de cuatro mil ducados* in the description of a specific case, via the anaphoric expression *tanto dinero*, to the incorporated *dinero* in a description of general validity, which itself is the antecedent of the anaphoric pronouns *lo*.

2.2. ROMANCE OBJECT DIFFERENTIATION. The Latin case system disappeared in all Romance languages with the exception of the retention of a nominative in early Gallo-Romance, as mentioned in 2.1.1, and a genitive-dative in Rumanian. In the evolution from Latin into Romance one finds all of the five types of marking of grammatical relations which are found in natural languages (cf. Nichols 1986). One finds DEPENDENT MARKING, as in A.

- (A) 1. Word order: all Romance languages have the neutral order SVO, but VS tendencies are widespread; early Gallo-Romance has clear V2 features.
- 2. Case marking: in nouns in early Gallo-Romance and Rumanian, in pronouns in all the languages.
- 3. Marking by adpositions (prepositions): special marking of certain objects in some of the languages.

And one finds HEAD MARKING, as in B.

- (B) 4. Subject-Verb Agreement: all Romance languages. All Romance languages with the sole exception of Modern French are also Pro-drop languages.
- 5. Pronominal coindexation: with dislocation of a nominal constituent in all the languages, elsewhere too in certain languages. This feature is of course also a kind of agreement.

Different mixtures of these techniques are found in the Romance languages. Of special interest in the present context are however 3. Prepositional mark-

ing of some objects and 5. Pronominal coindexation, because they are exploited in order to achieve yet another differentiation of the object zone, already, as seen in 2.1, differentiated into object incorporation *versus* the 'normal' transitive construction. It is within the domain delineated by the label 'normal' transitive construction that a further differentiation is carried out in some languages.

2.2.1. PREPOSITIONAL OBJECTS. In those languages which have differential object marking, not all object phrases are treated alike, so that a contrast between 'normal' transitivity and SUPERTRANSITIVITY is created. One finds in most Romance languages attempts at a differential object marking. This differentiation of the object zone has become standardised in Spanish, Rumanian, Southern Italian, Sardinian, and occurs sporadically in Catalan and Portuguese. The common feature of these languages is that the more specifically referential, individualised, and salient both cognitively and textually an object phrase is, the greater is the tendency to give it a differential marking by way of a preposition, as in 37.

- | | | |
|---------|---------------------|-------------------------|
| (37) a. | VERB + DET N | ('Normal' transitivity) |
| b. | VERB + PREP + DET N | ('Supertransitivity') |

Together these parameters most often single out animate or human objects, but it would be wrong to reduce the system to a [\pm Human] distinction, as do Hopper and Thompson (1980:256). Data such as those of Gunnarson (1966), and any Spanish text, clearly show that that is not the case.

The object differentiating system is quite simple: certain object phrases are singled out and marked by a preposition. This is a purely iconic underlining of the relative autonomy of the three components of the transitive construction, as in 38.

- (38) S - V - PREP O

Otherwise, because of the close connection between verb and object, the transitive construction is in danger of being reduced to two components, as in 39.

- (39) S – V + O

This is notably the case in incorporation, as seen above – compare 40.

- (40) S – [V-O]

So object differentiation is 'anti-incorporation' and introduces a kind of 'supertransitivity' where the two participants in the verbal situation, subject and object, both retain a high degree of autonomy.

SPANISH. The phenomenon is best known from Spanish (cf. for example Keniston 1937; Alarcos Llorach 1994; Delbecque 1999), where all kinds of individualised object constituents are marked by the preposition *a*, as in the following contrast cited by Bossong (1991:147f.).

- (41) a. *No quise degollar a mi perro favorito.*
 'I did not want to cut the throat of my favourite dog.'
 b. *Tenia que ir a matar un zorro.*
 'I had to go and kill a fox [± Specific].'

One consequently finds both definite inanimates and definite as well as indefinite animates marked prepositionally, as in 42.

- (42) a. (...) *enfrente del edificio llamado de la Panadería (...) Se llamaba así al magno edificio ...* (81)
 '(...) in front of the building called la Panadería (...) They called the imposing building thus (...)'
 b. *aunque ambos amaban a la poesía y a las mujeres* (...) (49)
 'although both loved poetry and women'
 c. *cuando en una ciudad se ejecuta a un gran personaje de una manera trágica* (79)
 'when in a city they execute a great personality in a tragic way'
 c. *A prima noche, en la calle Mayor, han matado a uno de sus mejores amigos.* (17)
 'When night fell, in the calle Mayor, they killed one of his best friends.'
 d. *Hacia las cinco de la mañana se había levantado y recibido a su confesor.* (57)
 'At about five in the morning he had got up and received his confessor.'

PORTUGUESE. Portuguese earlier had a system similar to that of Spanish, but in the modern language the use of a prepositional object is only consistently found in two cases (Bossong 1997): with a personal pronoun, and when both subject and object are postposed. These are illustrated in 43.

- (43) a. (...) *ela queria-o, a ele e só a ele.* (cit. Trullemans 1973:322)
 'She wanted him, him and him alone.'
 b. *Por um motivo fútil matou Caim a Abel.* (ib. 318)
 'For a futile reason Cayn killed Abel.'

The prepositional construction in Portuguese is probably a Castilianism, as it is, by the way, also in Catalan.⁷

SOUTH ITALIAN AND SARDINIAN. All South Italian dialects, and Corsican, have differentiation of objects by way of the preposition *a* (cf. Rohlfs 1949:434ff.). In most cases the object thus singled out is a personal pronoun or a (human or divine) proper name, as in 44.

(44) SICILIAN

- a. *Iu amu a Diu.* (cit. Rohlfs 1949:435)
 'I love God.'

CALABRESE

- b. *Chiamu a Petru.* (ib.)
 'I am calling Peter.'

APULIAN

- c. *Chiamà a Marià!* (ib.)
 'Call Maria!'

NAPOLETAN

- d. *Spoglia a me e vieste a te.* (ib.)
 'He strips me and covers you.'

ROMAN

- e. *Cerchiamo proprio a te.* (ib.)
 'We are looking just for you.'

7. Bossong (1997) is probably wrong in assuming object differentiation as primary in Catalan. This language is historically very closely related to Provençal, and there are no traces of prepositional object differentiation in the early stages of either language.

ABRUZZESE

- f. *T'a pagat a tté?* (ib.)
 'Did he pay you?'

CORSICAN

- g. *Prete Sartoli cuniscia l'omi in ginerale e a Ziu Don Santu in particolare.*
 (cit. Bossong 1991:148)
 'Father Sartoli knew man in general and uncle Don Santu in particular.'

But the phenomenon is found sporadically as far North as in Umbria, Tuscany, including Elba, and, as seen, Corsica, and it thus finds its way into the literary standard language, as in 45.

- (45) *"A me, neanche mi guardano," fece Sabina.* (17)
 'Me, they don't even look at me, said Sabina.'

Also Sardinian has this differential prepositional construction for objects (cf. Pittau 1991:128), see 46.

- (46) a. *Sunt giamande a Pedru.*
 'They are calling Peter.'
 b. *Gasi imparas a amare a Deus.*
 'So you learn to love God.'

RUMANIAN. Rumanian is perhaps the language where the object differentiation has been most thoroughly grammaticalised (cf. for example Sandfeld and Olsen 1962; Halvorsen 1994; Manoliu-Manea 1994). In this language it is the preposition *pe* (< Latin *per*) which is used, compare 47.

- (47) *Examinam pe fata de lângă fereastră.* (cit. Manoliu-Manea 1994:3)
 'I was watching the girl at the window.'

The marking of the object is, however, most often accompanied by a pronominal coindexation in this language, as in 48.

- (48) *Cine îl protejează, totuși, pe cumpărător?* (cit. Halvorsen 1994:163)
 who PRO.MASC.ACC protect.3.SG by the way PREP buyer
 'Who protects, by the way, the buyer?'

This coindexation is the subject of the following section.

2.2.2. PRONOMINAL COINDEXATION. In all the Romance languages there is the possibility of repeating a nominal constituent as a clitic pronoun on the verb. Whereas this possibility is commonly used when a nominal constituent is dislocated, it is only used consistently with non-dislocated constituents in Spanish and Rumanian, so that one has for example in Spanish pronominal coindexation of objects as in the following example, 49.

- (49) *La luna ha de perturbarlos más a los niños que a las personas adultas.*
 'The moon must disturb (them) children more than adults.'

Whereas examples like 49 illustrate the facultative use of coindexation in an oral style – the coindexation would not be used in a more formal, literary style (cf. Bossong 1997) – it is obligatory in the case of prepositionally marked pronominal objects, as in 50.

- (50) a. *A éste le conozco bien – terció el germano – . El vino de San Martín de Valdeiglesias se vende en las tabernas de Amberes como en Madrid.* (82)
 'This one I know (it) well – the German cut in – . The wine from San Martin de Valdeiglesias is sold in the taverns of Antwerp as in Madrid.'
- b. *Desde entonces la persiguió de una manera implacable a ella y a su marido.* (30)
 'From then on he persecuted (her) in a ruthless way her and her husband.'
- c. *Las gentes le miraban a él, tan grande, colorado y peludo, y él las contemplaba a su gusto.* (81)
 'People watched (him) him, so big, so colourful, so hairy, and he watched them as he pleased.'

Pronominal coindexation also occurs regularly in Sardinian (Pittau 1991:134f.), as in 51, as it does in South Italian (Rohlf's 1949:202f.; Bossong 1997) – compare 52.

- (51) *Su travallu fattu l'as?*
 'Have you done (it) the work?'

- (52) CALABRESE
La canusciu sta fimmina.
 'I know (her) that woman'

From these dialects it spreads North and enters sporadically the literary standard language where however the anticipatory use as in 52 is rare.

In Rumanian the grammaticalisation of pronominal coindexation has gone the furthest. This is a typical Balkan feature of the language, found also in neighbouring Macedonian and Albanian. It occurs only with a prepositionally marked object (cf. Halvorsen 1994:162), as in 53.

- (53) a. *Îl cunoștea pe barman.*⁸
 PRO.MASC.ACC knew.3.SG PREP barman
 'He knew the barman.'
 b. **Îl cunoștea barmanul.*

As a consequence of the interaction of prepositional object differentiation and pronominal coindexation, one finds gradual scales of marking like the following in 54.

- (54) a. *Opri trăsura.*
 stop.AOR.3.SG wagon.DF
 'He stopped the wagon.'
 b. *Opri pe dobitoace.* (cit. Manoliu-Manea 1994:5)
 stop.AOR.3.SG PREP animal.PLUR
 'He stopped the animals.'
 c. *O opri pe Tine.* (72)⁹
 PRO-FEM-ACC stop-AOR-3SG PREP FEMALE NAME
 'He stopped Tine.'

8. The object phrase is interpreted as definite in spite of the absence of the enclitic definite article *-(u)l*. This is however regularly omitted after a preposition. So, paradoxically, the definite and referentially salient objects which receive the differential marking occur without the definite article, because of an independent rule of Rumanian grammar.

9. Examples followed by a number within parentheses are from Herman Bang: *Tine – La calea ferată* (transl. V. Munteanu, 1976).

The coindexation is found whether the prepositional object is nominal or pronominal, whether it precedes or follows the verb, as in 55.

- (55) a. *ca să-i trezească pe doamna Berg și pe Herluf* (15)
 ‘in order to wake (them) Mrs. Berg and Herluf’
 b. *Tine trebuia s-o ajute pe doamna Berg.* (45)
 ‘Tine had to help (her) Mrs. Berg.’
 c. *Oamenii o recunoscură pe doamna Esbensen.* (109)
 ‘The men recognised (her) Mrs. Esbensen’
 d. *Ne ajunge și pe noi (...)* (73)
 ‘It reaches (us) us too (...)’

The function of the pronominal coindexation and its interaction with object differentiation is quite clear: the object, which has been made independent from the verb by the prepositional construction, is, by way of the pronominal copy, retained in the ‘sphere of interest’ of the verb – coindexation is a kind of object agreement, a string or leash by which the verb continues to control its object! This interpretation entails the hypothesis that the grammaticalisation of pronominal coindexation – and not just the sporadic occurrence of pronoun copying with or without dislocation – presupposes object differentiation. The Rumanian data in fact support such a hypothesis.

2.2.3. FUNCTIONS OF OBJECT DIFFERENTIATION. The different features responsible for the differentiation of the objects can, by and large, be organised in three hierarchies which single out those objects which are the least liable to fuse with the verb (cf. Bossong 1991:158ff.). These three hierarchies are as in (C).

- (C) – Semantic Content (‘empathy’) Hierarchy
 – Referentiality Hierarchy
 – Existential Autonomy Hierarchy

The three hierarchies are closely interconnected: the more human-like, individual, specific, definite, and autonomous with respect to the verb an object phrase is, the less it resembles a prototypical object, and the greater is the tendency to mark it prepositionally. The prototypical object, on the other hand, is an inert entity which only comes into existence by virtue of the

activity denoted by the verb, i.e. an effected object, as in for instance *She is knitting a sweater*. Such objects are those most liable to fuse with the verb, i.e. to be incorporated, or at least not to be marked differentially – compare 2.1.4 above. Autonomous, independent, and reacting entities, on the other hand, which are only affected by the activity denoted by the verb, not created by it, have many features in common with prototypical subjects and do not, consequently, constitute ‘good’ objects, as in *She met the bishop* (cf. Bossong 1991:162). Such objects are those which are most consistently marked differentially.

The three hierarchies can be specified as follows (cf. Bossong 1991, 1997) compare (C’).

(C’) EMPATHY HIERARCHY

[+Deictic] > [+Proper] > [+Human] > [+Animate] > [+Discrete] ...

REFERENTIALITY HIERARCHY

[+Individualised] > [+Referential] > [+Definite] ...

AUTONOMY HIERARCHY

[+Independent Existence] > [–Independent Existence] ...

The more to the left on all parameters a given object constituent is situated, the more consistently it will be marked. Different languages have, however, different preferences as to the relative weight of the three hierarchies (cf. Bossong 1997). In Spanish, for instance, the Empathy hierarchy seems to be the most important, for the well-known biblical text ‘God created man’ reads, in spite of the lack of autonomy of the object constituent – it is an effected object – and its status as a generic phrase, but because of its status as human: *Dios creó al hombre*. Especially the Corsican example quoted in example 44 above and repeated here for convenience is, with its two contrasting objects (a generic and a specific term respectively) a good example of the function of the differential object marking.

(44) CORSICAN

Prete Sartoli cuniscia l’omi in ginerale e a Ziu Don Santu in particolare.

(cit. Bossong 1991:148)

‘Father Sartoli knew man in general and uncle Don Santu in particular.’

As the discussion of object differentiation has shown, this technique is the opposite of incorporation. In fact it is anti-incorporation. While incorporation is the fusion of the verb with an unindividualised, non-referential object, typically in a negative, hypothetical or virtual, referentially opaque context, object differentiation is an iconic highlighting of autonomous, individualised and referential objects which retain the status of independent participants in the verbal situation. They are in a sense 'bad' objects. On the other hand, incorporated objects are 'good' objects in the sense that there is a high degree of correspondence, harmony, and predictability between the verb and the object noun. The different degrees of Romance transitivity can be illustrated by the following examples from Rumanian.

- (56) a. *Cheamă doctor.* (Incorporation)
 *(He) calls (a) doctor.'
 b. *Cheamă doctorul.* ('Normal' transitive)
 '(He) calls the doctor.'
 c. *Cheamă pe doctor.* ('Supertransitive')
 '(He) calls out for (the) doctor.'
 d. *Îl cheamă pe doctor.* ('Supertransitive' + Coindexation)
 '(He) calls out for (him) (the) doctor.'

The first two examples typically describe situations where someone is ill and you want to call either a non-specific doctor – by incorporation – or a known and already identified doctor – by a neutral transitive construction. The last two cases, on the other hand, where the object is definite in spite of the absence of the definite article (as explained in note 8, Rumanian drops the article after prepositions) would typically be used in a situation where a doctor is called, not because he is a doctor – no-one is ill – but because, say, you need a fourth for playing cards.

The marking of the object has furthermore a clear functional content when both subject and object are postverbal, because both VSO and VOS are possible – compare the Spanish example in 57.

- (57) *Y tambien quiere ver a Su Excelencia el capitán Ignacio Méndez.* (59)
 'And also captain Ignacio Méndez would like to see Your Excellency.'

With the same verb, contrasts like the following, instantiating different meanings of a polysemous verb, are found, compare 58.

- (58) a. *Quiero a mi hija.*
 'I love my daughter.'
- a'. *Quiero una hija.*
 'I want a daughter.'
- b. *Don Gaspar, que bien temia las sensatas opiniones del ilustre anciano.* (60)
 'Don Gaspar, who was very respectful of the sensible opinions of the famous old man.'
- b'. *No dejaba de tenerle una secreta admiración (...) por aquel no temer en absoluto a la muerte.* (58)
 'He couldn't help nursing a secret admiration for him (...) because of that absolute lack of fear of death.'
- c. *No hubo manera, a pesar de la tortura, de conocer sus cómplices o los instigadores del asesinato.* (45)
 'There was no way, in spite of the torture, to identify his accomplices or the instigators of the murder.'
- c'. *(El vino de San Martin de Valdeiglesias). A éste le conozco bien (...).* (82)
 '(The wine of San Martin de Valdeiglesias). This one I know very well (...).'

Especially the last pair, 58 c-c', is illustrative of what is going on: in the first example the intended meaning of the verb *conocer* is 'identify', which does not presuppose a [+Human] object, and in spite of the actual object being [+Human] there is no prepositional marking of it. Quite the opposite is the case in the second example where the meaning of the verb is 'recognise, be acquainted with' which has strong preferences for a [+Human] object, and in spite of *vino* being [-Human], the prepositional construction imposes itself.

2.3. THE TRANSITIVITY SYSTEMS OF ROMANCE. The modifications of the neutral transitive construction examined so far, i.e. incorporation and object differentiation – 'supertransitivity' – constitute the following transitivity scale for the Romance languages in Figure 1.

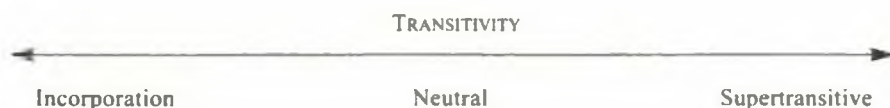


FIGURE 1. The transitivity scale for Romance languages.

The three degrees of this scale yield the following typological classification.

| | Neutral Transitivity | Incorporation | Supertransitivity |
|------------|----------------------|---------------|-------------------|
| French | + | - | - |
| Old French | + | + | - |
| Italian | + | + | - |
| Portuguese | + | + | (+) |
| Spanish | + | + | + |
| Rumanian | + | + | + |

TABLE 1. Typological classification of Romance languages according to the transitivity scale.

The different possibilities of the languages in the three classes identified by the schema – languages with one, two or three constructions – are illustrated below in Table 2.

| | | | |
|--------------------|---------------|------------------|--------------------|
| 1. <i>chercher</i> | | <i>un mari</i> | |
| 2. <i>cercare</i> | <i>marito</i> | <i>un marito</i> | |
| 3. <i>buscar</i> | <i>marido</i> | <i>un marido</i> | <i>a un marido</i> |

'seek a husband'

TABLE 2. Illustration of the transitivity classification of Romance languages.

10. French has only the restricted form of *de*-incorporation described in 2.1.3, not the bare noun-incorporation, hence the -.

And it is of course tempting to propose the following typological implications, compare (D).

(D) Neutral Transitivity < Incorporation < Supertransitivity < Pronominal Coindexation

If a language has object differentiation ('Supertransitivity'), it also has incorporation, and of course, neutral transitivity, and not *vice versa*: Old French and (standard) Italian for instance have incorporation, but not object differentiation. And the grammaticalisation of pronominal coindexation presupposes object differentiation, which, again, presupposes incorporation.

3. CONCLUSION. These reflections on Romance transitivity can perhaps be made a little more precise by confronting them with certain ideas on 'canonical transitivity' (cf. Plank 1984, 1990). The canonical transitive structure exhibits a maximal distance or contrast between subject and object on the parameters we have already discussed. A canonical transitive structure will accordingly look like 59 (simplified).

| | | | |
|------|------------------------------|---|--------------------------------------|
| (59) | Agent Animate Specific | V | Patient Inanimate Non-specific |
|------|------------------------------|---|--------------------------------------|

The more subject and object resemble each other, however, i.e. the less contrast there is between them, the greater is the tendency to differentiate them, and object differentiation occurs, as in 60.

| | | | |
|------|------------------------------|---|--|
| (60) | Agent Animate Specific | V | Counter-Agent/Patient Animate Specific |
|------|------------------------------|---|--|

Conversely, the tendency will be towards incorporation, i.e. the suppression of an independent object relation in favour of an adverbial-like qualification of the verb, if the contrast between them is increased or the point reached when there is no contrast whatsoever because the (former) object constituent is negated or non-referential, as in 61.

| | | | |
|------|----------|---|---------------|
| (61) | Agent | V | Qualification |
| | Animate | | Inanimate |
| | Specific | | Non-specific |

The overall conclusion is that the Romance languages, as a consequence of the loss of the Latin case system, have created extensive restructurings and differentiations of their transitivity systems. But they do it differently along different typological routes: whereas French only has a restricted version of incorporation (with the preposition *de*), all the other languages retain the early Romance possibility of contrasting articulated and bare nouns. And a subset of these languages – of the major standard languages, especially Spanish and Rumanian – make a distinction among the articulated objects by prepositional differentiation and pronominal coindexation.

REFERENCES

- ALARCOS LLORACH, EMILIO. 1994. *Gramática de la lengua española*. Madrid: Espasa Calpe.
- BARON, IRÈNE; and HERSLUND, MICHAEL. 1997. Prédicats verbo-nominaux et constructions nominales. In B. Caron, ed. *Proceedings of the XVIth International Congress of Linguists, Paris*, Paper No. 0254. CD-Rom. Oxford: Pergamon.
- 1998. Support Verb Constructions as Predicate Formation. In H. Olbertz, K. Hengeveld, and J. Sánchez García, eds. *The Structure of the Lexicon in Functional Grammar*, 99-116. Amsterdam: John Benjamins.
- BENVENISTE, EMILE. 1974. Convergences typologiques. *Problèmes de linguistique générale* 2, 103-112. Paris: Gallimard.
- BOSSONG, GEORG. 1991. Differential Object Marking in Romance and Beyond. In D. Wanner, and D. Kibbee, eds. *New Analyses in Romance Linguistics*, 143-170. Amsterdam: John Benjamins.
- 1997. Le marquage différentiel de l'objet dans les langues d'Europe. In J. Feuillet, ed. *Actance et valence dans les langues de l'Europe. Eurotyp 20-2*, 193-258. Berlin/New York: Mouton de Gruyter.
- CARLIER, A; and GOYENS, M. Forthcoming. De l'ancien français au français moderne: régression du degré zéro de détermination et restructuration du système des articles. *Cahiers de l'Institut de Linguistique de Louvain*.
- DELBEQUE, NICOLE. 1999. La transitivité en espagnol: deux constructions plutôt qu'une. In B. Lamiroy, and M. van Peteghem, eds. *Transitivité et langues romanes. De l'objet direct à l'objet indirect. Verbum XXI*, 49-65. Nancy: Presses universitaires de Nancy.
- ERNOUT, ALFRED; and THOMAS, FRANÇOIS. 1964. *Syntaxe latine*. Paris: Klincksieck.
- FUGIER, HUGUETTE. 1991. Le verbe latin „incorpore“-t-il ses compléments? Communication au VI^e colloque de linguistique latine. Budapest.
- GAATONE, DAVID. 1971. Articles et négation. *Revue Romane* 6.1-16.
- GOYENS, MICHÈLE. 1994. *Emergence et évolution du syntagme nominal en français*. Bern: P. Lang.
- GUIRAUD, PIERRE. 1962. L'expression du virtuel dans *le Roland* d'Oxford. *Romania* 83.289-302.
- GUNNARSON, KJELL-ÅKE. 1966. El complemento de cosa construido con la preposición *a*. Unpublished paper. University of Lund.
- HALVORSEN, ARNE. 1994. Le marquage de l'objet à référent personnel en roumain. In G. Boysen, ed. *Actes du XI^e Congrès des Romanistes Scandinaves*, 161-170. Aalborg: Aalborg University Press.

- HERSLUND, MICHAEL. 1994. La notion d'incorporation en danois et en français. *Travaux de linguistique et de philologie* XXXII.7-18.
- 1997. Les prédicats verbo-nominaux en moyen français. In G. Di Stefano, and R. M. Bidler, eds. *Autour de Jacques Monfrin. Néologie et création verbale. Le moyen français* 39-40-41.327-343. Montréal: CERES.
- 1999. Incorporation et transitivité dans les langues romanes. In B. Lamiroy, and M. van Peteghem, eds. *Transitivité et langues romanes. De l'objet direct à l'objet indirect. Verbum* XXI, 37-47. Nancy: Presses universitaires de Nancy.
- HOPPER, PAUL J; and THOMPSON, SANDRA A. 1980. Transitivity in Grammar and Discourse. *Language* 56.251-299.
- KENISTON, HAYWARD. 1937. *Spanish Syntax List*. New York: Holt, Rinehart and Winston.
- KORZEN, IØRN. 1996. *L'articolo italiano fra concetto ed entità. I-II. Etudes Romanes* 36. Copenhagen: Museum Tusculanum.
- LAZARD, GILBERT. 1994. *L'actance*. Paris: PUF.
- MANOLIU-MANEA, MARIA. 1994. *Discourse and Pragmatic Constraints on Grammatical Choices. A Grammar of Surprises* [North Holland Linguistic Series 57]. Amsterdam: Elsevier.
- MARCELLO-NIZIA, CHRISTIANE. 1995. *L'évolution du français*. Paris: Armand Colin.
- MITHUN, MARIANNE. 1984. The Evolution of Noun Incorporation. *Language* 60.847-894.
- NICHOLS, JOHANNA. 1986. Head-Marking and Dependent-Marking Grammar. *Language* 62.56-119.
- PITTAU, MASSIMO. 1991. *Grammatica della lingua sarda. Varietà logudorese*. Sassari: Carlo Delfino.
- PLANK, FRANS. 1984. Verbs and Objects in Semantic Agreement: Minor Differences between English and German that Might Suggest a Major One. *Journal of Semantics* 3.305-360.
- 1990. Objets trouvés. *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung* 43.59-85.
- ROHLFS, GERHARD. 1949. *Historische Grammatik der Italienischen Sprache und ihrer Mundarten. Band II. Formenlehre und Syntax*. Bern: Francke.
- SANDFELD, KR. and OLSFN, H. 1936. *Syntaxe roumaine I. Emploi des mots à flexion*. Paris: Droz.
- 1962. *Syntaxe roumaine III. Structure de la proposition*. Copenhagen: Munksgaard.
- TRULLEMANS, ULLA. 1973. Sur le complément d'objet direct prépositionnel en portugais contemporain. *Mélanges Poul Høybye. Revue Romane* 8.314-327.
- VAN PETEGHEM, MARLEEN. 1989. Non-spécificité, attributivité et article indéfini dans les langues romanes. *Travaux de linguistique* 18.45-56.
- WOLEDGE, BRIAN; ET AL. 1967. La déclinaison des substantifs dans *la Chanson de Roland*. I. *Romania* 88.145-174.

LITERARY TEXTS CITED

OLD FRENCH

Cortois = *Courtois d'Arras*, ed. E. Faral, CFMA 3. Paris: Champion 1961.

Didot = *The Didot-Perceval*, ed. W. Roach. Philadelphia: University of Pennsylvania Press 1941.

Erec = *Erec. Roman arthurien en prose*, ed. C. E. Pickford, TLF 87. Genève-Paris: Droz 1968².

Joinville = Jean de Joinville, *Histoire de Saint Louis*, ed. N. de Wailly. Paris: Hachette 1881.

Mort = *La Mort le roi Artu*, ed. J. Frappier, TLF 58, Paris-Genève, Droz, 1964.

Novare = Philippe de Novare, *Mémoires 1218-1243*, ed. C. Kohler, CFMA 10. Paris: Champion 1970.

Perceval = Chrétien de Troyes, *Le roman de Perceval*, ed. W. Roach, TLF 71. Paris/Genève: Droz.

Pontieu = *La fille du comte de Pontieu*, ed. C. Brunel, CFMA 52. Paris: Champion 1926.

Queste = *La Queste del Saint Graal*, ed. A. Pauphilet, CFMA 26. Paris: Champion 1967.

Roland = *Das altfranzösische Rolandslied*, ed. A. Hilka. Tübingen: Niemeyer 1965.

OLD PROVENÇAL

Bernart = *Bernard de Ventadour. Chansons d'amour*, ed. Moshé Lazar. Paris: Klincksieck 1966.

Peire Vidal = *Les poésies de Peire Vidal*, ed. J. Anglade, CFMA 11. Paris: Champion 1966.

Razos = *Las Razos de trobar*, ed. J. H. Marshall. London: Oxford University Press.

SPANISH

Néstor Luján, *Decidnos ¿Quién mató al conde? Las siete muertes del conde de Villamediana*. Barcelona: Plaza y Janes 1987.

ITALIAN

Giovanni Arpino, *Un delitto d'onore*. Rome: Mondadori 1961.

RUMANIAN

Herman Bang, *Tine – La calea ferată*. Transl. Valeriu Munteanu. Bucharest: Editura Eminescu 1976.

Noun Incorporation in Italian

IØRN KORZEN

INTRODUCTION. Noun incorporation is not a notion that has traditionally been applied in Italian linguistics. It is not at all used in recent major works such as Lepschy (1979), Renzi/Salvi/Cardinaletti (1988,1991,1995), Schwarze (1988), Serianni (1988) or Bach/Schmitt Jensen (1990), nor is it found in other major or minor works on the Italian language.

This might seem strange considering that constructions such as those found in 1 are all very common and generally productive in Italian,¹ and clearly manifest the features of what in other languages has been labelled noun incorporation, i.e. structures in which a nominal constituent – most frequently the object – fuses with the verb and is reduced morphologically, semantically and/or syntactically, and thereby also pragmatically.

- (1) a. *Ho bevuto vino. Abbiamo mangiato pollo.*
'I drank wine.' 'We ate chicken.'²
- b. *Cambierò treno a Firenze. Ho sbagliato casa.*
'I shall change trains [train] in Florence.' 'I took the wrong house [I mistook house].'
- c. *Ho fame. Mi fai paura. Maurizio lavora di pennello e spatola, fa quadri per il capitano, il comandante e i generali* (Tondelli, *Pao Pao* 152)
'I'm hungry [I have hunger].' 'You scare me [For me you make fear].'
'Maurizio works with a paint brush and a filling knife, he makes paintings for the captain, the commandant and the generals.'

-
1. Although for instance Schwarze 1988:56 seems to accept cases like 1a, 1b and 1d only in negative sentences and does not mention cases like 1c, 1e and 1f at all.
 2. The English translations are meant to clarify the semantic structure of the Italian constructions and are not (necessarily) grammatically 'correct'. Where needed, I shall indicate the direct translation between brackets.

- d. *Da alcuni anni Luca vende libri in un negozio al centro.*
'For some years Luca has sold books from a shop in the center.'
- e. *Dalle cascine usciva gente. Ci vuole pazienza.*
'From the farmhouses people came out.' 'Patience is needed [There is needed patience].'
- f. *In un attimo venne sera. Mi sta venendo fame.*
'In an instant it became evening [came evening].' 'I'm getting hungry [For me is coming hunger].'

In the following pages I shall describe these kinds of structures, and I shall argue that they fully justify the use of the term NOUN INCORPORATION for a quite common linguistic phenomenon in Italian.

Traditionally, certain Italian linguistic schools have viewed nominal syntax and the use of determiners in the light of a very wide notion of REFERENCE and seen the presence of a determiner in the noun phrase as an unequivocal signal of a referential act. Consequently, they have focused more on the referring function that some NPs may have in spite of a missing determiner, than on the general semantic (and syntactic) values of undetermined NPs in other cases.³

Another school of Italian linguistics has opted for a theory according to which the missing determiner (by some called the ZERO ARTICLE) is regarded as an unmaterialised quantifier; the presence of this quantifier would be

-
3. Undoubtedly, the linguist who has devoted most time and energy to the study of the Italian articles is Lorenzo Renzi. He says for instance:

La presenza di un articolo presuppone infatti che il SN serva a un atto di riferimento. [...] la presenza di un articolo è un'indicazione univoca e il SN rimanda a un referente, di cui l'articolo precisa la maggiore o minore notorietà ai protagonisti dell'atto di comunicazione. L'assenza dell'articolo non è un'indicazione altrettanto univoca: mancando l'articolo il SN può o meno rimandare a un referente. [...] se l'articolo è, com'è possibile, in primo luogo il segnale che il SN rimanda a un referente, tuttavia l'articolo può mancare impunemente in una serie di casi. [...] Partendo ora non più dalla lingua, ma dall'atto linguistico, diremo che all'assenza di riferimento deve corrispondere l'assenza dell'articolo. (Renzi 1985:274 and 1985:283-284)

'The presence of an article presupposes in fact that the NP is used for a referential act. [...] The presence of an article is an unambiguous indication that the NP refers to a referent of which the article clarifies the degree to which it is known to the speaker

justified by the parallel dislocation possibilities in quantified and undetermined NPs such as those found in 2 and 3 (cf. for instance Benincà 1980).

- (2) a. *Ho visto tre gatti in giardino – Gatti, ne ho visti tre in giardino*
 'I saw three cats in the garden – [Of] cats I saw three in the garden'
 b. *Ho visto [Ø] gatti in giardino – Gatti, ne ho visti [Ø] in giardino*
 'I saw cats in the garden – [Of] cats I saw [Ø] in the garden'
- (3) a. *Ho bevuto un litro di vino ieri sera – Vino, ne ho bevuto un litro ieri sera*
 'I drank a liter of wine last night – [Of] wine I drank a liter last night'
 b. *Ho bevuto [Ø] vino ieri sera – Vino, ne ho bevuto [Ø] ieri sera*
 'I drank wine last night – [Of] wine I drank [Ø] last night'

I have discussed and argued against this theory in Korzen (1996:140-146): for instance it is not applicable to count nouns in the singular form, cf. 1b, and it leads to a wrong semantic interpretation in case of negatives: in a sentence such as *Vino, non ne ho bevuto [Ø] ieri sera* 'Wine I did not drink last night', I am not implying that there was a certain quantity of wine that I did not drink – possibly as opposed to a quantity of wine that I did drink.

I find that the constructions in 1 are perfect examples of the 'midway solution between regular syntactic combination and morphological compounding' which Herslund (1995:1) defines as INCORPORATION. Italian generally requires a determiner in NPs with subject or object function (at least in the singular form, see sections 6-7 below, cf. also Korzen 1998a), and, as we

and hearer. The lack of an article is not as clear an indication; an NP without an article may or may not refer to a referent. [...] If the article is, as it seems to be, first of all a signal that the NP refers to a referent, it may however be lacking in a series of cases without any problems. If we take as our point of departure not the language but the speech act, we will say that to lack of reference corresponds the lack of an article.'

Renzi's theories on the use of the articles have inspired several other Italian grammarians, among them Serianni 1988 and Bach/Schmitt Jensen 1990. In Korzen 1996:25-29,60-72 and 1998a:77-80 I have, however, discussed and argued against such a broad definition of reference.

Renzi is also the author of the chapter on the use of the article in *Grande grammatica italiana di consultazione* (Renzi 1988:357-423), but the section 4.4.1, VERBO + OGGETTO SENZA ARTICOLO (413-415), only mentions constructions with support verb + object (see below), and the notion INCORPORATION is not used.

shall see, the morphosyntactic reduction – the loss of the determiner – that we find in structures such as 1, coincides with a special cohesion with the verb that is not found in parallel constructions with determined noun phrases. For instance, an NP without a determiner is generally, in the singular form at least, restricted to a postverbal (or postprepositional) position.⁴

1. FUNDAMENTAL ARGUMENTS. Noun phrases without a determiner occur as objects, unaccusative subjects, and parts of complex NPs.⁵ In the two first mentioned cases we are thus dealing with what Herslund (1995:2-3) defines as the **FUNDAMENTAL ARGUMENT** of the verb (cf. also Herslund 1996ed.:39f, 113f). Herslund argues that the object of a transitive verb and the subject of an unaccusative verb enter into a particularly close relationship with the verb in a unit that he calls a **PREDICATIVE FUNDAMENT**, i.e. the kernel of a predication.

Traditionally, the verb + object relation has been seen as particularly close: the object forms a sort of lexical symbiosis with the verb. With reference to symmetrical event verbs like *break*, Herslund generalises this status to the subject of unaccusative verbs, S_u , as in 4.

- (4) a. *John breaks the stick*
 b. *The stick breaks*

4. As is well known, there is much discussion as to the status of the determiner in an NP. Some linguists, as e.g. Heltoft 1996, consider the (Danish) determiner to be the syntactic head of the NP, without which we do not have a noun PHRASE at all but only the „naked“ predicative form of the noun. At the semantic level he considers the exocentric structure $DET \leftrightarrow CATEGORY$ as head of the nominal. Similarly, Herslund 1997ed.:131-138 operates with two kinds of syntactic phrases in French in which the element that has a valency frame is a noun: the **NOMINAL PHRASE** which has a determiner, and the **PREDICATIVE PHRASE** which does not have a determiner. This terminology is based on the syntactic distribution of such phrases in French, the phrase without a determiner being restricted to the position as the syntactic predicative.

In Italian, NPs without a determiner are by no means restricted to a predicative position but occur regularly in all positions (in the plural form, see section 6). Furthermore, the noun (or a non-clitic pronoun) is always obligatory in the noun phrase, and the deter-

In both cases, the fundamental argument functions as the subject of a stative predicative structure indicating the result of an activity (the activity being seen as the first part of the event): in both 4a and 4b the result is 'the stick is broken'. Since all unaccusative verbs are either event verbs or stative verbs they all similarly contain a stative predicate of which the S_u is subject (5) – just like the O in a case like 4a.

- (5) a. *Luca (arrivare/partire)_{event} → Luca è arrivato/partito.*
 'Luca has arrived/departed.'
 b. *Luca (nascere/morire/sparire)_{event} → Luca è nato/morto/sparito.*
 'Luca is born/dead, Luca has vanished'
 c. *Luca (rimanere/restare)_{stative} → Luca è rimasto/restato.*
 'Luca has remained.'

In this respect, the class of unaccusative verbs differ from the other class of intransitive verbs, the so-called unergative verbs, like *ballare*, *viaggiare*, *dormire*, *nuotare*, *camminare*, *piangere*, *telefonare* 'dance, travel, sleep, swim, walk, weep, telephone'. These verbs can be said to contain an inherent object (*un ballo* 'a dance', *un viaggio* 'a trip', *una dormita* 'a sleep' etc.), which in some cases may be expressed explicitly (*ballare un valzer*, *dormire sonni tranquilli*, *piangere lacrime d'odio* 'dance a waltz, [literally:] sleep calm sleeps, cry tears of hate', etc.).

In this way, the O and S_u may be considered as particularly close to the

miner is morphologically and semantically governed by the noun (i.e. as to gender, singular/plural and countability). Consequently, in the Italian tradition the noun has generally been analysed as head, and undetermined constituents in cases such as 1 are considered NPs without any subordinated elements, cf. e.g. Schwarze 1988:55, Renzi 1988:382-383,407f. and Bach/Schmitt Jensen 1990:100,113. However, it is true that in the singular form and in the subject and object positions, the determiner provides the NP with the full syntactic possibilities, as we shall see in the following sections.

In this context I shall follow the Italian tradition and use the term "NP" for the noun (phrase) with or without a determiner. For further terminological discussion I refer to Korzen 1998a,2000a:376-381.

5. They also occur in non-incorporated structures such as predicatives; the semantic difference between determined and undetermined NPs in the predicative position is parallel to the one found in the subject and object positions; see example 94 and footnote 45 below.

verb, and they have several syntactic features in common, which are not shared by the subject of unergative verbs:

- in Italian their canonical position is postverbal, and they often introduce new/rhematic entities;⁶
- in case of a polysemous verb, these complements specify the verb's exact meaning;
- they directly influence the Aktionsart of the predicate;⁷
- a nominalisation of a transitive or unaccusative verb may express the verbal process proper (possibly the resulting state), whereas a nominalisation of unergative verbs will denote the inherent object, i.e. the product, or an instrument;
- the past participle of the transitive verb may occur with the O-NP in absolute constructions, 6a, or with the O-NP as an attributive modifier, 6b, and the past participle of the unaccusative verb may occur with the S_u-NP in the same positions, as in 6c-d.

- (6) a. *Letto il libro, mi addormentai.*
 '[Having] read the book, I fell asleep.'
- b. *Un libro letto da molti.*
 'A book read by many people.'
- c. *Arrivato il libro, si cominciò il corso.*
 'The book [having] arrived, they began the course.'
- d. *Un libro arrivato da poco.*
 'A book [which has] arrived a short while ago.'

- in dislocations such as the ones mentioned in 2-3, both the O and the S_u are replaced by the clitic pronoun *ne* (see section 2);⁸

6. There is a general tendency to introduce only one new central entity, i.e. one new complement, in a clause. If the verb is transitive it will typically be the object; if the verb is intransitive it will often be the subject. See also Herslund 1996ed.:115 and Korzen 1999a:335-336.

7. See also Sanfilippo 1991:106, Herslund 1995:3 and Alonge 1998. For the aspectual influence of the incorporated complement in Italian, see section 3.1 below.

8. I here use the term DISLOCATION for the cases in which an NP is moved to the periphery of a sentence and replaced, or co-indexed, by a pronoun. For a discussion of the (e.g.

- in both the O and the S_u the AFFECTUM-EFFECTUM-opposition may occur, cf. VERBA EFFICIENDI like *scrivere, costruire* 'write, construct' [+O] / *nascere, sorgere* 'be born, arise' [+ S_u].⁹

Last but not least, as we have seen in 1, the O and the S_u are the arguments that in Italian (as in other languages) may enter into very cohesive structures with the verb in which they manifest a series of features normally attributed to incorporated nominals: morphosyntactically they are characterised by lack of a determiner; syntactically the construction [V + undetermined O/ S_u] is much more cohesive than a similar construction with a determined NP (as we shall see, the degree of cohesion depends, among other things, on the feature [± countable] of the noun); and semantically the undetermined NP expresses a much less concrete and individualised content than similar determined NPs. At a pragmatic level, all this leads to a less prominent status of the incorporated O/ S_u . Many of the constructions [V + undetermined O/ S_u] are more or less idiomatic; some denote a specified type of activity, and others are basically synonymous with simple verbs or predicative constructions. In this they differ from parallel constructions with determined O/Ss, which express verbal situations applied to particular entities (see section 3).

Unlike incorporation structures in for instance Danish (cf. Nedergaard Thomsen 1991), similar constructions in Italian do not, however, exhibit any particular prosodic features like de-stressing of the verb. Prosodically, Italian is a 'nexus-language' (Pulgram 1970:87f; cf. also Skytte 1975:246,289-290), i.e. a language which is pronounced in rhythmic groups and not word by word, and semantic and syntactic units – including verb + determined O/ S_u – are normally characterized by a unitary stress.

1.1. FULL VERBS VS. SUPPORT VERBS. An O/ S_u may fuse with a SEMANTICALLY FULL VERB, as we have seen in 1a, 1b, 1d, 1e, or with a SUPPORT VERB, as we have seen in 1c, 1f. A support verb is a verb that is semantically void (or almost so) and whose major function is to express the verbal features of tense, mood, person and aspect. The semantic weight of the construction

pragmatic) differences between dislocation and TOPICALIZATION in Italian, cf. Korzen 1996:169-171,188-191,2000a:445-473.

9. For the above mentioned similarities between O and S_u in French, see Herslund 1996ed.:128f.

lies in the noun,¹⁰ and the whole construction [$V_{\text{supp}} + O/S_u$] (also labelled a VERBO-NOMINAL PREDICATE) – not the V_{supp} alone – has a valency frame. The most important Italian V_{supp} s are *avere, fare, dare, prendere, porre, rendere, muovere, effettuare, eseguire* ‘have, make, give, take, put, hold, render, move, carry out, execute’ (+ O) and *essere, venire* ‘be, come’ (+ S_u), with aspectual variants such as *acquistare* ‘gain’ (inchoative), *perdere* ‘lose’ (terminative), *riprendere* ‘take again’ (re-inchoative) etc. The contrast between [$V_{\text{supp}} + O$] constructions and the parallel [$V_{\text{full}} + O$] constructions (all with determined Os) is exemplified in 7a, 8a vs. 7b, 8b.

- (7) a. *Luca ha fatto un'offerta di un milione e mezzo.*
 [*fare un'offerta di ~ offrire* ‘offer’]
 ‘Luca has made an offer of 1½ million.’
 b. *Luca ha respinto un'offerta di un milione e mezzo.*
 ‘Luca has turned down an offer of 1½ million.’
 (8) a. *Luca ha mosso un attacco alla politica governativa.*
 [*muovere un attacco a ~ attaccare* ‘attack’]
 ‘Luca has made an attack on the government’s policy.’
 b. *Luca ha menzionato un attacco alla politica governativa.*
 ‘Luca has mentioned an attack on the government’s policy.’
 (9) a. *Luca ha fatto un quadro di un mulino.*
 [*fare un quadro di ~ dipingere* ‘paint’]
 ‘Luca has made a painting of a mill.’
 b. *Luca ha comprato un quadro di un mulino.*
 ‘Luca has bought a painting of a mill.’

The particularly close semantic relationship [V-O] of the a-constructions means for instance that the grammatical subject of the V_{supp} must be the same as the logical subject of the deverbal O, cf. the ungrammaticality of 7’a and 8’a.

- (7’) a. **Luca ha fatto un'offerta di Carlo.*
 *‘Luca has made Carlo’s offer.’

10. Nøhr Pedersen 1990:210 only accepts verbal nouns as part of V_{supp} constructions in Danish, whereas e.g. *Ha le spalle larghe*. ‘He has broad shoulders.’ is included as an Italian V_{supp} construction by Salvi in Renzi 1988:80.

- b. *Luca ha respinto un'offerta di Carlo.*
 'Luca has turned down Carlo's offer.'
- (8') a. **Luca ha mosso un attacco del giornalista.*
 '*Luca has made the journalist's attack.'
- b. *Luca ha menzionato un attacco del giornalista.*
 'Luca has mentioned the journalist's attack.'

Another characteristic of the V_{supp} constructions is that they accept more cleft-sentences than the parallel V_{full} constructions, as seen in 7''a,a', 8''a,a', 9''a,a' vs. 7''b,b', 8''b,b', 9''b,b'.

- (7'') a. *E' un'offerta di un milione e mezzo che Luca ha fatto.*
 'It is an offer of 1½ million that Luca has made.'
- a'. *E' di un milione e mezzo che Luca ha fatto un'offerta.*
 'It is of 1½ million that Luca has made an offer.'
- b. *E' un'offerta di un milione e mezzo che Luca ha respinto.*
 'It is an offer of 1½ million that Luca has turned down.'
- b'. **E' di un milione e mezzo che Luca ha respinto un'offerta.*
 '*It is of 1½ million that Luca has turned down an offer.'
- (8'') a. *E' un attacco alla politica governativa che Luca ha mosso.*
 'It is an attack on the government's policy that Luca has made.'
- a'. *E' alla politica governativa che Luca ha mosso un attacco.*
 'It is on the government's policy that Luca has made an attack.'
- b. *E' un attacco alla politica governativa che Luca ha menzionato.*
 'It is an attack on the government's policy that Luca has mentioned.'
- b'. **E' alla politica governativa che Luca ha menzionato un attacco.*
 '*It is on the government's policy that Luca has mentioned an attack.'
- (9'') a. *E' un quadro di un mulino che Luca ha fatto.*
 'It is a painting of a mill that Luca has made.'
- a'. *E' di un mulino che Luca ha fatto un quadro.*
 'It is of a mill that Luca has made a painting.'
- b. *E' un quadro di un mulino che Luca ha comprato.*
 'It is a painting of a mill that Luca has bought.'
- b'. **E' di un mulino che Luca ha comprato un quadro.*
 '*It is of a mill that Luca has bought a painting.'

This state of affairs suggests argument status of *di un milione e mezzo/alla politica governativa/di un mulino* in the [$V_{\text{supp}} + O$] constructions but not in the [$V_{\text{full}} + O$] constructions. For more details on Italian verbo-nominal predicates, cf. Korzen (2000a:339-361, 2000b).

In the following sections we shall analyse the special syntactic, semantic and pragmatic features of Italian constructions with undetermined O/S_u s like the ones seen in 1 and compare them with the typical features of parallel structures with determined O/S_u .

2. SYNTACTIC FEATURES OF INCORPORATION IN ITALIAN. If an Italian O or S_u consists of a determined NP, the complement is syntactically relatively independent. Take the following simple sentences 10-12.

- (10) a. *Luca ha bevuto del vino.*
 ‘Luca drank some wine’
 b. *Luca ha bevuto un litro di vino/molto vino.*
 ‘Luca drank a liter/a lot of wine.’
 c. *Luca ha bevuto il vino.*
 ‘Luca drank the wine.’
 (11) a. *Luca ha venduto un libro.*
 ‘Luca sold a book.’
 b. *Luca ha venduto dieci libri.*
 ‘Luca sold ten books.’
 (12) a. *Luca ha comprato una casa.*
 ‘Luca bought a house.’
 b. *Luca ha fatto un quadro di un mulino per il capitano.*
 ‘Luca made a painting of a mill for the captain.’

In these sentences, the O may be dislocated to the left or to the right and replaced by the pronouns *lo, la, li, le*, as seen in the constructions in 13.¹¹

- (13) a. *Il vino, lo ha bevuto.*
 ‘The wine, he has drunk [pron.].’

11. In Korzen 1996:80,83,101 I have cited a series of authentic examples of such dislocations.

- b. *Lo vuoi, un litro di vino?*
'Do you want [pron.], a liter of wine?'
- c. *Molto vino, l'ho bevuto ieri.*
'A lot of wine, I drank [pron.] yesterday.'
- d. *Dieci libri, non li venderai mai.*
'Ten books, I would never sell [pron.].'
- e. *Una casa, la comprerei subito.*
'A house, I would buy [pron.] immediately.'
- f. *Un quadro di un mulino, l'ha fatto in pochi minuti.*
'A painting of a mill, he made [pron.] in a few minutes.'

Similarly, a $S_{(u)}$ may be dislocated but is not replaced by any pronoun, due to the lack of clitic subject pronouns in Italian; see 14-15.

- (14) *Dalle cascine usciva della gente.*
'Some people came out of the farmhouses.'
- (15) *[Ø] usciva dalle cascine, la gente.*
'[Ø-subj.] came out of the farmhouses, the people).'

Constructions with transitive verbs may be changed from active to passive, as in 16.

- (16) a. *Il vino è stato bevuto da Luca.*
'The wine was drunk by Luca.'
- b. *Dieci libri sono stati venduti da Luca.*
'Ten books were sold by Luca.'
- c. *Una casa è stata comprata da Luca.*
'A house was bought by Luca.'
- d. *Un quadro di un mulino è stato fatto da Luca.*
'A painting of a mill was made by Luca.'

They may be cleft, as in 17 (see also 7a''-9b'').

- (17) a. *E' il vino che ha bevuto.*
'It is the wine that he drank.'
- b. *Sono dieci libri che ha venduto.*
'It is ten books that he sold.'

- c. *E' una casa che ha comprato.*
'It is a house that he has bought.'
- d. *Era della gente che usciva dalle cascine.*
'It was some people who came out of the farmhouses.'

Furthermore, the NPs may be topicalised in a contrastive co- or context, as in 18.

- (18) a. *Luca ha bevuto IL VINO (non l'acqua).*
'Luca drank THE WINE (not the water).'
- b. *Luca ha venduto DIECI LIBRI (non due riviste).*
'Luca sold TEN BOOKS (not two magazines).'
- c. *Luca ha comprato UNA CASA (non una barca).*
'Luca bought A HOUSE (not a boat).'
- d. *DELLA GENTE usciva (non degli animali).*
'SOME PEOPLE came out (not some animals).'

The incorporation constructions do not permit all of these changes. The number and the kinds of changes permitted by incorporation depend on the type of verb (full verb vs. support verb) and on the feature [\pm countable] and the form [sing./plur.] of the noun.

2.1. V_{full} + MASS/PLURAL N. Incorporation constructions consisting of a full verb and an NP with an uncountable or plural N are the most frequent ones in Italian.¹² Both concrete and abstract Ns occur, and syntactically the NP may be both O and S_U . This type is generally productive, in the sense that the selection restrictions are basically the same as with non-incorporated O/ S_U . Some examples are seen in 19-22.

- (19) a. *"Ti farebbe un po' meglio" gli diceva "se bevessi caffè".* (Pavese, *Compagno* 28)
'"It would do you better" he said "if you drank coffee".'

12. In section 3.1 we shall briefly discuss the semantic similarities between mass and plural nouns, similarities that are decisive also for their similar syntactic possibilities.

- b. *Un commerciante possiede due negozi. In uno vende frutta.*
(from the film *Nuovo cinema*)
'A businessman owns two shops. In one he sells fruit.'
- c. *Hai mangiato pollo. Prenderò tacchino stasera.*
'You had chicken. I shall have turkey tonight.'
- (20) a. *Il giovane [marocchino] era stato aggredito nel centro di Samarate da alcuni naziskin mentre, con un connazionale, vendeva fiori.*
(*Corriere della sera* 15.2.93, p. 13)
'The young Moroccan was assaulted in the center of Samarate by some Nazis while selling flowers with a compatriot.'
- b. – *Che mestiere fa?*
– *Collaudo auto sportive* (from the TV-film *La piovra* 3)
'– What is your job?
– I test sports cars.'
- (21) a. *Per educare un ragazzo a questa indifferenza [al denaro], non c'è altro modo che dargli del denaro da spendere, quando esiste denaro: [...].*
(Ginzburg, *Virtù* 129)
'To educate a young person to be indifferent to money, the only way is to give him money to spend, when there is money.'
- b. *Ehi, tu, sei qui coi carri o per dare una mano? Sotto, mi manca gente stamattina.* (Pratolini, *Metello* 31)
'Hey you, did you come with the carts or to lend a hand? Get down there, I need people this morning [For me lack people].'
- c. *E intanto la compagnia s'ingrossava: dalle cascine usciva gente e impreca-va contro di lui.* (Bufalino, *Diceria* 88)
'And in the meantime the group grew bigger; from the farmhouses people came out and swore at him.'
- (22) a. – *Ho una brutta fama. Dove arrivo io. arrivano guai.*
– [...] *Davvero? Mi piacciono i guai.* (from the TV-film *La piovra* 3)
'– I have a bad reputation. Where I show up there is trouble [arrives trouble].'
'– Really? I like trouble [To me pleases trouble].'
- b. *E' crollato un grosso palazzo vicino a Torino. Per il momento non risultano vittime.* (RAI, news, 5.11.94)
'A big building close to Turin collapsed. As of now there seems to be no victims.'

In 19c, count nouns are used with the mass meaning of the (main) ingredient of a dish.¹³ As S_u in the singular form we find the noun *gente* particularly often (21b-c).

Syntactically, this is the least cohesive kind of Italian incorporation structures. Several grammatical changes of the constructions are possible. For instance the incorporated O/S_u may be dislocated and replaced by the clitic pronoun *ne*, as seen in 23 (unlike determined O/S_u , which are replaced by *lo*, *la*, *li*, *le*, as in 13).

- (23) a. *Caffè, ne bevo sempre.*
 ‘Coffee I always drink [pron.].’
 b. *Frutta, ne vende anche l’altro commerciante.*
 ‘Fruit the other businessman also sold [pron.].’
 c. *Fiori, ne vendeva il giovane marocchino.*
 ‘Flowers the young Moroccan sold [pron.].’
 d. *Denaro, ne esiste.*
 ‘Money there is [pron.].’
 e. *Non avrei nessun dovere, ma siccome con la maggior parte di voi ci si conosce da un pezzo, vi voglio spiegare come sta la situazione. Lavori in vista non me ne mancano, ma col vento che tira, [...] tra poco si spegne anche il carburatore.* (Pratolini, *Metello* 97)
 ‘I’m under no obligation to do this, but since I’ve known most of you for a long time, I’ll tell you how the situation is. I’m not short of jobs [Jobs in sight do not lack for me], but as things are, they will cut off the carbide shortly.’¹⁴

The sentences may be cleft, as seen in 24.

13. For a discussion of other cases of (apparently) polysemous nouns in Italian, such as *pane*, *prosciutto*, *lavoro*, *cinema*, *sport*, *amore* ‘bread, ham, work, cinema, sport, love’, etc., see Korzen 1996:292f, 396f. For other authentic examples of incorporated O/S_u , see Korzen op.cit. 148f.

14. The dislocated constituent may be preceded by the preposition *di*; this is particularly typical in cases with right-dislocation, see authentic examples in Korzen 1996:88-89. In cases with plural S_u s it is possible, especially in spoken Tuscan, to find the verb, of which *ne* is subject, in the singular form; see examples in Korzen 1996:188 footnote.

- (24) a. *E' caffè che dovresti bere.*
 'It is coffee that you should drink.'
 b. *E' frutta che vende.*
 'It is fruit that he sells.'
 c. *Erano fiori che vendeva.*
 'It was flowers he sold.'
 d. *E' denaro che esiste.*
 'It is money that there is.'
 e. *E' gente che mi manca.*
 'It is people I'm short of.'

The O/S_u may be topicalised in a contrastive context, as in 25.

- (25) a. *CAFFÈ dovresti bere (non whisky).*
 'You should drink COFFEE (not whisky).'
 b. *Vendeva FIORI (non libri).*
 'He sold FLOWERS (not books).'
 c. *SOLDI mi mancano (non gente).*
 'I'm short of MONEY (not people).'

Attributive modifiers are generally possible, as in 26-27 (in some cases we may talk about more or less lexicalised compounds).

- (26) *Comunque, eccoci tutti in soggiorno, Emilio versa da bere. Bevono vino bianco, io no, mi fa male alle gambe, bevo succo di pompelmo.* (Jarre, *Principessa* 56)
 'However, here we all are in the living room, Emilio serves beverages. They drink white wine, I don't, it makes my legs hurt, I drink grapefruit juice.'
 (27) *Cercai nel frigorifero qualcosa da bere e trovai soltanto birra italiana. Stappai una lattina guardandomi attorno alla ricerca del telefono.* (Tondelli, *Rimini* 28)
 'I looked in the refrigerator for something to drink and I only found Italian beer. I opened a can while looking around for a telephone.'

The constructions are not necessarily continuous – other constituents can intervene between V and O/S_u, as seen in 28.

- (28) *Nesbitt telefona per prenotare un ristorante, poi scendiamo al bar, a bere senza sete vino bianco e fare altre congetture inutili su chi scriveva i messaggi [...].* (De Carlo, *Yucatan* 79)

'Nesbitt phones to reserve a table in a restaurant, then we go down to a bar [to drink without thirst white wine and to make other wild guesses as to who wrote the messages].'

The constructions with incorporated uncountable or plural Ns have all these features in common with constructions with determined and non-incorporated O/S_{us} (except for the different replacive pronouns in the case of dislocations, cf. 13 vs. 23). An important difference between the constructions with determined and those with undetermined/incorporated Os resides, however, in the incapability of the latter to function as preverbal subject in a passive sentence, as in 29.

- (29) a. **Caffè è stato bevuto da Luca.*
'Coffee was drunk by Luca.'
b. **Frutta è venduta dal commerciante.*
'Fruit is sold by the businessman.'
c. **Fiori erano venduti dal marocchino.*
'Flowers were sold by the Moroccan.'
d. **Auto sportive vengono collaudate da me.*
'Sports cars are tested by me.'¹⁵

On the other hand, a passive construction is normally possible (without explicit mention of the Agent) if the incorporation structure is kept intact, i.e. if the undetermined NP is kept in the postverbal position, as seen in 30.

- (30) a. *E' stato bevuto caffè.*
'[There was drunk coffee].'
b. *E' stata venduta frutta.*
'[There has been sold fruit].'

15. Attributive modifiers generally augment the possibility of occurrence of undetermined NPs; see also Korzen 1996:99f, 197f, and section 6 below. A construction like *Auto sportive vengono collaudate da me* may not be ruled out completely.

- c. *Sono stati venduti fiori.*
'[There were sold flowers].'
- d. *Sono state collaudate auto sportive.*
'[There were tested sports cars].'

The incorporated O/S_u fills the valency slot of the verb but loses its status as a full independent argument and becomes a sort of modifier of the predicate. In the $[V + O_{\text{incorp}}]$ constructions some linguists talk about a relational change and a new intransitive (modified) predicate. We shall return to this in section 3 below.

2.2. $V_{\text{supp}} + \text{MASS/PLURAL N.}$ Also the $[V_{\text{supp}} + N_{\text{incorp}}]$ constructions are generally very frequent. Most of the occurring uncountables are abstract, few are concrete. Compare examples like those in 31.¹⁶

- (31) a. *avere coraggio/fame/fretta/paura/pazienza/sete ...*
'[to have courage/hunger/hurry/fear/patience/thirst ...]'
- b. *fare amicizia/attenzione/fortuna/pena/schifo/silenzio ...*
'[to make friendship/attention/fortune/pity/disgust/silence ...]'
- c. *farsi coraggio*
'[to make courage for one-self]'
- d. *dare/prendere fuoco*
'[to set/take fire]'
- e. *prendere sonno*
'[to take sleep]'
- f. *dare/porre riparo*
'to give shelter'
- g. *fare amore/soldi/quadri ...*
'to make love/money/paintings'

As in the case of the V_{full} constructions, the V_{supp} constructions with an object are more frequent than those with a subject. However, we do have (productive) cases with S_u , as seen in 32-33.

16. See more examples in Renzi 1988:414-415, Bach/Schmitt Jensen 1990:167-170, and Korzen 2000a:353-358. In certain co-texts, some of the singular nouns may have a countable content, cf. Korzen 1996:297-299.

- (32) *Stiamo tutti e tre a fissare la distesa di granturco, poi torniamo in macchina, Nesbitt rimette in moto. Non abbiamo neanche mangiato niente da stamattina, comincia a venirmi fame.* (De Carlo, *Yucatan* 68)
 'We all three watch the field covered with maize, then we return to the car. Nesbitt starts it. We haven't eaten since that morning, I begin to feel hungry [begins to come hunger for me].'
- (33) [...] *venuto meno il mio squillo d'attacco nella fanfara del minuetto, ciascuno mi cercò invano con gli occhi al mio posto e ne nacque tumulto.* (Bufalino, *Menzogne* 50)
 'Since my introduction notes to the fanfare of the minuet failed to appear, everybody looked for me in vain and tumult arose [of it arose tumult].'

Furthermore, we find extremely common cases with the verbs *esserci* 'to be there' and *volerci* 'to be needed/necessary' which, regarding the incorporation phenomenon, exhibit the same characteristics as the unaccusative verbs (for a discussion hereof, see Korzen 1996:165f.), see 34-36.

- (34) *L'asfalto della strada è gonfio e crepato, pieno di buche; gli edifici sono sbrecciati, con finestre opache, porte schiodate. C'è polvere dappertutto, si solleva a nuvole mentre passiamo.* (De Carlo, *Yucatan* 67)
 'The asphalt of the road is swollen and cracked, filled with holes; the buildings are damaged, with opaque windows and broken doors. There is dust all over, it rises in small clouds as we walk by.'
- (35) *Quella mattina la finii girando a caso. Piovigginava e c'era fungo.* (Pavese, *Compagno* 31)
 'All morning I walked around aimlessly. It drizzled and there was mud.'
- (36) *Un lavoro non basta. Ci vuole passione.* (Pavese, *Compagno* 49)
 'A job is not enough. Passion is needed [There is needed passion].'

These constructions manifest the same syntactic features as the constructions with full verbs, cf. 2.1. Passivisation of [V + O] constructions is impossible with *avere* and generally also with other verbs, apart from some idiomatic expressions like the one found in 37.

- (37) *E' stata fatta giustizia./Giustizia è stata fatta.*
 'Justice has been done.'

However, a difference between the V_{full} and the V_{supp} constructions consists in the fact that generally an attributive modifier will have an intensifying meaning giving a semantic type content to the NP which consequently requires the indefinite article, and vice versa.¹⁷ Thus, the incorporation structure is dissolved in cases like 38 (compare 26-27).

- (38) a. *Ho una fame da lupo.*
 'I'm ravenous [I have a hunger of a wolf].'
 b. *Ho una paura pazzesca.*
 'I have a maddening fear.'
 c. *Da una parte c'era una montagna di paglia, su una tavola erano sparsi secchi, coltelli, rasoi. Faceva un gran freddo lì dentro, anche d'estate.* (Maraini, *Marito* 74-75)
 'On one side there was a load of straw, on a table were scattered buckets, knives, razors. It was very cold [it made a big cold] in there, even in summer.'

As stated above, an indefinite article will imply an intensifying modifier even where none is explicitly expressed; and the construction will be characterised by a special intonation.

- (39) a. *Ho una paura!*
 '[I have a fright].'
 b. *Signor Michele: C'è il sole fuori, ma fa un fresco.* (Fellini, *Quattro film* 83)
 'Mr. Michele: The sun is out, but it is very chilly [But it makes a chill].'

In the V_{full} construction, the incorporated O/S_u was shown to occupy a valency-slot (cf. section 3.1). The valency frame of the [V_{supp} + O/S_u] construction is rather determined by the whole construction, as we have said, and not by the verb alone – whether the O/S_u is uncountable or countable. For instance *avere paura/fame/sete* '[to have fear/hunger/thirst]' and *viene paura/fame/sete* '[comes fear/hunger/thirst]' permit a

17. Compare Korzen 1996:157,296f.

prepositional object, whereas *avere notizia/voglia* 'to have news/desire', *fare richiesta* 'make request', *viene/giunge notizia/richiesta/voglia* '[come(s) news/request/ desire]' require one. *Avere coraggio/pazienza* 'to have courage/patience', *fare fortuna* 'make [a] fortune/be lucky' and *viene sera/mattina/giorno* '[comes evening/morning/day]' are monovalent. This, of course, follows directly from the unitary semantic content of these constructions, see 4.2.

2.3. V_{full} + SINGULAR COUNT N. Incorporation structures with full verb + count nouns in the singular are generally more cohesive than structures with mass or plural nouns. They are also much rarer and generally not productive (except with the verbs *cambiare*, *sbagliare* 'change, mistake', see below);¹⁸ for instance, singular count nouns never seem to occur as S_U . The constructions [V_{full} + O] are semantically of a much more idiomatic type. In my corpus I have examples with abstract Ns as seen in 40-41 and examples with concrete Ns like those in 42-45.

- (40) *I suoi colleghi lo considerano un uomo molto saggio e intelligente; vengono da lui a chiedere consiglio, a confidarsi.* (Maraini, *Marito* 6)

'His colleagues consider him to be a very wise and intelligent man; they come to him to ask [for] advice, to confide in him.'

- (41) *[...] due o tre borghesi, rei di esangui e poco atroci reati, felici, pur nella sozzura dell'incombenza, di potersi sgranchire le gambe lungo gl'interminabili corridoi e scambiare motto coi meno avventurati compagni.* (Bufalino, *Menzogne* 12)

'[...] Two or three citizens, guilty of bloodless and minor misdemeanours, happy – in spite of the indecency of the task – to be able to stretch their legs in the endless corridors and exchange [a] remark with the less lucky companions.'

18. However, singular count nouns do appear in incorporation structures under the scope of negation, cf. section 7.

- (42) *Con i gialloblù sono stati due anni stupendi e non solo per il calcio. Verona è una città bellissima, tranquilla, vivibile, ho perfino comprato casa a Borgotrento, perché io e mia moglie Antonella volevamo stabilirci qui. (Gazzetta dello Sport 26.7.91)*
 'With the yellow-blue it has been two great years, and not only regarding football. Verona is a wonderful, quiet and livable city, I have even bought [a] house in Borgotrento because my wife and I wanted to settle here.'
- (43) *Anche quando il bambino si è riaddormentato, né la mamma né suo marito hanno aperto bocca. (Tamaro, Voce 103)*
 'Even when the boy fell asleep, neither his mother nor her husband opened [their] mouths [= spoke].'
- (44) *Allora Mask gli porge attraverso il tavolo un grosso pezzo di bistecca sulla forchetta.*
– Mangia, compagno, – gli dice, – mangia. Dobbiamo essere forti per domani. [...]
– Grazie compagno, – dice [il compagno Gigi], – saremo forti. Purché non piantiate qualche casino.
– Siamo troppo stanchi, – dice Mask, – per due giorni chiudiamo bottega. (Jarre, Principessa 99)
 'Then Mask hands him a big piece of steak across the table on a fork.
 – Eat, comrade, – he says – eat. We have to be strong tomorrow.
 – Thanks, comrade – says Gigi – we will be strong. If only you don't create any trouble. – We are too tired. – says Mask, – for two days we will close down [close shop]'
- (45) *Rivelazioni: la sovrana cercava marito ma fu respinta.*
(Corriere della sera 8.2.93, p. 9)
 'Revelations: the Head of State looked for [a] husband but was rejected.'

Other nouns that could occur as determined Os are not (necessarily) incorporated with the same verbs, e.g. **comprare macchina* 'buy [a] car', **comprare barca* 'buy [a] boat', **aprire porta* 'open door', **chiudere bocca* 'close mouth', **cercare fidanzato* 'look for fiancé', **cercare amico* 'look for [a] friend' etc. However, two verbs are, as anticipated, productive in this kind of incorporation: *cambiare* 'change' and *sbagliare* 'mistake', as in 46-47.¹⁹

19. The two verbs may also occur with incorporated mass nouns if these denote a type or a limited portion of a mass, see i.

- (46) *Di questi respinti, alcuni rifanno la prima nello stesso istituto, altri invece cambiano istituto.* (Korzen, *Italiani 1*, 37)
 'Of these rejected students, some will repeat the first grade in the same institution, whereas others will change institution.'
- (47) – *Lei crede che io abbia ucciso Tony per gelosia?*
 – *Signor Walton, c'è gente che ha ucciso per molto meno.*
 – *Oh signor Mason, lei sta sbagliando persona.* (from the TV-film, *Perry Mason*)
 * – Do you think that I killed Tony because I was jealous?
 – Mr. Walton, people have killed for a lot less.
 – Oh mr. Mason, you have the wrong person. [you are mistaking person].'

Constructions with singular count nouns do not usually permit any dislocation of the noun – the pronoun *ne* is ruled out because the concept denoted by the dislocated noun is not internally quantifiable (see 3.1.); see 48.

- (48) a. *Bocca, *ne^{pl} l'aprivano anche con me.*
 'Mouth they opened also with me.'
 b. *Treno, *ne^{pl} lo cambio a Firenze.*
 'Train I change in Florence.'
 c. *Istituto, *ne^{pl} lo voglio cambiare subito.*
 'Institution I want to change immediately.'
 d. *Bottega, *ne^{pl} la chiudo anch'io*
 'Shop I close too.'

-
- i. – *Hai avuto molto da fare?*
 – *Molto sì. Mi sento stanchissima.*
 – *L'aereo stanca.*
 – *Sì, l'aereo stanca.*
 – *Anche cambiare aria stanca.*
 – *Sì, anche cambiare aria stanca. [...]*
 – *Com'è andata a Roma?*
 – *Bene.* (Maraini, *Marito* 40)
 '– Have you been busy? – Very much so indeed. I feel very tired. – It's tiring to travel by air. – Yes, it's tiring to travel by air. – It's also tiring to change air. – Yes, it's also tiring to change plane. – How did it go in Rome? – It went well.'

Nor is it normally possible to cleave the sentences, compare 49.²⁰

- (49) a. **E' bocca che aprono.*
'It is mouth they open.'
b. ??*E' treno che ho cambiato a Firenze.*
'It is train I change in Florence.'
c. ??*E' istituto che voglio cambiare.*
'It is institution I want to change.'
d. ??*E' bottega che devo chiudere.*
'It is shop I have to close.'

Contrastive topicalisation and attributive modification are generally possible in productive structures with *cambiare*, *sbagliare* but not in idiomatic structures like *aprire bocca* (= *parlare* 'speak') and *chiudere negozio/bottega* (= 'put an end to an activity'), compare 50.

- (50) **aprire bocca sdentata* 'open toothless mouth', **chiudere negozio di frutta* 'close fruit shop', **chiedere consiglio utile* 'ask for useful advice'

The tendency to keep these constructions continuous is greater than with mass or plural Ns, i.e. you will not easily find structures such as 28; and finally, what was said about passivisation with mass and plural Ns is true also for count nouns: you will not find undetermined singular Ns as preverbal subjects in passive sentences, e.g. **Sistema è stato cambiato* 'System has been changed', compare 29; but if the incorporation structure is maintained a passive construction can be made, e.g. *E' stato cambiato sistema* '[There] has been changed system]', compare 30.

2.4. V_{supp} + SINGULAR COUNT N. With V_{supp} , count nouns occur much more frequently in incorporation constructions. We find abstract nouns as objects in constructions like those in 51, and (originally) concrete nouns in constructions such as those in 52.

20. Cleft-sentences may not be completely ruled out in contrastive co-texts, like in i and ii.

- i. *E' istituto che voglio cambiare, non classe.*
'It is institution I want to change, not class.'
ii. *E' bottega che devo chiudere; cos'altro vuoi che chiuda, gli occhi?*
'It is shop I have to close; what else do you want me to close, my eyes?'

- (51) a. *fare domanda/eco/festa/guerra/manovra/sciopero...*
 ‘[make question/echo/party/war/manoeuvre/strike...]’
 b. *dare forma/voce/prova...*
 ‘give shape/voice/proof’
 c. *tenere conto*
 ‘keep record’
 d. *rendere/portare testimonianza*
 ‘give testimony’
 e. *riportare vittoria*
 ‘bring victory’
 f. *attaccar discorso/lite*
 ‘start conversation/fight’
- (52) a. *prendere corpo/nota/moglie/marito*
 ‘take body/note/wife/husband’
 b. *guadagnare/acquistare/perdere terreno*
 ‘gain/lose ground’

Unlike in the [V_{full} + NP] constructions, count nouns (only if abstract, though) can occur as S_u in [V_{supp} + NP] constructions like those in 53.

- (53) a. *viene/giunge notizia/richiesta/voglia (di...)*
 ‘[there] comes news/request/desire (of...)’
 b. *viene/si fa sera/notte/mattina/giorno/primavera/autunno...*
 ‘it becomes evening/night/morning/day/spring/autumn...’

Such constructions are all idiomatic and generally not productive, and most of the concrete nouns have completely lost their original meaning.²¹ In some cases we find an attributive modifier as part of the lexicalisation, as in 54.

- (54) a. *fare buona/cattiva/brutta figura*
 ‘to make [a] good/bad figure’
 b. *fare piazza pulita*
 ‘tidy up, make a clean sweep’

21. An exception is *marito/moglie* ‘husband/wife’ in *prendere marito/moglie* ‘[take husband/wife]’; see footnote 44.

- c. *dare man forte*
'help'
- d. *dare carta bianca*
'give carte blanche'
- e. *avere (buon) occhio*
'have [a] (good) eye'

In other cases attributive modifiers are normally not possible.²² With abstract count nouns dislocation and clefting are not generally possible, compare 55.²³

- (55) a. *Domanda, *ne/?? la fa pure Giorgio/?? E' domanda che fa*
'Question also Giorgio makes [pron.]/It is question he makes'
- b. *Festa, *ne/?? la fanno in paese/?? E' festa che fanno in paese*
'Festival, they make [pron.] in the village./It is festival they make in the village.'
- c. *Sera, *ne/* [Ø] viene/?? E' sera che viene.*
'Evening, [pron.] comes./It is evening that comes.'

Contrastive topicalisation is imaginable but rare, see 56.

- (56) *FESTA fanno, non guerra.*
'FESTIVAL they make, not war.'

All such changes are completely ruled out with the (originally) concrete Ns. We can not, out of idiomatic constructions such as those found in 57, create anything like the sentences found in 57'.

22. A rare exception is in i.

- i. *Siamo infatti in una cittadina sul mare [...], con le sue strade deserte appena si fa sera d'inverno [...].* (Pecori, Fellini 43)
'We are in fact in a little town on the seaside, with its empty streets as soon as it is winter evening.'

23. Again we may have to except contrastive contexts such as in i.

- i. *E' domanda di iscrizione che fa, non di cancellazione.*
'[It is application of enrolment he makes, not of cancellation].'

- (57) a. *Questo progetto sta prendendo corpo.*
 'This project is taking shape.'
 b. *Giorgio ha tenuto conto del problema.*
 'George took the problem into consideration.'
- (57') a. **Corpo, ne/lo sta prendendo questo progetto./*E' corpo che sta prendendo*
*/*CORPO sta prendendo.*
 'Shape this project is taking./It is shape that the project is taking. /SHAPE
 it is taking.'
 b. **Conto del problema, ne/lo ha tenuto Giorgio./*E' conto del problema che*
*ha tenuto./*CONTO DEL PROBLEMA ha tenuto.*
 'Into consideration, George has taken the problem./It is into consideration
 George has taken the problem./INTO CONSIDERATION he took the problem.'

2.5. SUMMARY. Syntactically, it seems that we can talk about a COHESION SCALE in which we find the concrete count nouns in the most cohesive (idiomatic) constructions, followed closely by the abstract count nouns, whereas mass and plural nouns, concrete as well as abstract, are found in the least cohesive constructions. Generally, V_{supp} constructions are syntactically more cohesive than V_{full} constructions. We may summarise the syntactic possibilities described above as in Table 1.

| | ← | COHESION SCALE | | → | + |
|-------------------------------------|----------------------|----------------------|---------------------|---------------------|---|
| | $V_{\text{full}} +$ | $V_{\text{supp}} +$ | $V_{\text{full}} +$ | $V_{\text{supp}} +$ | |
| | $N_{\text{mass/pl}}$ | $N_{\text{mass/pl}}$ | N_{count} | N_{count} | |
| NP = O | + | + | + | + | |
| NP = S_u | + | + | — | ± ²⁴ | |
| dislocation | + | + | — | — ²⁵ | |
| clefting | + | + | — | — ²⁵ | |
| topicalisation | + | + | ± | ± | |
| attribut. modifier | + | — | ± | — ²⁶ | |
| preverbal S in a passive constr. | — ²⁷ | — | — | — | |

TABLE 1. The cohesion scale.

(Caption: ± indicates that the phenomenon in question is possible in some constructions.)

We may add that with count nouns there are generally more lexical restrictions than with mass or plural Ns which generally occur with the same verbs in incorporation and non-incorporation structures. Also, as we have seen, with count nouns there is a greater tendency to keep the incorporation structure continuous.

We may conclude that generally there are many more restrictions regarding count nouns; in Italian – but not in Danish – such Ns generally permit incorporation with much more difficulty than mass and plural Ns. It is interesting to compare this phenomenon – as well as the cross-linguistic differences – with the general conditions for noun determination in the two languages and the role played by some specific semantic and text pragmatic hierarchies; I shall return to these in section 7.

The reason for the possibility of *ne*-dislocation in constructions with mass/plural Ns, but not in constructions with count nouns, is the INTERNAL QUANTIFIABILITY of the mass/plural Ns (see the following sections).

3. SEMANTIC FEATURES OF INCORPORATION IN ITALIAN. Also the semantic content of an incorporation construction depends on the type of verb and noun. Generally, it is said that the incorporated NP loses its capacity to refer to a particular entity. This description should be qualified. In this section I shall argue that incorporated Ns do not denote entities at all but are purely INTENSIONAL (or CONCEPTUAL), in the sense the term has in logical semantics.

The relationship between a lexeme and the persons, things, places, properties, processes, activities, etc. outside the language system to which it correctly applies, is generally named DENOTATION. A common noun will denote a class of (concrete or abstract) entities, a class that can be defined EXTENSIONALLY, i.e. by a listing of its members, or INTENSIONALLY, i.e. by a listing of properties common to its members. This is aptly formulated by Herslund (1990:201).

24. The + possibility is restricted to a limited group of abstract Ns with certain verbs, see ex. 53.

25. There are some rare occurrences with abstract Ns, but not with concrete Ns.

26. Except as part of lexicalised expressions.

27. This possibility is not totally excluded in the case of an attributive modifier.

La dénotation d'un lexème est son extension, c'est-à-dire les entités dont il constitue une description vraie. Le sens d'un lexème est son intension, c'est-à-dire l'ensemble de traits, lexicaux ou sémiques, si on veut, qui le définissent. (Herslund 1990:201)²⁸

The intension, the properties and qualities lexically expressed by a noun, determines the noun's extension, and in this way the notion of intension turns out to correspond perfectly to the notion of *CONCEPT*, defined as a set of characteristics denoting the properties common to entities of a class, or according to which entities may be categorised.²⁹

Consequently, an entity denoted by a common noun may be defined as a *CARRIER OF PROPERTIES* (whereas adjectives denote properties and qualities of entities; and verbs denote relations between entities; cf. Korzen 2000a:164-165).

If a noun occurs with a determiner, the determiner denotes the pragmatic feature [\pm identifiable] of the entity in question, i.e. whether or not the denoted entity is presupposed as identifiable to the hearer.³⁰ If the determiner is a quantifier it also gives "information about the way possible referents have to be picked up [selected] or created, i.e. whether you have to consider all possible referents, whether one will do, whether there is just one, etc. The role of an N-bar is to give a description of some property which an entity must have in order to qualify as a possible referent." (Vikner 1991:106).

In Italian, quantified NPs may be dislocated. As we have seen in exam-

28. Compare also Lyons 1977:207. In Korzen 1996:54 I have listed other scholars who follow the same definitions.

29. Compare for instance Madsen 1991 and other scholars mentioned there and in Korzen 1996:55f.

30. and thereby [+given], which means that the existence of the entity in question is presupposed in the utterance; [–identifiable/–given] means that the existence of the entity may or may not be asserted. For more details on these features (e.g. on the various 'degrees' of identifiability), cf. Korzen 1996;1998a; 2000a, where I have defined [\pm identifiable] and [\pm given] as *TEXT-PRAGMATIC FEATURES*. They are pragmatic in that they involve the relationship between the speaker, the hearer and the designated entity, i.e. the extralinguistic world. At the same time they are linked to the specific text in question and are not (necessarily) absolute features.

ples 2-3 in the Introduction, we can separate the extensional and the intensional semantic components, see 58.

- (58) a. *Ho visto tre gatti in giardino. – Gatti, ne ho visti tre in giardino.*
 'I saw three cats in the garden. – [Of] cats [pron.] I saw three in the garden.'
- b. *Ho bevuto un litro di vino ieri sera. – Vino, ne ho bevuto un litro ieri sera.*
 'I drank a liter of wine last night. – [Of] wine [pron.] I drank a liter last night.'
- c. *E' rimasto un litro di vino da ieri sera. – Vino, ne è rimasto un litro da ieri sera.*
 'A liter of wine is left from last night. – [Of] wine [pron.] a liter is left from last night.'

In the dislocated structures we can say that the quantifier, *tre/un litro*, specifies the extension of the entities referred to, while the pronoun *ne* replaces the N-bar (in Vikner's terminology), i.e. the description of the properties of the entities. In other words, the pronoun *ne* represents the intensional description, it pronominalizes THE CONCEPT in question.

If an undetermined NP in the same position is dislocated, it is replaced by the same pronoun *ne*, compare 2b, 3b, 23, WITH EXACTLY THE SAME INTENSIONAL MEANING as in cases such as 58. On the other hand, as we have seen in section 2, example 13, if an NP denoting an entity (in the object position) is dislocated in Italian, it is replaced by the pronouns *lo, la, li, le*. The pronouns *ne* vs. *lo/la/li/le* occur in a SEMANTIC PARADIGM expressing concepts vs. entities.³¹

Traditionally, in Italian linguistics the pronoun *ne* has been labelled PARTITIVE, probably because of its homonymy and syntactic identity with the partitive *ne* we find in constructions such as those in 59.

- (59) a. *Ho comprato un litro di vino. Ne vuoi? [ne → di quel vino]*
 'I bought a liter of wine. Do you want [pron. → of that wine]?'
 b. *Ho comprato tre mele. Ne vuoi una? [ne → di quelle mele]*
 'I bought three apples. Do you want [pron. → of those apples]?'
 *

31. For more details on this theory, see Korzen 1994b, 1996, 1998b.

In Korzen (1996) I have argued against the intensional *ne* having any kind of partitive meaning; the pronoun does not, in my opinion, express any PART of any entity. It simply represents the concept in question, the properties of a category that some entity, which we are potentially interested in, belongs to. It does not in itself specify or individualise any particular or concrete entities. Sentences like those in 60 mean something like ‘Luca has been wine-drinking’, ‘Luca has been house-buying’, ‘Luca is a book-writer’.

- (60) a. *Luca ha bevuto vino.*
 ‘Luca drank wine.’
 b. *Luca ha comprato casa.*
 ‘Luca bought [a] house.’
 c. *Luca scrive libri.*
 ‘Luca writes books.’

Here, ‘wine’, ‘house’, ‘book’ have a specifying function: they specify what kind of drinking, buying and writer we are talking about. *Vino*, *casa* and *libri* in 60 have the same semantic function: they specify the event or the activity denoted by the verb by indicating an abstract categoriality, i.e. a sort of abstract frame that does not focus on individualised entities but denotes properties and qualities common to entities of a given category. Consequently, we are, semantically, close to what we normally express with qualifying adverbial modifiers.³² Constructions like 60 may potentially express an opposition between categories (see 25), but never between

32. Compare also for instance Sasse 1984:255:

The pragmatic function of NI [noun incorporation] removes a DO [direct object] from the scene, whereby the valence of the verb which incorporates the noun is reduced by one; a transitive sentence becomes intransitive ($x \text{ does } y \rightarrow x \text{ y-does}$), and a bitransitive sentence becomes transitive ($x \text{ does } y \text{ to } z \rightarrow x \text{ y-does } z$).

The concept of a modified verb *y-does* is compatible with the definition of adverbials found in Sanders 1984:

[T]he functions of MODIFICATION and PREDICATION are prototypical, both for the class of adverbials as a whole and for each of its various subclasses. All adverbials, in other words, can be plausibly construed as semantic modifiers, or predicational operators. Sanders goes on to say (op.cit.: 226) that an X may be considered a modifier of a Y “if and only if XY is a type of Y, or kind of Y”.

entities. In other words, the verbs of the sentences in 60 do not express any relationship between two entities, Luca and another entity, but a SPECIFIED ACTIVITY OR EVENT carried out by Luca. In each of these sentences we are dealing with one and only one entity. The incorporated conceptual constituent modifies the verb by specifying the type of verbal situation we are talking about.

3.1. V_{full} INCORPORATIONS. We can specify the semantic content of an incorporation construction according to the type of verb. The full verbs in themselves denote an independent verbal situation, a process, event or state, which the intensional O/S_u will modify in the way just described, similarly to adverbial modifiers. The predicate with an incorporated O, compare 60, expresses a specified type of activity that an agent is carrying out, frequently a profession, as we saw in 20a, 20b and 60c. The predicate with an incorporated S_u expresses a verbal situation which is specified as to TYPE OF SUBJECT without being applied to any individualised or specified subject. Typically the constructions express the appearance, presence, disappearance or absence of a generic category with respect to a location,³³ as seen in 21-22. In some cases fusions proper may express the same content, compare 61.

Nominal expressions, including object nominals, have as their typical contributory function the EVOCATION OF REFERENTS: the things about which things are said, asked, wondered, etc. The prototypical contributory pragmatic function of adverbials, on the other hand, is the EVOCATION OF RELEVANT LIMITATIONS ON THE INTENDED APPLICABILITY of predicated states, activities, characteristics, etc., to the things they are intended to be predicated of. (op.cit.: 229)

Referring to the sentence *John hunts tigers*, Sanders adds:

There are at least some types of direct objects that have the standard characteristics of adverbials. (op.cit.: 230)

See also Sanders op.cit. footnote 3; Herslund 1995:10-12, 1996 ed.:2-3.

33. In accordance with the content of unaccusative verbs; cf. Alonge 1998:71:

un verbo è inaccusativo se fa riferimento o ad un cambiamento-di-stato o all'essere-in-uno-stato da parte del protagonista (il *theme*) della situazione alla quale fa riferimento il verbo stesso.

– 'a verb is unaccusative if it refers to the change-of-state or to the being-in-a-state of the main character (the *theme*) of the situation to which the verb refers.'

- (61) a. *Cadeva la pioggia/una pioggia fitta.* → *Cadeva pioggia.* → *Pioveva.*
 'The rain/a heavy rain fell.' → 'Rain fell.' → 'It rained.'
- b. *Cade la grandine.* → *Cade grandine.* → *Grandina.*
 'The hail falls.' → 'Hail falls.' → 'It hails.'

The second stage is incorporation and the third, fusion proper. Meteorological verbs like *piovere* and *grandinare* denote both the generic process/movement (to fall from the sky) and the specification: the type (or concept) of entity which is undergoing the process (i.e. falling from the sky).

Mass nouns differ from count nouns in denoting HOMOGENEOUS ENTITIES, i.e. entities that are CONTINUOUS in time and space³⁴ and, consequently, INTERNALLY QUANTIFIABLE. We can divide wine, milk, soap or rain into parts or portions that we still define as *wine*, *milk*, *soap* and *rain* and of which we can define the quantity. Also, we can add more wine, milk, soap or rain to a previous portion of the same kind and still end up with only ONE entity wine, milk, soap, rain.

Count nouns denote HETEROGENEOUS ENTITIES, i.e. entities that are BOUND in time or in space and which may not be divided into parts in which we see the whole entity again (cf. footnote 34). A part of a car, a chair or a house may never be conceived of as a (whole) car, chair or house, and such individual entities are not internally quantifiable. Furthermore, if we add another car, chair or house to a previous one we will have TWO entities.

A count noun in the plural form denotes a number of heterogeneous entities, i.e. entities that may be quantified numerically. Therefore, a conceptual count N in the plural, such as *libri* in 62, is in itself conceived of as a homogeneous and internally quantifiable concept.

34. Cf. Zemach 1970:232:

An entity that is continuous in a certain dimension is an entity that is not considered to have *parts* in the dimension in which it is continuous. It can be said to *change* or *not to change* in this dimension, but what is to be found further along in this dimension is the *whole* entity *as changed* (or unchanged) and not a certain part thereof. The opposite is true of an entity's being bound. If an entity is bound in a certain dimension, then the various locations along this dimension contain its parts, not the whole entity *again*.

- (62) *Luca vende libri in un negozio al centro.*
 'Luca sells books in a shop in the center.'

In this, the plural count nouns are equal to the mass nouns and this gives them the same syntactic possibilities that we have seen in the previous sections, e.g. as incorporated constituents and in constructions with the clitic pronoun *ne*; see also section 7.

In many cases, an NP with a count noun in the singular form will not be interpreted semantically as one heterogeneous entity, but as a HOMOGENISED TYPE, i.e. an entity that is not conceived of as an individual that can materialise in one place only, but as an entity that may be found in several places at the same time and that in every instantiation will be considered a WHOLE entity. For instance, we read a homogenised type in all the generic NPs in 63.

- (63) a. *Il leopardo vive in Africa e in Asia.*
 'The leopard lives in Africa and in Asia.'
- b. *Questo è l'effetto che la giraffa produce in tutti coloro che la vedono anche oggi: [...].* (Bagnoli, Zoo 44)
 'This is the effect that a [literally: the] giraffe has on everybody who sees it even today: [...].'
- c. *La giraffa è un mammifero.*
 'The giraffe is a mammal.'

The same pertains to other NPs with category (i.e. prototype) meaning (cf. Korzen 1996:622f, 1998a:100f), or with subcategory meaning, as in 64 and 65, respectively.³⁵

- (64) a. *Luca non ha la macchina.*
 'Luca does not have a [literally: the] car.'

35. Cases such as 64 correspond to incorporation structures in for instance Danish (cf. section 7 below), see i-ii.

- i. *Luca har ikke bil.*
 '[Luca does not have car].'
- ii. *I aften vil jeg bære slips.*
 '[Tonight I'll wear tie].'

- b. *Stasera porterò la cravatta.*
 'Tonight I'll wear a [literally: the] tie.'
 (65) *La giraffa è un mammifero.*
 'The giraffe is a mammal.'

In 65 the indefinite NP *un mammifero* 'a mammal' denotes a subset, one of the subtypes, of the category of *mammiferi* 'mammals'.

The same type reading can be obtained with conceptual count nouns. This explains for instance the singular form in Italian sentences like 66 where the actual situation would necessarily involve more than one entity of the category schools – a reading with one individual entity would not make any sense.³⁶

- (66) *Ho cambiato scuola.*
 '[I've changed school].'

However, mass nouns and plural nouns differ from singular count nouns in their quantifiability, and this explains the different syntactic possibilities with *ne*-dislocations, dislocations that we may have with mass and plural nouns, as in example 23, but never with count nouns in the singular form, see 48 and 55. A dislocated structure with the clitic pronoun *ne*, whether this is (part of) the O or the S_{U_0} , always permits a quantifier, as in 58. Consequently, this structure will always require that the dislocated constituent is internally quantifiable.

In section 1 I said that the fundamental arguments, the O and the S_{U_0} , directly influence the Aktionsart of the predicate. This is true also in the case of incorporated O/ S_{U_0} . An incorporating construction with a mass or plural N will have a durative/atelic value whether the verb in itself is durative, non-durative or neutral. In all cases it is possible to add a temporal adverbial with a durative meaning, e.g. *per X tempo* 'for X time' (and not *in X tempo* 'in X time' which instead may be added to telic predicates).

For instance the verb *mangiare* 'to eat' can be both durative (= *ingerire alimenti* 'to consume food') and telic (= *consumare un pasto* 'to consume a meal'), and thus we can in fact have examples like 67.

36. For a more thorough presentation of the notion of HOMOGENISED TYPE, see Kleiber 1990a; Korzen 1994a, 1996:92f., 611f., 2000a:270-275.

- (67) a. *Luca ha mangiato per due ore.*
 ‘Luca has eaten for two hours.’ [durative]
 b. *Luca ha mangiato in due minuti.*
 ‘Luca has eaten in two minutes.’ [telic]

Verbs like *bere*, *scrivere* ‘to drink, to write’ are always durative (ex. 68), while *salutare*, *incontrare* ‘to greet, to meet’ are non-durative.

- (68) *Luca ha bevuto/scritto per (*in) due ore.*
 ‘Luca has drunk/written for (*in) two hours.’

However, all constructions with incorporated mass or plural Ns are durative, compare 69.

- (69) a. *Luca ha mangiato pollo/panini.*
 ‘Luca has eaten chicken/sandwiches.’
 b. *Luca ha bevuto vino.*
 ‘Luca has drunk wine.’
 c. *Luca ha scritto libri.*
 ‘Luca has written books.’
 d. *Luca ha salutato ministri.*
 ‘Luca has greeted ministers.’
 e. *Luca ha incontrato gente.*
 ‘Luca has met people.’

They all permit the adverbial *per X tempo* ‘for X time’ – but not *in X tempo* ‘in X time’. Similarly, verbs of motion like *arrivare*, *giungere*, *entrare*, *uscire* ‘to arrive, to come in, to go out’, are in themselves telic/transformative, but constructions like *arriva gente*, *arrivano amici*, *entra aria* ‘people/friends arrive, air comes in’ are durative.

With a non-incorporated O/S_u that denotes an individualised entity, parallel constructions are all telic, as in 70.

- (70) a. *Luca ha mangiato un pollo/due panini.*
 ‘Luca has eaten a chicken/two sandwiches.’
 b. *Luca ha bevuto un litro di vino.*
 ‘Luca has drunk a liter of wine.’

- c. *Luca ha scritto alcuni libri.*
'Luca has written some books.'
- d. *Luca ha salutato moltissimi ministri.*
'Luca has greeted a lot of ministers.'
- e. *Luca ha incontrato tanta gente.*
'Luca has met a lot of people.'
- f. *E' entrata un po' di aria.*
'Some air has come in.'
- g. *Gli amici sono arrivati.*
'The friends have arrived.'

They will for instance permit the telic adverbial *in X tempo*, but not the durative *per X tempo*. We shall return to the distinction between intensional/conceptual and extensional NPs (i.e. NPs indicating entities) without a determiner in the plural form in section 6.

An incorporated singular count noun does not seem to change the Aktionsart of the verb. For instance *comprare casa*, *shagliare persona*, *cambiare treno* '[to buy house, to mistake person, to change train]' remain non-durative like *comprare*, *shagliare*, *cambiare* (+ any O), while *cercare marito* '[look for husband]' remains durative like *cercare* (+ any O).

3.2. V_{supp} INCORPORATIONS. The V_{supp} incorporations are semantically different from the V_{full} incorporations in that the incorporated constituent does not modify the denotation of the verb, the V_{supp} being semantically void. Instead, it provides the main content to a semantic unit. In fact, all these constructions are (almost, see below) synonymous with simple verbs or with predicative constructions consisting of *essere/diventare* 'be/become' + adjective.

Most of the [V_{supp} + mass/plural O/ S_u], cf. 2.2, can be paraphrased by an *essere/diventare* or *stare* construction, see 71, while some are practically synonymous with simple Italian verbs, compare 72.

- (71) a. *avere (farsi) coraggio/fame/fretta/paura/pazienza/sete ~*
essere/diventare coraggioso/affamato/frettoloso/impaurito/paziente/assetato
'to be (become) courageous/hungry/busy/frightened/patient/thirsty'
- b. *fare attenzione/fortuna/soldi/pena/schifo/silenzio ~*
stare attento/diventare ricco/essere/diventare penoso/schifoso/silenzioso
'to be attentive/to become rich/to be/become pitiful/disgusting/silent'

- c. *Mi viene fame/sete/voglia. ~*
Divento affamato/assetato/desideroso.
'I get hungry/thirsty/desirous.'
- d. *Viene sera. ~ Diventa buio.*
'It gets dark.'
- (72) a. *dare/prendere fuoco ~ bruciare/incendiarsi*
'to set on fire, to catch fire'
- b. *prendere sonno ~ addormentarsi*
'to fall asleep'
- c. *dare/porre riparo ~ riparare*
'to shield'
- d. *fare quadri ~ dipingere*
'to paint'

Most of the [V_{supp} + singular countable O/ S_u], see 2.4, are more or less synonymous with simple verbs, compare 73.

- (73) a. *fare domanda/eco/festa/guerra/manovra/sciopero ~*
domandare/echeggiare/festeggiare/guerreggiare/manovrare/sciopereare
'to ask/echo/party/fight (a war)/manoeuvre/strike'
- b. *dare forma/voce/prova ~ formare/parlare/esprimere/provare*
'to form/speak/express/prove'
- c. *tenere/rendersi conto ~ considerare/spiegarsi/capire*
'to consider/realise'
- d. *avere luogo ~ avvenire*
'to happen'
- e. *rendere/portare testimonianza ~ testimoniare*
'to testify'
- f. *riportare vittoria ~ vincere*
'to win'

As mentioned before, most of the concrete nouns have completely lost their original meaning, and constructions with these nouns can be paraphrased by lexically completely different verbs, compare 74.

- (74) a. *prendere corpo ~ crescere*
 ‘to grow’
 b. *guadagnare, acquistare/perdere terreno ~ progredire/regredire*
 ‘to progress/regress’

The unitary semantic content of the V_{supp} constructions explains their unitary valency frame that we mentioned in section 2.2. It also explains why the Aktionsart phenomena that we saw with the V_{full} constructions are not relevant here.

I shall not here pursue the more or less subtle semantic differences between V_{supp} constructions and parallel simple verbs, differences for instance regarding Aktionsart. I shall instead refer to Korzen (2000b).

4. COMPLEX NPs. To some of the incorporation constructions mentioned above (see for instance 19–21) correspond Italian nominalisations with a verbal noun as head and a prepositional phrase *di* + N as secondary valency argument. These complex NPs may denote either an agent, as in 75, or a verbal situation (event, process or state), as in 76.

- (75) *un bevitore di caffè, un venditore di frutta/fiori, un mangiatore di pollo, un collaudatore di auto sportive*
 ‘a coffee drinker, a fruit/flower seller, a chicken eater, a sports car tester’
 (76) *una bevuta di caffè, una vendita di frutta/fiori, una mancanza di soldi/gente*
 ‘coffee drinking, a fruit/flower sale, lack of money/people’

Such cases manifest morphological and syntactic features that are equal (or very similar) to the features of the incorporating structures discussed above, and it seems very reasonable to recognise not only these cases as examples of incorporation but also other complex NPs where a subordinate noun is morphologically and semantically reduced in the same way (i.e. occurs without a determiner and functions as an abstract modifier, not denoting an individualised entity), although the head is not a verbal noun.³⁷ The semantic differences are exposed clearly in NPs such as those found in 77.

37. Compare Herslund 1994 for a similar analysis of French complex NPs.

- (77) a. *il direttore di un albergo*
 'the director of a hotel'
 b. *il direttore dell'albergo*
 'the director of the hotel'
 c. *il direttore d'albergo*
 'the hotel director'

In 77a-b the complex NPs denote two entities that are interrelated, a person (denoted by the relational N *direttore*) and a hotel. In 77c the NP denotes one entity only which is described in more detail, the abstract modifier *d'albergo* indicating a type specification. In other words, the modifier adds to the intensional description, the property information expressed by the compound (cf. section 3), it does not denote any individualised entity. We are thus dealing with the same difference between intensional/conceptual use of incorporated constituents (in 77c) and extensional denotation of entities in determined NPs (in 77a-b) that we saw in the [V + O/S_u] constructions. In cases of relational nouns, such as *direttore* in 77, the available relational slot is occupied by the incorporated or non-incorporated modifier in the same way that the valency slots of the full verbs and of the verbal nouns (in 75-76) are occupied by an incorporated or non-incorporated argument.

In some cases a modifying prepositional phrase may be (almost) synonymous with an adjective, as in 78-80.

- (78) *Venni a farti visita; il mio **animo di bambino** era pieno di rancore.* (Pratolini, *Cronaca* 33) [*di bambino ~ infantile*]
 'I came to visit you; my child-like mind was full of bitterness.'
- (79) *Assunto come domestico [...] avevo in realtà tempo a ogni cosa e ne profittai per restituirmi alle mie letture e **curiosità di ragazzo**, che alternavo e mischiavo con l'esercizio del corno.* (Bufalino, *Menzogne* 48) [*di ragazzo ~ giovanile*]
 'Being hired as a domestic servant I really had time for everything and I took advantage of that to get back to my readings and my boyish curiosity, which I alternated and mixed with horn exercises.'
- (80) *Lavorai in una spasmodica **tensione di nervi**, con la paura che il miracolo cessasse da un momento all'altro.* (Buzzati, *Boutique* 204) [*di nervi ~ nervosa*]
 'I worked in a fearful nervous tension, afraid that the miracle might stop from one minute to the other.'

An incorporated constituent may always be determined, in which case the incorporation structure is dissolved (as in 77a-b compared to 77c), and it may be independently modified, as in 81.

- (81) *C'era qualcosa di... di femminile, e dunque di diabolico in quel giovane che è morto. Aveva occhi di fanciulla che cerchi commercio con un incubo.*
(Eco, *Nome* 68)

'There was something... feminine and therefore devilish about the young boy who died. He had the eyes of [a] girl who seeks to do commerce with a nightmare.'

In this, the incorporations differ from lexicalised compounds such as *parte/pezzo di ricambio*, *Corte d'appello*, *muro di cinta* 'spare parts, court of appeal, ring wall', of which the subordinated noun may not be determined or otherwise modified: **parti di un ricambio*, **pezzi del ricambio*, **pezzi di ricambio sospetto*, **Corte di grande appello*, **muro di una cinta* etc.³⁸

5. ANAPHORIC RELATIONS. The REFERENTIALITY of incorporated constituents, i.e. the relation between the constituents and the extralinguistic context (see also section 7), and their capacity to introduce discourse topics and thereby to function as antecedents of anaphors have been discussed by several scholars.³⁹ Regarding Danish, Herslund (1995) has found that an incorporated antecedent permits both an anaphoric pronoun with number and gender agreement, which should prove the antecedent's STATUS AS A NOUN (PHRASE), and a neuter anaphoric pronoun, which should prove that the antecedent has lost its argument status and become a modifier.⁴⁰ Regarding

38. For more details on the differences between these constructions and other authentic examples, see Korzen 1996:173-177, 193. For parallel phenomena in French, see Herslund 1994:12-15.

39. See for instance Sadock 1986:22-26 and Mithun 1986:31.

40. Cf. Herslund 1995:8-9, 11 and footnote 5. *Op.cit.*: 8-9 gives the following examples.

- i. *Julie læser altid tegneserier. De skal være om vold og sex.* [plural]
'Julie always reads cartoons. They must be about violence and sex.'
- ii. *Julie læser altid tegneserier. Det skal være om vold og sex.* [neuter]
'Julie always reads cartoons. It must be about violence and sex.'

Italian, quite a few scholars have claimed that the choice of anaphoric object pronouns – *lo, la, li, le* vs. *ne* – is generally dependent on the features [+specific] vs. [–specific] of the antecedent, cf. e.g. Renzi (1985:284, 1988:371, 635), whereas others maintain that *lo, la, li, le* represent a determined object and *ne* an undetermined subject/object (i.e., with zero or partitive article), cf. e.g. Bach/Schmitt Jensen (1990:372–373). (For further bibliographic references, cf. Korzen 1994b, 1996.) However, as I have shown in Korzen (op.cit., 1999b, 2000a), the distribution of anaphoric pronouns in Italian (in cases of NP antecedents) is more than anything else dependent on the following factors.

- the semantic content that the speaker wishes to express with the anaphor; as we have seen in 13 vs. 23 and in section 3, the pronouns *lo, la, li, le* vs. *ne* occur in a semantic paradigm representing entities vs. concepts (I here ignore the partitive *ne* in structures such as 59);
- the co-text of antecedent and anaphor, for instance regarding the presupposition and/or limitation of a resumed entity's existence;
- the syntactic function of antecedent and anaphor: subject, object or complement of a prepositional phrase vs. subject predicative;
- the antecedent-anaphor relation, the distinction between ANAPHORIC IDEN-

But it should be added that this alternative only exists for the subject function, not for the object function where the neuter singular is ungrammatical.

iii. *Julie læser altid tegneserier. Hun køber dem for sine egne penge.* [plural]

'Julie always reads cartoons. She buys them with her own money.'

iv. *Julie læser altid tegneserier. *Hun køber det for sine egne penge.* [neuter]

'Julie always reads cartoons. *She buys it with her own money.'

Notice that the neuter pronoun *det* generally has a wide range of application as subject also with extensional antecedents.

v. *Julie læser altid tegneserierne. Det skal helst være om vold og sex.*

'Julie always reads the cartoons. It must be about violence and sex.'

vi. *Jeg så en kvinde på gaden. Det var min mor.*

'I saw a woman in the street. It was my mother.'

vii. – *Hvem er den kvinde?*

– *Det er min mor*

*– Who is that woman?

– It is my mother.'

TITY (by some called COREFERENTIALITY: the same entity or concept is interpreted in antecedent and anaphor) and ANAPHORIC NON-IDENTITY (different entities/concepts are interpreted in the two constituents).⁴¹

Furthermore, the choice between an anaphoric pronoun and an anaphoric NP is dependent on the pragmatic prominence of the antecedent; see below and section 7.

The syntactic and the text-pragmatic functions of nominal constituents are interrelated. The pragmatic function of extensional subjects, objects, and complements of prepositional phrases is to indicate, i.e. POINT OUT, an entity in some universe (cf. Korzen 1996:104 f.). Potentially this entity, or another entity related to it, may be resumed (i.e. talked about again) and represented by a pronoun – or by an anaphoric NP – in the following co-text. In such cases there must not, however, be any conflict e.g. as to the existential presupposition of the entity/entities in the two co-texts, cf. Korzen (1996:38-41, 1999b).

Similarly, it is always (potentially) possible to proceed by talking, not about the introduced entity/entities, but about the concept in question, i.e. about the abstract CATEGORIALITY of the entity/entities, represented by what we may define as a special kind of ASSOCIATIVE ANAPHORIC PRONOUNS, as in 82-83.

- (82) *Ho bevuto tanto caffè stamattina. Non ne voglio adesso. [ne = caffè]*
 'I had a lot of coffee this morning. I don't want [pron. = coffee] now.'
- (83) *Luca ha già tre figli. Non ne vuole altri. [ne = figli]*
 'Luca already has three children. He doesn't want more [pron. = children].'

In a similar vein, we can denote a concept by means of an incorporated NP and in the following co-text continue to talk about the same concept, represented by *ne*, as in 84-86.

41. Cases of anaphoric non-identity – also labelled INDIRECT or ASSOCIATIVE anaphora – may be subdivided into cases with and cases without category identity, see Korzen 1996:122-129, 1999b, 2000a:571-576. In Korzen 1996:114f., 1998a:77-80 I have discussed and argued against the term CO-REFERENTIALITY applied to cases of anaphoric identity.

- (84) *Bevo sempre caffè la mattina. Non ne voglio adesso.*
 'I always have coffee in the morning. I don't want [pron. = coffee] now.'
- (85) *Io ho fede. Cerca di averne anche tu. (from the TV-film *La piovra* 3)*
 'I have faith. Try to have [pron. = faith], you too.'
- (86) *Luca non ha figli. Proprio non ne vuole.*
 'Luca doesn't have children. He really doesn't want [pron. = children].'

Alternatively, we can continue to talk about a specific entity of the category denoted by the incorporated NP by means of *lo, la, li, le* (or an anaphoric NP), an entity of which the general co-text must be able to clarify the identity, as in 87-89.

- (87) *Luca ha comprato casa. Non l'ho ancora vista ma so che [Ø] si trova in centro. [l'/(Ø)] = la casa che ha comprato]*
 'Luca bought [a] house. I haven't seen it yet but I know it is in the center.'
- (88) *Anche quando il bambino si è riaddormentato, né la mamma né suo marito anno aperto bocca. Avrei voluto aprirla io, avrei voluto dire che il piccolo era carino [...]. (Tamaro, *Voce* 103) [la = la mia bocca]*
 'Even when the boy fell asleep, neither his mother nor her husband opened [their] mouths. I would have liked to [open it = my mouth], I would have liked to say that the boy was cute.'
- (89) – *Sua moglie non diceva sul serio, eh signor Comstock? Vuole il divorzio?*
 -- *Beh, può darsi che cambi idea.*
 – *Ah, la cambia sicuramente. (from the TV-film, *Perry Mason*) [la = l'idea del divorzio]*
 '– Your wife wasn't serious, was she, mr. Comstock? Does she want a divorce?
 – Well, she might [change idea].
 – Oh, surely she will [change it = that specific idea].'

In these last cases, the co-text must be compatible with the existence of a specific entity of the category introduced, and a proposition in which such an entity plays the role of an argument must be pragmatically prominent as an extension of the situation described in the co-text (or present in the context).⁴²

42. Cf. also Kleiber 1990b, Cornish 1996, and Korzen 1999b.

It is, of course, impossible to have anything like 90 since the first sentence denies that the event of buying (any) house took place.

- (90) *Non ho comprato casa. *{Ø} si trova in centro.*
 '[I didn't buy house. It is in the center].'

However, such conditions apply to anaphoric syntax in general. Marginally acceptable cases such as the one in 91 imply non-explicit information such as *In effetti ne ho già vista una che mi piace* 'In fact I already saw one I like', or similar – unlike for instance *Vorrei comprare una casa, {Ø} si trova in centro*, where the anaphoric relation is not obstructed by the low pragmatic prominence of an incorporated antecedent (to which we shall return in section 7).⁴³

- (91) *Vorrei comprare casa. ??{Ø} si trova in centro.*
 '[I would like to buy house]. It is in the center.'

As we have seen in example 63b, the pronouns *lo*, *la*, *li*, *le* may also represent a whole category (*lo*, *la* being read as representing a homogenised type). This interpretation seems appropriate for *lo* in 92 where again the antecedent is an incorporated constituent.

- (92) *Non è male qui in prima, con tutto questo spazio davanti e dietro e di lato, le hostess che vanno e tornano ogni due minuti a sorridere e versarci champagne se solo lo vogliamo.* (De Carlo, Yucatan 11)
 'It is not bad here in first class, with all the space on all sides, the stewardesses that come and go every two minutes, smiling and offering champagne whenever we want it.'

However, some incorporated NPs cannot function as antecedents, namely such constituents that do not clearly introduce – as subject, object or complement of a preposition – any independent concept, i.e. any abstract categoriality. Therefore, the singular and concrete count nouns that have lost

43. If an NP is low on a scale of text-pragmatic prominence, it will need a more strongly 'marked' anaphor, i.e. an anaphoric NP – a pronoun will not do; see footnote 48 and Korzen 1999b, 2000a.

their original meaning in lexicalised [$V_{\text{supp}} + O$] constructions (cf. sections 2.4 and 3.2) are excluded as antecedents, as seen in 93.

- (93) a. *Questo progetto sta prendendo corpo. *Lo sta prendendo anche il progetto di Luca.*
 'This project is taking shape. *Also Luca's project is taking it.'
 b. *Giorgio ha tenuto conto dell'aumento dei prezzi. *L'ha tenuto anche Anna*
 'George took the price increase into consideration. *Also Anna took it into it.'⁴⁴

44. We have here borderline cases where an anaphoric pronoun may be more or less marginally acceptable, as in i.

- i. *Giorgio non ha mai messo piede in Francia. *L'ha messo però in Germania.*
 '[George never set foot in France. But he has set it in Germany].'

As I said in footnote 21, *marito/moglie* 'husband/wife' have maintained their original meaning. Therefore, constructions such as those in ii cannot be ruled out.

- ii. – *Ho preso moglie.*
 – *Ah sì?, l'ho presa anch'io.*
 '[– I took wife. – Oh really? I took it also].'

Also, in such cases, the question of text-pragmatic prominence plays an important role for the anaphoric possibilities. As we shall see in section 7, for instance second order entities are generally lower on a scale of text-pragmatic prominence than first order entities, and therefore incorporated deverbal nouns are not very likely to function as antecedents of a zero subject, even if they do maintain their original meaning, as in iii.

- iii. *Hanno deciso di muovere attacco alle postazioni nemiche. *[Ø] doveva essere molto violento.*
 '[They decided to launch attack on the enemy's positions. *It was going to be very violent].'

Here, an anaphoric NP is needed: *L'attacco* 'the attack'. Instead, the equivalent non-incorporated NP may very well function as the antecedent of a zero subject, as in iv.

- iv. *Hanno deciso di muovere un attacco alle postazioni nemiche. [Ø] doveva essere molto violento.*
 'They decided to launch an attack on the enemy's positions. It was going to be very violent.'

For more details on this issue, see Korzen 1999b, 2000a.

Also incorporated (as well as lexicalised) complements of prepositional phrases (see e.g. 77c-81) are excluded as antecedents. Finally, most NPs with adjectival functions, i.e. attributive and predicative NPs, are excluded as antecedents. The pragmatic function of adjectival NPs is not to indicate ('point out') an entity or a concept in some world, but to describe an entity indicated by another NP by predicating a state-of-affairs, i.e. by attributing a particular property or value to it. Italian adjectival Ns and NPs cannot be antecedents of anaphoric expressions – with the sole exception of subject predicatives. These may be resumed by the neuter and indeclinable pronoun *lo* representing the content of the antecedent as an abstract property or value of an entity, as in 94.

- (94) a. *Luca è pittore; lo è anche Mario. Luca è diventato uomo, mentre Mario già lo è da un bel po'.*
 '[Luca is painter; also Mario is it. Luca has become man, while Mario has been it for a while].'
 b. *Luisa è una scrittrice. Lo sono anche Maria e Angela.*
 '[Luisa is a writer. Also Maria and Angela are it].'
 c. *Anna è l'assassina. Sono sicuro che lo è.*
 '[Anna is the murderer. I am sure that she is it].'⁴⁵

On the basis of the considerations in this section, I would claim that the possible function as an antecedent is not indicative of any particular status as to

45. These examples manifest the same semantic differences that we have seen in NPs, with and without a determiner, as subject, object, and prepositional complement. In 94a the purely intensional properties expressed by the lexeme (e.g. a special profession or behaviour) are attributed to Luca/Mario. Instead in 94b and 94c the persons in question are described as entities, i.e. as carriers of properties, in 94c as a (con)textually given entity, cf. Korzen 1996:sections 4.3, 5.2, 6.2, 7.2 and 8.1.4.1, and 1998a:122-126. Most often the antecedent of the subject predicative pronoun *lo* is itself a subject predicative (as in 94), but it may also be a pragmatically 'indicating' NP, e.g. the complement of a prepositional phrase, as in i (a scene in which a sheriff is fired and has to return his gun to his superior).

i. *Questa è la pistola dello sceriffo e lei non lo è più. [lo = lo sceriffo]* (from the TV-film, *La signora in giallo*)
 'This is the gun of the sheriff and [you are not it anymore].'

word class of an (incorporated or non-incorporated) constituent in Italian. Anaphoric relations and syntax are based on semantic, syntactic, and pragmatic criteria. Incorporated NPs that indicate a concept which has a semantically independent status in the co-text may – if the co-text permits – be resumed by a pronoun (*ne*) representing the same concept, or a pronoun (*lo, la, li, le*) representing an individualised entity of the given category or the whole category seen as one (generic) entity or prototype. Incorporated NPs that have lost their original meaning as part of lexicalised units and NPs whose pragmatic function is to predicate/describe an entity cannot be antecedents, except as indicated in 94.

6. UNINCORPORATED UNDETERMINED NPs. For the sake of completeness it should briefly be mentioned that not all plural NPs without a determiner are necessarily incorporated in Italian. In some cases, an undetermined plural NP may function as an independent argument just like a determined NP, with the syntactic possibilities that we have seen in section 2, examples 13–18, and with the semantic designation as entities.⁴⁶

This extensional use is found particularly often, but not exclusively, in cases where the NP has a modifier or a secondary complement. Such constituents may have a specifying function so that an entity reading may result, potentially distinguishing one kind of entity as opposed to others, instead of the elsewhere reading as a modified concept as in 26–28 (cf. also section 7). Having supplied rather extensive documentation of such cases in Korzen (1996:178f., 1998a:119f., 2000a), I shall allow myself to be very brief and superficial in this connection and cite only a few examples here.

The greater syntactic independence is shown, among other things, by the possible preverbal position of for instance non-unaccusative subjects. A few (rare) examples without expansion of the NP are found in 95–96.

- (95) *Anche a Potenza extracomunitari hanno inscenato [...] una manifestazione con scritte e striscioni chiedendo un letto e un pasto caldo.* (*Repubblica* 13.3.90, p. 10)

'Also in Potenza extracomunitarians have organised a demonstration with signs and banners asking for a bed and a hot meal.'

46. This phenomenon is, in my opinion, one of the decisive factors in the terminological discussion briefly mentioned in footnote 4.

- (96) *Sui pantaloni di uno dei testimoni c'è più di una traccia ematica. Lo hanno confermato i risultati delle analisi effettuate dal Centro di indagini scientifiche dei carabinieri. E indiscrezioni affermano che si tratti dei pantaloni di Roberto Jacono [...]. (Messaggero 23.7.91, p.7)*

'On the trousers of one of the witnesses there is more than one trace of blood. This has been confirmed by the analysis carried out by the carabinieri's Centro di indagini scientifiche. And indiscretions confirm that they are Roberto Jacono's trousers.'

The NPs may be dislocated and replaced by one of the pronouns *lo, la, li, le*, as seen in 97-98 (compare 13 and 23).

- (97) — *Dobbiamo solo prendere una cosa nell'ufficio di qualcuno.*
 — *Noi non le facciamo cose del genere.* (from the film. *Colpo grosso*)
 *— We just have to take a thing in somebody's office.
 — We don't do [them,] that kind of things.'
- (98) *"Può darsi", ripeté Fadigati. "Ma dove li trova, cara signora, pomeriggi come quelli che il sole ci prepara da queste parti, quando si avvia a calare dietro l'azzurra vision di San Marino?"* (Bassani, *Occhiali* 92)
 "Maybe", Fadigati repeated. "But where will you find them, dear Madam, afternoons like the ones that the sun prepares for us in this area, when it sets behind the blue vision of San Marino?"

They may be preverbal subjects in passive constructions as seen in 99 (compare 16 and 29).

- (99) *Il personale paramedico, un esercito di circa sei milioni e mezzo di lavoratori, ha accolto le misure con sollievo. Proteste sono state invece sollevate dal sindacato che raccoglie circa 300 mila infermieri: [...]. (La Stampa 22.8.87, p.1)*
 'The paramedics, an army of about 6½ million workers, have accepted the decisions with relief. Protests have instead been raised by the union, which includes about 300,000 nurses.'

Finally, they permit a telic reading of the whole [V + NP] construction as seen in 100 (compare 69-70).

- (100) a. *Luca ha mangiato panini che io avevo in cucina da un mese in due minuti.*
 'Luca has eaten sandwiches that I had in my kitchen for a month in two minutes.'
- b. *Luca in poche settimane ha scritto libri che hanno vinto diversi premi.*
 'In a few weeks Luca has written books that have won several prices.'
- c. *Luca in due minuti ha venduto libri che aveva in casa da anni.*
 'In two minutes Luca has sold books that he had had in his home for years.'

The reading of an undetermined plural NP in Italian is, however, not generally unequivocal: in many cases both an intensional and an extensional interpretation will be possible. For more details on this phenomenon and on factors that may prove decisive for its interpretation, see Korzen (1996:178f).

7. TEXT-PRAGMATIC FEATURES OF INCORPORATION AND CROSS-LINGUISTIC DIFFERENCES. The NPs that have been analysed in this paper (except those discussed in the previous section) exhibit morphological, syntactic, and semantic features that are so similar to NPs in other languages labelled INCORPORATED that, in my opinion, it gives us every right to talk about incorporation in Italian as well. We have found that in certain particularly cohesive constructions, [V + NP] and [N + prep. + NP], the NP is morphologically, syntactically, and semantically reduced or weakened: it lacks a determiner, it has lost a number of the syntactic possibilities of the parallel, determined NP, and it no longer designates one or more individualised entities but – more abstractly – a generic concept, i.e. the properties and qualities ascribed to the entities of a category.

As we have seen, in a V_{full} construction, an incorporated NP specifies the verbal situation in terms of quality or type, and thereby it comes semantically close to an adverbial – unlike the unincorporated argument which functions as an individualised and particular object or subject in the verbal situation. Syntactically, the incorporated NP is more closely linked to the verb and has lost the grammatical individuality of the unincorporated argument. We are thus dealing with a relational change in which an O/S_u becomes a sort of modifier, maintaining, however, a number of the features of the full O/S_u – the precise number of which depends on the type of noun, especially on whether it is countable or not.

In a V_{supp} construction the incorporated NP forms a particularly cohesive semantic unit with the verb, a unit which is (more or less) synonymous with a simple verb or with a predicative construction.

A nominal constituent that loses its semantic and grammatical individuality tends also to lose its pragmatic prominence. Semantic and grammatical individuality, pragmatic prominence, and incorporation are interrelated. Sasse (1984:261-264) describes this interrelation as follows.

[...] the semantic ingredients of DOs [direct objects] [...] are responsible for the pragmatic status of the noun in question: the more individuated a direct object is, the more suitable it becomes as a candidate for the pragmatic peak of the comment. [...] Those objects that do not qualify as pragmatic peaks of the comment tend to be incorporated (p. 261) [...] because of its lack of inherent pragmatic prominence the non-individuated patient is unsuitable as an information peak and is, therefore, deprived of its grammatical individuality by being incorporated (p. 264).

Incorporation is, we may conclude, the grammaticalisation – or linguistic reflection – of the relegation of a nominal constituent to the pragmatic background.

In this connection it is interesting to compare the features that more generally prove decisive for the pragmatic prominence of an NP argument in a text, especially for its topicality, i.e. the likelihood of the argument being the topic of a sentence. These features have to do partly with the referentiality of the NP (i.e. the relation between the NP and the context, cf. section 5), partly with the individuality of the argument and the difference between first, second and third order entities. Herslund (1996d:79) proposes the following two hierarchies (here cited with slight alterations).

- (101) a. REFERENTIALITY: Deixis > Specific > Generic > Non-specific > Pure concept/intension
- b. INDIVIDUALISATION: Singular heterogeneous entity > Homogeneous entity (mass) > Plural entities > Second-/Third-order entity

The further to the left on the two scales, the more likely an entity is to become the topic of a sentence; cf. also Korzen (1998a:114f,2000a:214f).⁴⁷

In Korzen (1998a,2000a) I have shown that these two hierarchies are generally decisive also for nominal determination and, thereby, for incorporation. The further to the left on the scales, the higher the tendency towards determination of the NP, and the further to the right, the lower the tendency towards determination. The reason for this is that the higher the text-pragmatic prominence of a nominal constituent, the greater the need is for an explicit account of its relation to the co(n)text, i.e. of its features [\pm given] [\pm identifiable], and vice versa. The purely conceptual/intensional NP – the NP in the lowest position on the a-scale – is never determined, and the further to the right on the b-scale, the higher the tendency of the NP to appear with a purely conceptual/intensional meaning.⁴⁸

However, languages differ typologically as to the explicitness (i.e. grammaticalisation or lexicalisation) of pragmatic features, and consequently, for instance as to the generalisation of nominal determination. As I have shown in Korzen (1998c,2000a), Italian may generally be described as a relatively explicit language when it comes to pragmatic phenomena. A series of pragmatic features – such as for instance differences between pragma-narrative foreground and background, differences in the relationship between speaker and proposition, and the opposition between psychological nearness and distance – are more frequently and explicitly grammaticalised in Italian than for instance in Danish. The same is true of nominal determination. Nominal determination is more generalised – occurring further to the right on the scales in 101 – in Italian than in Danish, cf. Korzen (op.cit.). In Danish, undetermined NPs are generally much more common, and in such cases the features [\pm given] and [\pm identifiable] are not rendered explicit but are left to the hearer to interpret on the basis of the co- and

47. See also Chvany 1984:248 who explicitly points to the parallelism between the opposition singular/countability vs. plural/mass and perfective vs. imperfective aspect in proposition foregrounding and backgrounding. The cited hierarchies may be specified further by syntactic and case role hierarchies; see Givón 1976:152 and section 8.

48. In Korzen 1999b:208-211,2000a:509-511 I have shown that the same hierarchies play a role in the choice of anaphoric material: generally, the further to the left on the two scales, the 'weaker' (i.e. the less marked, e.g. lexically or phonologically) an expression can be in the function as an anaphor; see also footnote 44.

context. For instance, with plural and mass nouns Danish does not have indefinite articles at all; an indefinite quantifier (*noget, nogen, nogle*) may be used, but very often such NPs are left undetermined. In Italian we here find a very frequent use of indefinite articles, the so-called PARTITIVE articles, cf. Korzen (1996:337-516).

Similarly, there are differences between the two languages regarding noun incorporation. In Italian, a nominal argument (subject or object) is more generally kept in the text pragmatic foreground than in Danish, and often, in the case of a missing determiner, other linguistic means, e.g. an expansion of the NP (an attributive, a secondary complement, or similar), will compensate and express the individualisation and specification which is normally expressed by the determiner, as in the examples in section 6.

In Danish, there is generally a greater tendency to incorporate – and thereby to background – nominals. In a number of cases Danish uses incorporation where Italian has equivalent constructions with definite (and pragmatically foregrounded) prototype-NPs (see 64 and compare Korzen 1998a:103, 105, 1998b:142-143, for more examples), for instance in structure types such as those found in 102.

- (102) a. *at have/købe/(un)skaffe sig bil/telefon/klaver/båd/bidet/computer ...*
 ‘[to have/buy/acquire car/telephone/piano/boat/bidet/computer]’
 b. *at have skæg/feber/influenza/hoste/sorte rande under øjnene ...*
 ‘[to have beard/fever/flu/cough/dark circles under the eyes]’
 c. *at bære/gå med slips/jakke/jeans ...*
 ‘[to wear tie/jacket/jeans]’

In other cases where Danish manifests a strong tendency towards incorporation, Italian prefers NPs with an indefinite article (cf. the examples in Korzen 1998b:148-149).

Regarding noun incorporation in Italian, the hierarchy in 101b actually proves particularly significant, in that singular count nouns denoting first order entities – the nouns in the highest position on the scale – do not incorporate productively (except for constructions with the verbs *cambiare* and *sbagliare*), and they do not incorporate at all as subjects. On the other hand, as we have seen in 2.3-5, once a count noun does incorporate, the incorporation structure is of a particularly cohesive kind. As is seen in 102, Danish has no problem incorporating singular count nouns.

Given the fundamental pragmatic consequence of incorporation, viz. a relegation of the NP to the pragma-narrative background in which the semantic individuality is lost and the focus is on the generic category, there is, however, a case in which noun incorporation becomes quite frequent, even in Italian. If a non-specific NP is placed within the scope of a negation, there is a particular tendency towards incorporation (and – in case of occurring anaphoric/cataphoric pronouns – the use of the conceptual pronoun *ne*), and in such cases singular count nouns do incorporate, as in the structures d in 103.⁴⁹

- (103) a. *Il mio amico non aveva padre.*
 ‘[My friend did not have father].’
 b. *Non ho marito.* (Jarre, *Principessa* 17)
 ‘[I don’t have husband].’
 c. *Paola è carina ma non ha cervello.*
 ‘[Paola is sweet but she doesn’t have brain].’
 d. *Cinzia non ha seno e non ha sedere.* (Jarre, *Principessa* 43)
 ‘[Cinzia doesn’t have breast and she doesn’t have bottom].’
 e. *Non abbiamo ombrello.* (Ginzburg, *Virtù* 110)
 ‘[We don’t have umbrella].’

In such cases, Danish will normally use the negative quantifier *ingen*.

8. CONCLUSION. The theoretical model presented in this paper will, I believe, account for many phenomena related to determination vs. non-determination of NPs and to noun incorporation. It will explain the semantic, syntactic, and pragmatic differences between incorporated NPs and, for instance, NPs with the partitive article in Italian, a field that has been somewhat blurred and muddled up in some Italian grammars. Very briefly we can say that NPs with a partitive article generally have the same syntactic and pragmatic features as other determined and unincorporated NPs, and semantically they denote entities: in the singular form or with a plural mass noun a limited portion of a homogenous (concrete or abstract) substance; with a plural count noun a limited number of heterogeneous entities.

In conclusion, we may – as anticipated in footnote 47 – add a third hier-

49. See authentic Italian examples with more co-text in Korzen 1996:234-239.

archy to the two mentioned in 101 concerning the likelihood of incorporation of constituents, namely a hierarchy of semantic/syntactic functions, see 105.

As we have seen in sections 1.0 and 4, the syntactic constituents that can be incorporated are the FUNDAMENTAL ARGUMENTS (i.e. the unaccusative subject and the object) and secondary constituents (secondary arguments or attributive modifiers). Subjects of unergative or transitive verbs and dative constituents cannot be incorporated. In this connection it is interesting to compare one of the hierarchies that Givón (1976:152) quotes as decisive for the topicality of a constituent, see 104.

- (104) agent > dative > accusative

Givón does not distinguish between unaccusative and other subjects, but as we have seen in 1.0, the unaccusative subject resembles the object in many respects. In Korzen (1996,2000a) I have shown that this is true also regarding determination. Generally, both complements have a much higher tendency to occur without a determiner (especially) in postverbal position than other subjects and dative complements. Regarding incorporate in Italian, there is, as we have seen above, a slight difference between the unaccusative subject and the object: the former does not incorporate if the N is placed in the highest position of the hierarchy in 101b, i.e. if the N denotes a singular heterogeneous entity of the first order, cf. sections 2.3-2.5. The object complement is more permissive in this regard; cf. also section 2.5, Table 1.

Secondary constituents are less topical than primary arguments, and they generally have a higher tendency to occur without a determiner (cf. Korzen 2000a:266-269). If we add these constituents to Givón's topicality hierarchy in 104 and distinguish between unaccusative and other subjects, we end up with the scale in 105.

- (105) non-unaccusative subject > dative > unaccusative subject > object > secondary constituent

The more to the left, the greater the tendency is for the constituent to occur with a determiner. Regarding the likelihood of incorporation of a constituent, we can say that in Italian the two highest located arguments, the

non-unaccusative subject and the dative complement, can never be incorporated, whereas the others can. The frequency with which incorporation occurs corresponds with the constituents' position on the hierarchy: the further to the right on the hierarchy (i.e. the less topical the constituent is), the greater the likelihood of incorporation – depending, however, on the position of the constituent on the hierarchies in 101.⁵⁰

In other words, the text-pragmatic prominence (or topicality) of a constituent, whether measured referentially (101a), with respect to individualisation (101b), or 'case role' (105), is crucial to the likelihood of incorporation: the less text-pragmatically prominent (i.e. the less topical) the constituent is, the greater is its tendency is to be incorporated.

However, an incorporated argument may be used in circumstances in which it indirectly plays a more prominent role: it may serve as a vague and generic anticipation of a category of which the following co-text specifies individual and pragmatically prominent entities. This is seen in cases such as 106-107.

- (106) *Stava venendo gente: due giovanotti e due signorine, tutti e quattro in bicicletta.* (Bassani, *Occhiali* 123)
 'There came people: two young men and two young women, all four on their bicycles.'
- (107) *Siamattina abbiamo ospiti: una persona che ha studiato queste cose [...].*
 (announcer of the TV programme, *RAI UNO mattina*, 17.10.91)
 'This morning we have guests: a person who has studied these things [...].'

Here, the incorporated Ns serve the purpose of indicating the generic categories *gente* 'people' and *ospiti* 'guests' of which particular individuals are being specified in a sort of apposition in the following co-text. In 106 we have a mass noun, in 107 a count noun, and in the latter case we notice that the plural form is used (in spite of there being only one specific 'guest'), since it is the only form that will denote the whole generic category. Compare a parallel, and equally acceptable, Danish construction such as 108.

50. Compare also Korzen 2000a:318-339, where I have shown that the same hierarchy is valid for Danish.

- (108) *Jeg har gæster. Min onkel Sofus er lige kommet på besøg.*
 'I have guests. My uncle Sofus just dropped by.'

The singular form of the N is not possible in such cases: **Stamattina abbiamo ospite* *'This morning we have guest', **Jeg har gæst* *'I have guest' etc.

In structures like these the semantic difference between the incorporated constituent, denoting the abstract category, the concept, and an unincorporated, determined NP is very clear: the latter will always designate a certain number of individualised entities, for which reason we cannot have anything like 109-110 (where the asterisks indicate the lack of textual coherence between the two parts of the structures).

- (109) *Stamattina abbiamo degli ospiti: *una persona che ha studiato queste cose [...].*
 'This morning we have some guests: *a person who has studied these things [...].'

- (110) *Jeg har nogle gæster. *Min onkel Sofus er lige kommet på besøg.*
 'I have some guests. *My uncle Sofus just dropped by.'

REFERENCES

- ALONGE, ANTONIETTA. 1998. Verbi italiani e inaccusatività: una proposta basata su dati estratti da ampie risorse lessicali computerizzate. *Italica Matritensia. Atti del IV Convegno SILFI* (Madrid, 27-29 giugno 1996), ed. by Maria Teresa Navarro Salazar, 61-75. Firenze: Franco Cesati.
- BACH, SVEND; and JØRGEN SCHMITT JENSEN. 1990. *Større Italiensk Grammatik*. Copenhagen: Munksgaard.
- BENINCÀ, PAOLA. 1980. Nomi senza articoli. *Rivista di grammatica generativa* 5.51-63.
- CHIVANY, CATHERINE V. 1984. Backgrounded Perfectives and Plot Line Imperfectives: Toward a Theory of Grounding in Text. *The Scope of Slavic Aspect*, ed. by Michael S. Flier and Alan Timberlake, 247-273. Columbus, Ohio: Slavica Publishers, Inc.
- CORNISH, FRANCIS. 1996. 'Antecedentless' anaphors: deixis, anaphora, or what? Some evidence from English and French. *Journal of Linguistics* 32.19-41.
- GIVÓN, TALMY. 1976. Topic, Pronoun and Grammatical Agreement. *Subject and Topic*, ed. by Charles N. Li, 149-188. New York/San Francisco/London: Academic Press.
- HELTOFT, LARS. 1996. Det danske nominals udtryks- og indholdssyntaks – et dependens-analytisk forsøg. *Ny forskning i grammatik. Fællespublikation 3. Kollekollokviet*, ed. by Michael Herslund, 7-34. Odense Universitetsforlag.
- HERSLUND, MICHAEL. 1990. Hyponymie et généricité. *Actes du Onzième Congrès des Romanistes Scandinaves*, 197-204. Trondheim: Institut d'Etudes Romanes. Université de Trondheim.
- 1994. La notion d'incorporation en danois et en français. *Travaux de linguistique et de philologie* XXXII.7-18.
- 1995. The Object Relation and the Notion of Incorporation. *Studies in Valency I*, ed. by Lene Schøsler and Mary Talbot, 1-18. Odense: Odense University Press.
- 1996ed. *Det franske sprog*. Kapitel III. Valens og transitivitet. Foreløbig version. Handelshøjskolen i København.
- 1997ed. *Det franske sprog*. Kapitel I. Grundlag. Foreløbig version. Handelshøjskolen i København.
- KLEIBER, GEORGES. 1990a. *L'article LE générique. La généricité sur le mode massif*. Genève-Paris: Librairie Droz.
- 1990b. Quand il n'a pas d'antécédent. *Langage* 97.24-50.
- KORZEN, LØRN. 1994a. Individer, typer, masser og kategorier. Om substantivleksemers og -syntagmers betydning med specielt henblik på italiensk. *Leksikon og Verden. ARK* 76, ed. by Finn Sørensen, 47-70. Handelshøjskolen i København.
- 1994b. I pronomi clitici *lo, la, li, le* vs. *ne* in italiano. Significato di 'estensità' vs. signi-

- ficato di 'concetto'. *Actes du XIIe Congrès des Romanistes Scandinaves*. Aalborg, 11-15 août 1993, ed. by Gerhard Boysen, 269-282. Aalborg: Aalborg University Press.
- 1996. *L'articolo italiano fra concetto ed entità*, I-II [Etudes Romanes 36] Copenhagen: Museum Tusculanum Press.
 - 1998a. On nominal determination – with special reference to Italian and comparisons with Danish. *Nominal Determination. Copenhagen Studies in Language* 21, ed. by Gyde Hansen, 67-132. Copenhagen: Samfundslitteratur.
 - 1998b. At tale om ting. *Copenhagen Working Papers in LSP* 2-1998.
 - 1998c. On the grammaticalisation of rhetorical satellites. A comparative study on Italian and Danish. Clause Combining and Text Structure. *Copenhagen Studies in Language* 22, ed. by Iørn Korzen and Michael Herslund, 65-86. Copenhagen: Samfundslitteratur.
 - 1999a. Tekststruktur og anafortypologi. (Struttura testuale e tipologia anaforica). *Tekststrukturering på italiensk og dansk. Resultater af en komparativ undersøgelse. Strutturazione testuale in italiano e in danese. Risultati di una indagine comparativa*, ed. by Gunver Skytte, Iørn Korzen, Paola Polito and Erling Strudsholm, 331-418. Copenhagen: Museum Tusculanum.
 - 1999b. Anaforer og anaforiske relationer. *Ny forskning i grammatik* 6, ed. by Carl Bache, Lars Heltoft, and Michael Herslund, 205-226. Odense: Odense Universitetsforlag.
 - 2000a. Reference og andre sproglige relationer. *Italiensk–dansk sprogbrug i komparativt perspektiv. Reference, konnexion og diskursmarkering*, by Gunver Skytte and Iørn Korzen, vol. 2. Copenhagen: Samfundslitteratur.
 - 2000b. I predicati verbo-nominali. *Atti del V Congresso degli Italianisti Scandinavi*, Bergen, 25-27 giugno 1998, ed. by Kolbjørn Blücher, 259-270. Universitetet i Bergen.
- LEPSCHY, ANNA LAURA; and GIULIO LEPSCHY. 1979. *The Italian Language Today*. London: Hutchinson.
- LYONS, JOHN. 1977. *Semantics*, 1-2. Cambridge: Cambridge University Press.
- MADSEN, BODIL NISTRUP. 1991. In Terms of Concepts. *LSP. Nine Studies on Language for Special Purposes. Copenhagen Studies in Language* 14.67-91. Handelshøjskolens Forlag/Nyt Nordisk Forlag Arnold Busck.
- MITHUN, MARIANNE. 1986. On the Nature of Noun Incorporation. *Language* 62.32-37.
- NEDERGAARD THOMSEN, OLE. 1991. Unit Accentuation as an Expression Device for Predicate Formation in Danish? *Acta Linguistica Hafniensia* 23.145-196.
- NØHR PEDERSEN, SUSANNE. 1990. The Treatment of Support Verbs and Predicative Nouns in Danish. *Papers from the Seventh Scandinavian Conference of Computational Linguistics*, 208-217. Reykjavik.
- PULGRAM, ERNST. 1970. *Syllable, Word, Nexus, Cursus* [Janua Linguarum. Series minor 81] The Hague/Paris: Mouton.

- RENZI, LORENZO. 1985. L'articolo zero. Sintassi e morfologia della lingua italiana d'uso. *Teorie e applicazioni descrittive. SLI* 24.271-288.
- RENZI. 1988. RENZI/SALVI. 1991. RENZI/SALVI/CARDINALETTI. 1995. *Grande grammatica italiana di consultazione*, ed. by Lorenzo Renzi (vols. I, II, III), Giampaolo Salvi (vols. II, III), and Anna Cardinaletti (vol. III). Bologna: Il Mulino.
- SADOCK, JERROLD M. 1986. Some Notes on Noun Incorporation. *Language* 62.19-31.
- SANDERS, G. 1984. Adverbials and Objects. *Objects. Towards A Theory Of Grammatical Relations*, ed. by Frans Plank, 221-241. London/Orlando, Florida: Academic Press.
- SANFILIPPO, ANTONIO. 1991. Thematic and aspectual information in verb semantics. *Belgian Journal of Linguistics* 6.87-114.
- SASSE, H.-J. 1984. The Pragmatics of Noun Incorporation in Eastern Cushitic Languages. *Objects. Towards A Theory Of Grammatical Relations*, ed. by Frans Plank, 243-268. London/Orlando, Florida: Academic Press.
- SCHWARZE, CHRISTOPH. 1988. *Grammatik der italienischen Sprache*. Tübingen: Niemeyer.
- SERIANNI, LUCA. 1988. *Grammatica italiana. Italiano comune e lingua letteraria*. Torino: UTET.
- SKYTTE, GUNVER. 1975. *Italiensk fonetik*. Odense: Odense Universitetsforlag.
- VIKNER, CARL. 1991. Semantic Analysis of Complex N-bars. *LSP. Nine Studies on Language for Special Purposes. Copenhagen Studies in Language* 14.101-119. Handelshøjskolens Forlag/Nyt Nordisk Forlag Arnold Busck.
- ZEMACH, EDDY M. 1970. Four Ontologies. *The Journal of Philosophy* LXVII/8.231-247. (also in: *Mass Terms: Some Philosophical Problems*, ed. by Francis Jeffry Pelletier, 63-80. Dordrecht/Boston/London: D. Reidel, 1979).

PRIMARY SOURCE MATERIAL

- BAGNOLI, L.; A. LUGLI; and S. SIRGIOVANNI. *Zoo Color*. Firenze: Giunti — Bemporad Marzocco, 1973.
- BASSANI, GIORGIO. *Gli occhiali d'oro*. Verona: Oscar Mondadori, 1973.
- BUFALINO, GESUALDO. *Diceria dell'untore*. Milano: Bompiani, I Grandi Tascabili, 1992.
- *Le menzogne della notte*. Milano: Bompiani, 1988.
- BUZZATI, DINO. *La boutique del mistero*. Verona: Oscar Mondadori, 1970.
- CORRIERE DELLA SERA.
- DE CARLO, ANDREA. *Yucatan*. Milano: Bompiani, 1986.
- ECO, UMBERTO. *Il nome della rosa*. Milano: Bompiani, I Grandi Tascabili, VI ed., 1985.
- FELLINI, FEDERICO. *Quattro film*. Torino: Einaudi, 1974.
- La GAZZETTA DELLO SPORT.
- GINZBURG, NATALIA. *Le piccole virtù*. Torino: Einaudi, 1962.
- JARRE, MARINA. *La principessa della luna vecchia*. Torino: Einaudi, 1977.
- KORZEN, IØRN (ed.) *Gli italiani vivono (anche) così*, 1. Copenhagen: Samfundslitteratur, 1989.
- MARAINI, DACIA. *Mio marito*. Milano: Bompiani, 1968.
- Il MESSAGGERO DI ROMA.
- PAVESE, CESARE. *Il compagno*. Milano: Gli Oscar, 1966.
- PECORI, FRANCO. *Federico Fellini*. Firenze: La nuova Italia. Il Castoro Cinema 3, 1978.
- PRATOLINI, VASCO. *Cronaca familiare*. Vicenza: Arnoldo Mondadori. Narratori italiani 68, 1973.
- *Metello*. Verona: Mondadori, 1973.
- La REPUBBLICA.
- La STAMPA.
- TAMARO, SUSANNA. *Per voce sola*. Venezia: Marsilio, 1991.
- TONDELLI, PIER VITTORIO. *Pao Pao*. Milano: Feltrinelli, 1991.
- *Rimini*. Milano: Bompiani, Grandi Tascabili, 1994.

Incorporation and Excorporation in Russian

PER DURST-ANDERSEN

INTRODUCTION. If you ask a Russian linguist to give some examples of incorporation from Russian, it is almost certain that you will not get a prompt answer due to the fact that the notion of incorporation was never attached to Russian. In Russian one does not find those prototypical examples of incorporation which play an important role in languages like, for instance, Danish, cf. *Han læste romaner*-Ø 'He read novels' and *Han læste romaner-ne* 'He read the novels', where the so-called NAKED OBJECT (i.e. *romaner*) signals incorporation of the object into the verb and thereby its loss of status as an argument (Nedergaard Thomsen 1991; Herslund 1994). But although Russian does not have a distinction between naked objects and non-naked objects (i.e. direct objects with a definite or indefinite article), one might easily imagine that the distinction between cases could be used to perform functions similar to those found in languages that distinguish between 'zero' and 'article'. When looking for potential candidates within the Russian case system one's glance immediately stops at the genitive and the instrumental – for quite different reasons, however. The genitive, just like the naked object, alternates with the accusative and seems here to signal a non-referential object just like an incorporated object does. The instrumental differs from the genitive by not being opposed to the accusative, but nevertheless it shares other important features with the incorporating construction. In the following sections I shall examine various instrumental and genitive constructions and try to isolate types of constructions that seem to share some of the characteristics normally attributed to incorporating constructions. As will appear, the instrumental constructions that are isolated can be said to represent a specific subtype of incorporating constructions to be named INCORPORATED MODIFIERS. The genitive constructions, however, will be shown not to be instances of incorporation, but nevertheless it turns

out that they should be connected to a notion that has some affinity to the notion of incorporation, viz. the notion of EXCORPORATION. Having isolated and described the various constructions I shall attempt to demonstrate that it is possible to derive the incorporation device of the instrumental as well as the excorporation device of the genitive from their general case meanings which go back to different perceptual viewpoints. In other words, I shall try to give the semantics behind the syntactic devices of, respectively, incorporation and excorporation.

1. THE INSTRUMENTAL.

1.1. INTRODUCING THE TOPIC. Let us consider the pair of examples in 1 in order to narrow down our theme of discussion.

- (1) a. *On uže xorošo umeet rezat' nožom.*
 he already well be:able:PRES cut:IMPF:INF knife:INST:SG
 'He is good at cutting with a knife.'
- b. *On rezal xleb nožom.*
 he cut:IMPF:PRET bread:ACC:SG knife:INST:SG
 'He cut the bread with a knife.'

Janda (1993) discusses Czech examples similar to the Russian ones given in 1a and 1b. In 1b she sees the meaning of pure instrument, whereas in 1a she sees a variant called 'Instrumental object'. However, although Janda notes a semantic difference between 1a and 1b, she does not consider the syntactic consequences. I shall argue that 1a illustrates an INCORPORATING CONSTRUCTION in contrast to 1b, which is not incorporating. This means that the two constructions denote different kinds of situations. The non-incorporating construction with the direct object, 1b, is a DESCRIPTION OF AN ACTION which consists of a description of activity as well as a description of state. Being an imperfective utterance, it asserts the description of activity but leaves the description of state as a standard implicature, i.e. the hearer himself has to decide whether the description of state is true or false. Since the verb belongs to a subclass of action verbs that I call IMPLEMENTATION VERBS (verbs that denote actions that almost by their very implementation manifest themselves as events), the hearer decides that it is true (cf. Durst-Andersen 1992:100f). The incorporating construction without the direct

object *xleb*, 1a, is a pure DESCRIPTION OF ACTIVITY. Thus, the loss of *xleb* signals the loss of the description of state and the integration of *nožom* into the verb *rezal*. In the non-incorporating construction *nožom* does not modify *rezal*, but *rezal xleb*, i.e. it mediates the bread's change from one complete loaf of bread to several pieces of bread. All this can be paraphrased in the following way.

- (1) a'. He is already quite able to produce a cutting-**with-knife** activity.
 b'. He produced an activity with a knife – the bread is in pieces because of that.

Although, in fact, the loss of the description of state and the integration of *nožom* into the verb repeats the main characteristics of incorporation, we are, nevertheless, not dealing with the prototypical case of incorporation. This is due to the fact that the integration of *nožom* into the verb *rezal* is not directly linked to the instrumental case, only indirectly through the loss of *xleb*. Therefore, I argue that constructions such as that in 1a be understood as a specific subclass of incorporating constructions which in itself consists of four subtypes to be examined below. (Note here that I shall use the term MACRO-ROLE in an undefined way – not to be confused with its normal use, cf. Foley and Van Valin 1984.)

1.2. *IDTI LESOM* 'TO GO THROUGH A FOREST'. Let us consider examples 2a-2d in order to verify whether the analysis presented above is justified or not.

- (2) a. *Oni šli lesom.*
 they go/DET:PRET forest:INST:SG
 'They went through a forest.'
 b. **Oni šli krasivym lesom.*
 'They went through a beautiful forest.'
 c. *Oni šli sosnovym lesom.*
 'They went through a pine forest.'
 d. *Oni šli čeres krasivyj sosnovyj les.*
 they go/DET:PRET through beautiful pine forest:ACC:SG
 'They went through a beautiful pine forest.'

Example 2a represents the incorporated modifier function where *lesom* is supposed to be incorporated into the verb, which in this case is the determi-

nate form of the imperfective pair of the motion verb *idti* (DET)/*xodit'* (INDET) 'walk'. Since all so-called motion verbs in Russian are activity verbs (see Durst-Andersen 1997) and since the activity reading is one of the main attributes of incorporating constructions, we may continue our search for further evidence. We find in 2b that this type of construction does not allow a qualitative adjective in an attributive function – it does, however, allow a relational adjective as shown in 2c. In other words, it allows an adjective performing a RESTRICTIVE function (cf. 'PINE forest'), but not an adjective performing a DESCRIPTIVE function (cf. 'BEAUTIFUL forest'). This is in contrast to its alternate with *les* 'forest' in the accusative where there are no restrictions at all (cf. 2d). The natural conclusion to be drawn from these pieces of evidence seems to be that 2a represents an incorporating construction that can be said to have the following meaning, 2a'.

- (2) a'. They produced a goal-directed **forest**-walking activity.

The ungrammaticality of 2b and the grammaticality of 2c appear from the following paraphrases, see 2b' and 2c'.

- (2) b'. *They produced a goal-directed **beautiful** forest-walking activity.
 c'. They produced a goal-directed **pine**-forest-walking activity.

The incorporating construction accepts an attribute with only the semantic macro-role SPACE, i.e. *forest*, within its scope (restrictive function), but it does not accept an attribute with the entire *forest-walking activity* within its scope (descriptive function).

1.3. EXAT' POEZDOM 'TO GO BY TRAIN'. If 2a has the status of an incorporating construction, then 3a must also have that status.

- (3) a. *On exal poezdom.*
 he drive/DET:PRET train:INST:SG
 'He went by train.'
 b. **On exal komfortabel'nym poezdom.*
 'He went by a comfortable train.'
 c. *On exal nočnym poezdom.*
 'He went by the night train.'

- d. *On exal v Moskvu na komfortabel'nom nočnom poezde.*
 he drive/DET:PRET PREP Moscow:ACC:SG PREP comfortable night train:LOC:SG
 'He went to Moscow by a comfortable night train.'
- e. *On exal mašinoj/*velosipedom.*
 'He went by car/*by bicycle.'
- f. *On exal na mašine/velosipede.*
 'He went by car/by bicycle.'

The constructions in 2a and 3a are identical if we disregard that 2a involves the semantic macro-role SPACE, while 3a concerns the semantic macro-role MEANS (as in 1a). It appears from 3b and 3c that this construction, too, tolerates only an adjective used restrictively (cf. 3c), not one used descriptively (cf. 3b). Its alternate 3d accepts adjectives used in both functions. It is interesting to note that the incorporating construction seems to denote a kind of Passenger Role in opposition to its alternate that is associated with a more active kind of role. Not only is the incorporating construction excluded for vehicles that do not take passengers (cf. **velosipedom* in 3e), but 3f has only one reading, namely that the person himself was the active force behind the activity – he was the driver. This means that 3a should be paraphrased as in 3a'.

- (3) a'. He was engaged in a goal-directed **train**-produced activity.

It also means that we can apply the same kind of explanation to 3b and 3c as we did in 2b and 2c, cf. 3b' and 3c'.

- (3) b'. *He was engaged in a goal-directed **comfortable** train-produced activity.
 c'. He was engaged in a **night**-train-produced activity.

As we see, the broad scope of *comfortable* makes 3b' more or less meaningless, whereas the narrow scope of *night* makes 3c' quite acceptable – as a matter of fact, it depicts the meaning of 3c. If its alternate 3f is paraphrased, we get 3f'.

- (3) f'. While in his car/on his bike he produced a goal-directed activity.

It appears that 3f' involves a description of the Actor and of the place from

which he is producing the given activity. The place itself is signaled by the locative case.

1.4. *RABOTAT' INŽENEROM* 'TO WORK AS AN ENGINEER'. Turning to 4a we observe yet another construction which can be ranked as an incorporating construction.

- (4) a. *Ona rabotatet inženerom.*
 she work:IMPF:PRES engineer:INST:SG
 'She works as an engineer.'
- b. **Ona rabotaet umelym inženerom.*
 'She works as a good engineer.'
- c. *Ona rabotatet glavnym inženerom.*
 'She works as a leading engineer.'

Once again our 'descriptive-restrictive' test supports our claim: 4b with a qualitative adjective is ungrammatical, while 4c with a relative adjective is grammatical. Here we are not dealing with the semantic macro-roles of SPACE or MEANS as in 2a and 3a, respectively, but with the semantic macro-role of INHERENT PROPERTY. That is to say, the sort of activities performed by the person in question is defined by the job itself – it is an inherent property of the job and thus a specific quality of the person having the job. 4a asserts that the female person has the quality of being an engineer when she performs her activities at the job. 4c is grammatical because one can be hired as a leading engineer and against this background perform the required activities. 4b is ungrammatical because one cannot simply be hired for a job with the title 'good engineer'. These facts appear from the paraphrases in 4b' and 4c'.

- (4) b'. **She produces good engineer-defined activities.*
 c'. *She produces leading-engineer-defined activities.*

Example 4b' is odd-sounding because *good* involves only a broad scope reading, whereas 4c is not odd-sounding at all because *leading* involves only a narrow scope reading.

1.5. *BOLTAT' ČASAMI* 'TO CHAT FOR HOURS'. If 2a, 3a, and 4a are incorporating constructions, then 5a must also be incorporating.

- (5) a. *Oni boltali časami.*
 they chat:IMPF:PRET hour:INST:PL
 'They talked for hours.'
- b. **Oni boltali pjat'ju časami.*
 'They talked for five hours.'
- c. *Oni boltali celymi časami.*
 'They talked for (many) hours.'
- d. *Oni boltali pjat' časov.*
 they chat:IMPF:PRET five:ACC:SG hours:GEN:PL
 'They talked for five hours.'

As it appears from 5b, the construction does not tolerate an exact specification of the hours spent on chatting – if this is necessary, one has to use a construction with a perdurative adverbial as in 5d. The semantic macro-role is TIME.

1.6. *BROSAT' KAMNJAMI* 'TO THROW STONES'. Although the above-mentioned constructions all involve incorporation which is connected to the instrumental, it would be wrong to conclude that all examples with the instrumental are incorporating constructions. Example 6a is one of the exceptions – just as (1b) was.

- (6) a. *On brosal kamnjami.*
 he throw:IMPF:PRET stone:INST:PL
 'He threw stones.'
- b. *On brosal kamni.*
 he throw:IMPF:PRET stone:ACC:PL
 'He threw stones.'
- c. *On brosal kryglymi/krasivymi kamnjami.*
 he throw:IMPF:PRET round/beautiful stone:INST:PL
 'He threw round/beautiful stones.'
- d. **On brosil kamnjami.*
 he throw:PF:PRET stone:INST:PL
 'He threw stones.'

- e. *On brosil kamni.*
 he throw:PF:PRET stone:ACC:PL
 'He threw stones.'

Although 6a with the instrumental looks like a genuine example of an incorporating construction because it alternates with a construction with a direct object (cf. 6b), it is, nevertheless, an illustration of something else. This appears clearly from the fact that 6c allows an adjective used in its descriptive function – quite contrary to all the above-mentioned examples. I argue that 6b with the accusative represents an action, i.e. it involves a description of activity as well as a description of state. In 6b, involving the imperfective form of the verb, the description of state is not asserted. It is, however, asserted in 6d involving the perfective verb. 6a with *kamnjami* represents an activity and as such it involves only a description of activity. This is the reason why it has no genuine perfective partner (cf. 6d which is completely ungrammatical). The construction in 6a could be called an ANTIPASSIVE, a construction type known from ergative languages which changes descriptions of action into descriptions of activity. This amounts to saying that the instrumental noun in 6a should not be regarded as an adverbial but as an oblique object.

1.7. FINAL REMARKS. In 1a-5a with the instrumental case we are not dealing with loss of argument status, because there is no alternation between a direct object construction which represents an action (cf. Dan. *Han læste bøgerne* 'He read the books') and an incorporating construction which represents an activity (cf. Dan. *Han læste bøger* (lit.) 'He read books'). Here we are dealing with four activity constructions which all alternate with another activity construction, i.e. (a) *idti lesom* 'walk through a forest' (alternating with *idti čerez les*), (b) *exat' poezdom* 'go by train' (alternating with *exat' na poezde*), (c) *rabotat' inženerom* 'work as an engineer' (alternating with *rabotat' kak inžener*), and (d) *boltat' časami* 'chat for hours' (alternating with *boltat' tri časa* 'three hours'). Traditionally they are treated (more or less) as distinct constructions. This is for instance done by Janda within the Cognitive Linguistics framework (Janda 1993). She sets up four 'hyper'-submeanings and ranges (a) and (d) with the 'Instrumental of Setting' (according to Cognitive Grammar 'Time' and 'Space' are – from a conceptual point of view – two sides of the same coin, cf. Talmy 1986:9), (b) with the

'Conduit Instrumental', and (c) with the 'Attributive Instrumental'. Although the four construction types admittedly do not alternate with one and the same type, as we saw above, I argue that they all behave identically from a syntactic point of view and therefore should be subsumed under the same heading.

As already shown, they do not allow the use of attributive adjectives in a descriptive function (**exat' komfortabel'nym poezdom* 'go by a comfortable train') – only in a restrictive function. That is to say, they cannot reduce what at a deeper level appears to be a relative clause (i.e. to go by a train *that is comfortable*) to an attribute (i.e. to go by a *comfortable* train). This is, however, not the only piece of internal evidence for arguing that we are dealing with incorporating constructions. There are two further pieces of evidence as should appear from the following two pairs of examples, 7 and 8.

- (7) a. *On edet poezdom.*
 he go/DET:PRES train:INST:SG
 'He is going by train.'
- b. **Smotri! On edet poezdom.*
 look:imp he go/DET:PRES train:INST:SG
 'Look! He is going by train.'
- (8) a. *On exal tem samym poezdom, kotoryj opozdal na dva časa.*
 'He went exactly by that train that was two hours delayed.'
- b. **On exal poezdom, kotoryj opozdal na dva časa.*
 'He went by that train that was two hours delayed.'

Example 7b, in contrast to 7a, shows that the incorporating construction can not be used referentially, which is another typical feature of incorporating constructions. Example 8a shows that the incorporating construction only admits a relative clause used as an identification – not as a description (cf. 8b). In short, in contradistinction to their various alternates, the incorporating constructions cannot be used DESCRIPTIVELY in the strict sense of this word.

I argue that we are dealing with constructions which, on the one hand, share some of the characteristics that are normally attributed to incorporating constructions, but also, on the other hand, differ by not being detransitivized variants of their alternates. Therefore, I suggest that these construc-

tions be named INCORPORATED MODIFIERS, i.e. they should be understood as a specific subclass of incorporating constructions. Thus within this subclass we may differentiate four variants of the instrumental incorporation device, viz. (a) Space, (b) Means, (c) Inherent Property, and (d) Time.

2. FROM THE INSTRUMENTAL VIEWPOINT TO THE SYNTACTIC NOTION OF INCORPORATION. In contradistinction to the two direct cases, i.e. the nominative and the accusative, the three oblique cases, i.e. the genitive, the dative, and the instrumental, do not involve pure or absolute existence, but MODAL or RELATIVE EXISTENCE. This means that the oblique cases all presuppose an object of comparison or, to put it differently, involve a relative or correlative viewpoint.

The instrumental can be said to presuppose the existence of the two other oblique cases since its viewpoint is not relative, but CORRELATIVE, i.e. it denotes an interrelationship between something near, A, and something distant, B. This means that someone ("X") is located by something near, A, but is looking at the relationship between A and something distant, B, from an external point of view, i.e. from the point of view of a totality. In other words, X's location point (marked "(X)") and vantage point (marked "x}") do not coincide, the latter being placed completely outside A and B. The result is that we leave the level of comparison where A and B are either identical or non-identical, and instead we enter another level where A is incommensurate with B but nevertheless closely related to B and vice versa. This INTERRELATIONSHIP between something near, A, and something distant, B, can be depicted as in Figure 1.

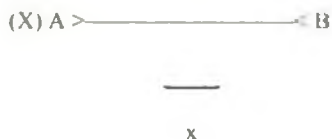


FIGURE 1. The correlative viewpoint.

The prepositions *za* 'behind', *pered* 'before', *nad* 'above', and *pod* 'below' describe exactly such an interrelationship between someone or something near, A, and someone or something else distant, B, and therefore this other person or thing is put in the instrumental case. The same applies to the

preposition *meždu* 'between', e.g. *meždu nami* 'between us', where 'I' is A, the near, and 'you' is B, the distant.

Whereas there are two kinds of relations, viz. those of identity and non-identity, there is only one kind of interrelationship, viz. that of PART-WHOLE or, in more logical terms, INCLUSION:

$$B \subset A$$

The relation of inclusion presupposes a comparison between two entities that are incommensurable, namely a subset (element), B, and the including set, A. In that way it can be stated that the correlative viewpoint (a percept) entails the logical relation of inclusion (a concept). The psychological and physical counterpart of inclusion is INHERENT PROPERTY, i.e. that something is an integral part of somebody (i.e. possessed by smb.) or something else (i.e. is thought of as fulfilling a specific function).

I argue that there is a clear connection between the relation of inclusion and the syntactic function of incorporation. The clear connection between these two notions does not only appear from their almost identical meaning, but also from our paraphrasing technique applied above. In addition to that, the various semantic meanings associated with the incorporation device of the instrumental can be regarded as REFLEXES of the correlative viewpoint, corresponding to specific readings of the so-called macro-roles:

- Spatial reflex: VIA.
- Figurative reflex: VEHICLE.
- Psychological reflex: QUALITY.
- Temporal reflex: INTERVAL.

Let us start with 'Space' (see 2 and 2' below) where the correlative viewpoint of the instrumental case instantiates as VIA, i.e. the spatial interpretation of the interrelationship between something near, A, and something distant, B, see Figure 2.



FIGURE 2. Walking via some place.

- (2) *Oni šli lesom.*
 (2') They produced a goal-directed **forest**-walking activity.

We then proceed to 'Means' which is the figurative interpretation – within actions – of the interrelationship between something near, *in casu* an Agent/Source, and something distant, *in casu* a Recipient/Goal, that is, Means is viewed as something that mediates (or carries) a Patient's 'going' from A to B. Means can, however, also be understood more specifically as VEHICLE, i.e. as something that mediates an Actor's 'going' from A to B – as in ex. 3 which is illustrated in Figure 3.



FIGURE 3. Going by some vehicle.

- (3) *On exal poezdom.*
 (3') He was engaged in a goal-directed **train**-produced activity.

Not only Space (in the shape of VIA) and Means (in the shape of VEHICLE), but also Inherent Property (in the shape of QUALITY) can be used in an incorporating construction with the instrumental case, see ex. 4 and Figure 4.



FIGURE 4. Working as somebody.

- (4) *Ona rabotatet inženerom.*
 (4') She produces **engineer**-defined activities.

QUALITY is here understood as the conditions under which a person is working – outside the time from A to B the person in question does not have that quality.

In 5 we recognize the temporal variant of the instrumental viewpoint which can be illustrated as in Figure 5 and paraphrased as in 5'.



FIGURE 5. Talking for some period of time.

- (5) *Oni boltali časami.*
 (5') They produced **hours**'-of-talking activity.

In other words, just as I see VIA, VEHICLE, QUALITY, and INTERVAL as being four semantic reflexes of the instrumental viewpoint. I see the incorporation device as being the syntactic reflex of the inclusion relation which is a logical concept derived from the viewpoint itself.

3. THE GENITIVE CASE. Let us take a closer look at the genitive constructions which, because they alternate with accusative (and nominative) constructions, seem to be potential candidates for being subsumed under the heading of incorporating constructions, see 9 and 10.

- (9) a. *On vypil čaj.*
 he PF:drink:PRET tea:GEN:SG
 'He drank some tea.'
 b. *On vypil čaj.*
 he PF:drink:PRET tea:ACC:SG
 'He drank the tea/a cup of tea.'

- (10) a. *Ljudej sobralos* '!
 people:GEN:PL gather:PF:PRET:NEUT:REFL
 'A lot of people have gathered!'
- b. *Ljudi sobralis* '.
 people:NOM:PL gather:PF:PRET:PL:REFL
 'People have gathered.'

Example 9a with the GENITIVE OBJECT involves a non-specifiable amount of tea, while 9b with the accusative object involves a specific amount of tea, for instance, what corresponds to a cup of tea. Example 10a with the GENITIVE SUBJECT asserts that a whole lot of people have gathered, while 10b with the nominative subject asserts that many persons have gathered. In the sentences in 11 the function of the genitive seems to be another.

- (11) a. *Mama ne sobljudaet posta*.
 Mommy NEG observe:IMPF:PRES fast:GEN:SG
 'Mommy does not observe the fast.'
- b. *Mama ne sobljudaet post*.
 Mommy NEG observe:IMPF:PRES fast:ACC:SG
 'Mommy is not observing the fast.'
- (12) a. *I:menenij ne nabljudalos* '.
 change:GEN:PL NEG observe:IMPF:PRET:NEUT:REFL
 'There were no changes to observe.'
- b. *I:menenija ne nabljudalis* '.
 change:NOM:PL NEG observe:IMPF:PRET:PL:REFL
 'The changes were not observed.'

Example 11a, with the NEGATED GENITIVE OBJECT, is used to give a characterization – the mother is a person who lacks the property of observing her fast – whereas 11b is used to give a description of situation – she is in fact eating meat. Example 12a, with the NEGATED GENITIVE SUBJECT, states that there were no changes and therefore there was nothing to observe, while 12b states that there were changes, but they were not observed. In other words, whereas 12b is a clear description of situation, 12a is not because there is nothing whatsoever in the utterance that can be said to anchor in a situation: there were no changes, there were no activi-

ties, there was nothing at all. Example 12a must therefore be a characterization of the situation itself.

The question is, Can any of the four examples with the genitive be regarded as candidates for the incorporation device? I shall, in fact, argue that none of them represents an incorporating construction. Although both 11a and 12a involve non-referential entities, a fact that might qualify them as incorporating constructions, the effect of the non-referentiality of the nouns goes far beyond the nouns themselves. In other words, the function of the genitives in 11a and 12a is not to show that the respective nouns are non-referential in themselves, but to show that the entire utterance is non-referential: the utterance as such does not concern a situation in our external reality, but rather concerns the speaker's inner world of thoughts. In short, neither the negated genitive object in 11a nor the negated genitive subject in 12a are used to modify the verb alone, but the entire sentence. It should be noted that the distinction between characterization signaled by the genitive and description of situation signaled by the accusative or the nominative is restricted to negated utterances – the distinction cannot be made within non-negated utterances.

The distinction between 9a and 10a, on the one hand, and 9b and 10b, on the other, seems, however, to bear resemblance to the distinction between a naked object construction and a non-naked object construction. In the genitive construction as well as in the naked object construction we are dealing with the concept of non-individuation – a concept that is close to that of non-referentiality (under negation), but, nevertheless, quite different from it. This will hopefully appear from the next section.

4. FROM THE GENITIVE VIEWPOINT TO THE SYNTACTIC NOTION OF EXCORPORATION. The genitive involves what I shall call an **EXTROVERTIVE VIEWPOINT**, i.e. it denotes a relation or a direction from something near, A, to something distant, B. A is its starting point and B – the object of comparison – its terminal point, see Figure 6.



FIGURE 6. The extrovertive viewpoint.

From this, it is evident why a verb like *dostignut* 'reach' governs the genitive case – it simply denotes an extrovertive direction, i.e. from something near to something distant. The same is true of *s / ot* + GEN ... *do* + GEN 'from ... to': this is also a verbalization of the extrovertive viewpoint.

If someone ("X") is located at A and views B, which is distant, from the point of view of A, which then is near, B is in fact SEPARATED or EXCLUDED from A. X is located in A and views B from A, i.e. location point (marked "(X)") and vantage point (marked "x}") coincide. In that way the extrovertive viewpoint entails the RELATION OF SEPARATION or EXCLUSION, i.e. a special kind of relative existence which says that B is separated from A in a physical sense of this notion, i.e. there is a gap between A and B.

[A] [B]

If there is, and I believe there is, a connection between the logical relation of inclusion (denoted by the instrumental case) and the syntactic concept of incorporation, there might be a connection between the relation of exclusion (denoted by the genitive case) and another (hitherto unrecognized) kind of syntactic device that could be called EXCORPORATION. Let us test this by looking more closely at some of the examined examples again, compare 13.

- (13) a. *Ljudej sobralos*!
 people:GEN:PL gather:PF:PRET:NEUT:REFL
 'A lot of people have gathered!'

 b. *Ljudi sobralis*;
 people:NOM:PL gather:PF:PRET:PL:REFL
 'People have gathered.'

Both examples, by containing perfective action verbs, present an action as an event, i.e. as a state (PEOPLE EXIST AT SOME PLACE) caused by an activity (PEOPLE PRODUCED AN ACTIVITY). The description of state is asserted while the description of activity is presupposed. This means that in 13a as well as in 13b we are interested in the state which the speaker has before his eyes in the shape of a STABLE PICTURE (note that 13a can only be used in this way, cf. the exclamation mark). In the nominative construction, 13b, we are dealing with many people who are seen as individual persons or, in pictorial

terms, people who can be seen individually as SEPARATE FIGURES on the same ground. Example 13b has an imperfective counterpart, given in the present tense in 14.

- (14) *Ljudi sobirajutsja.*
 people:NOM:PL gather:IMPF:PRES:PL:REFL
 'People are gathering.'

In other words, the nominative noun *ljudi* 'people' in both 13b and 14 functions as underlying subject of the description of activity (PEOPLE PRODUCE AN ACTIVITY) as well as the description of state (PEOPLE EXIST AT SOME PLACE). Moreover, the nominative noun *ljudi* 'people' in both 13b and 14 functions as a PRIMARY FIGURE of the unstable picture (as if all of them had a leading role in a movie) as well as a SECONDARY FIGURE (or just figure) of the stable picture (as if all of them were looked at individually). In 13a with the genitive subject we are also dealing with many people, but these people are not regarded as individual persons, but are seen in their entirety, i.e. as a whole or – as I prefer to call it – as a mass. In that way we obtain what could be called GLOBAL VS. LOCAL reference – or *quantified* vs. *non-quantified participation*, as Jakobson (1936) called it, see Figure 7.

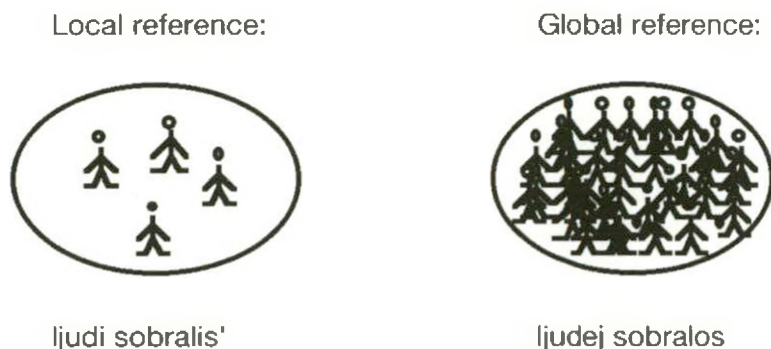


FIGURE 7. Local versus global reference.

What has happened between 13b, the initial construction (local reference), and 13a, the derived one, which cannot be used in the imperfective aspect (global reference)? As I see it, the distinction between the figure and the

ground in the stable picture has been neutralized because many situational kernels (i.e. individual people) were absorbed into a mass (cf. Figure 7). The result is that the entire ground is full of people that cannot be individuated. This is tantamount to saying that in 13a there is no local reference – local reference presupposes individuation. This is the semantic way to explain the use of the genitive. But how do we explain it from a syntactic point of view? What is the syntactic equivalent to the semantic device of FIGURE-GROUND NEUTRALIZATION found in 13a, and what is the syntactic equivalent to the semantic role of Mass?

I shall argue that we are dealing with an EXCORPORATED SUBJECT which involves the syntactic function of EXCORPORATION. This can be explained in the following way. The underlying subject position, i.e. *X*, is removed from the proposition involving the description of state, i.e. *X EXISTS ON L*, thereby leaving the predicate alone, i.e. *EXISTS ON L*. The result is that the noun *PEOPLE* which is left alone because of the removal of the underlying subject position acquires a mass 'nomination' by being attached to the predicate: *There exist people on location*. The function of the genitive, i.e. *ljudej*, is to indicate that the underlying subject position has been EXCORPORATED from the description of state without eliminating the proposition itself. This is important because in the prototypical case of incorporation (cf. *Han læste bøger-Ø* 'He read books' which involves detransitivization of the original action construction *Han læste bøgerne* 'He read the books') the underlying subject of the description of state, i.e. *Y*, is not only excluded from the description of state (*Y EXISTS FOR Z AS AN EXPERIENCE*) and hereafter included into the description of activity (*X PRODUCED Y-READING ACTIVITIES*), but the description of state itself (*Y EXISTS FOR Z AS AN EXPERIENCE*) is eliminated.

The distinction between an excorporated and a non-excorporated element is also found in the position which is normally reserved for the accusative object, as in 15.

- (15) a. *On kupil knig* (GEN.PL).
 'He bought (many) books.'
 b. *On kupil knigi* (ACC.PL).
 'He bought some books.'

The accusative or direct object in 15b denotes books that can be individu-

ated, while the genitive object in 15a denotes a mass of books, i.e. it involves an excorporated object characterized by global reference. This means that the famous pair of examples discussed in Jakobson (1936) should be explained in the same way, compare 16.

- (16) a. *On vypil čajju* (GEN.SG).
 ‘He drank (some) tea.’
 b. *On vypil čaj* (ACC.SG).
 ‘He drank (a glass/cup of) tea.’

There is of course a difference between the previous examples and those under discussion: while *kniga* ‘book’ is a non-mass term, *čaj* ‘tea’ is a mass term. It goes without saying that the concept of mass excludes the application of the distinction between individuation and non-individuation. If, however, this pair of concepts is used in a slightly different sense, it becomes applicable. I shall argue that in 16b we are dealing with a concrete amount of tea corresponding to the glasses or cups that were served or offered to the person in question (there is local reference), while in 16a we are dealing with an abstract amount of tea, i.e. we are not referring to some concrete glasses or cups with tea inside them, but rather to tea as a ‘universal’ container from which some part has been removed (there is global reference). We could also say that in the former case we are dealing with individual reflexes of the mass term, in the latter case with the mass term itself.

5. CONCLUSION. I have tried to show that the concept of incorporation may be applied to the Russian language – if we understand incorporation in a broad sense. Various constructions with the instrumental and the genitive cases were tested, and it turned out that four instrumental constructions could be subsumed under INCORPORATED MODIFIERS, a specific subclass of incorporating constructions, whereas none of the genitive constructions could be said to represent incorporation. Instead, it appeared that it was possible to classify two of them as what I preferred to call EXCORPORATION. The instrumental was connected to the logical relation of inclusion via its correlative, introvertive viewpoint, while the genitive was linked to the relation of exclusion via its relative, extrovertive viewpoint. It was argued that there is a clear connection between the logical relation of inclusion and the syn-

tactic function of incorporation, and, similarly, that there is a clear connection between the physical relation of exclusion and the syntactic function of excorporation.

REFERENCES

- DURST-ANDERSEN, PER. 1992. *Russian aspect and related issues*. Columbus, Ohio: Slavica Publishers.
- 1996. Russian case as mood. *Journal of Slavic linguistics* 4.177-273.
- 1997. De russiske bevægelsesverbers leksikalske og grammatiske struktur. *Svantevit* XIX.25-48.
- FOLEY, WILLIAM A.; and ROBERT D. VAN VALIN, JR. 1984. *Functional syntax and universal grammar*. Cambridge: Cambridge University Press.
- HERSLUND, MICHAEL. 1994. La notion d'incorporation en danois et en français. *Travaux de linguistique et de philologie* 32.7-18.
- JAKOBSON, ROMAN. 1936/1971. Beitrag zur allgemeinen Kasuslehre. Gesamtbedeutungen der russischen Kasus. *Selected writings, II. Word and language*, 23-71. The Hague: Mouton.
- JANDA, LAURA A. 1993. *A geography of case semantics. The Czech dative and the Russian instrumental*. Berlin: Mouton de Gruyter.
- NEDERGAARD THOMSEN, OLE. 1991. Unit Accentuation as an Expression device for Predicate Formation in Danish. *Acta linguistica Hafniensia* 23.145-96.
- TALMY, LEONARD. 1986. The relation of grammar to cognition. *Berkeley Cognitive Science Report*, No. 45.

Complex Predicate Formation and Incorporation. Towards a typology

OLE NEDERGAARD THOMSEN

INTRODUCTION: TOWARDS A DEFINITION OF INCORPORATION. Incorporation is an important, typologically widespread lexico-grammatical phenomenon—not an insignificant wrinkle (however conspicuous) found only with a small number of exotic, polysynthetic languages. Incorporation is important because it casts light on the structure of grammar (lexicon, morphology, syntax; idiomaticity, storage, productivity), on layered semantico-syntactic structure, and on language processing.

INCORPORATION, as the term is used here, covers all sorts of COMPLEX WORD formation constructions, not only complex verbal predicates, like Danish *-læse avis* 'read_newspaper', but also inter alia complex nominal term heads, like Danish *avis-læsning* 'newspaper_reading' (where the hyphen indicates accentual integration by way of stress reduction). The characteristic feature of incorporation is that one element, the constructional head, 'incorporates' another, the constructional dependent: one 'body' (Lat. *corpus*) conquers and thereafter contains another, like a city growing outwards and swallowing up its suburbs. Incorporation, in this view, is functionally a subtype of COMPOUNDING and is thus to be distinguished from derivation and inflection (which have all been proposed to include types of incorporation). A comparable, DERIVATIONAL kind of complex word formation is so-called INDERIVATION found in Eskimo languages (cf. Langgård, this volume).

Thus, in this general formulation, incorporation is not only the MORPHOLOGICAL compounding of a VERB stem with another, dependent stem, word, or phrase, it is also SYNTACTIC compounding, like the Danish example above, and the integration of a NOUN stem with an attribute (e.g. Chukchi; see Fortescue, this volume) or an argument (e.g. Italian; see Korzen, this volume) into a functionally complex word.

Incorporation can be viewed from three perspectives, namely 1) in the

lexico-grammar (as a potentiality), 2) in actual processing, and 3) as part of a text, for it is 1) a matter of lexicalization in the lexicon/a morphosyntactic template in the 'constructicon', 2) a process of complex word formation, and 3) an actual complex word in an actual utterance.

Incorporation is a PANCHRONIC potential of the language faculty, a synchronic 'process' in the languages that possess it, and a diachronic result (possible input to grammaticalization in (in)derivation or inflection—see below).

Incorporation, in its FUNCTIONAL interpretation, is not restricted to (poly-) synthesis: a complex word may be manifested by all three morphosyntactic techniques, viz. lexis, synthesis, and analysis, and may thus be either a lexical incorporation (conflation), a morphological compound (synthetic), or a syntactic 'dis-pound' (analytic).

However, incorporation is not only a morphosyntactic function-technique pair, it also crucially involves the conceptual-semantic and pragmatic levels of linguistic structure: its function is the coding of a unitary concept and the assignment of one informational value for the composite word referent. Often incorporation is accompanied by desemanticization (and grammaticization) of its constituents (auxiliaries, for example, may be former incorporative hosts).

In incorporation with a verbal head, the incorporated dependent is cardinally an inner, verb-central adverbial, either corresponding to a free adverbial or to an internal argument (a SPATIAL 'indirect' object, a direct object, or an unaccusative intransitive subject). Incorporation of an external argument (a PERSONAL indirect object, a transitive subject, or an unergative intransitive subject) is rare and where it occurs it may be evidence of a lack of semantico-syntactic configurationality.

Incorporation typically involves grammatical function changing (it is diathetic), as for example in the case of object incorporation where a bound modifier corresponds to a transitive object.

Analytic incorporation is coded minimally by a) order restrictions on discontinuity between incorporative HOST and dependent CO-PREDICATE (see Korzen, this volume; Nedergaard Thomsen, this volume), or by (lack of) case selection in the dependent (see Herslund, this volume; Durst-Andersen, this volume), and/or b) by prosody (e.g. stress reduction; see below).

A comprehensive set of parameters for a typology of incorporation is proposed. It is hypothesized that the type of incorporation that a given language possesses is consistent with the overall typology of the language in question, both in terms of content and expression. Thus, trivially, analytic—

not synthetic—incorporation is predicted to be predominant in analytical languages (as it is indeed in Danish).

1. PRELIMINARIES: INCORPORATION AND A TWO-DIMENSIONAL MORPHOSYNTAX—FUNCTIONS AND TECHNIQUES. In this section I shall develop a conception of a two-dimensional morphosyntax. This is proposed in order for a functional theory of language and speech to be typologically adequate (cf. Dik 1989, p.1): the same FUNCTION of COMPLEX WORD can be MANIFESTED among the languages of the world not only morphologically, but also syntactically and (perhaps) lexically.

Classical examples of LEXICAL INCORPORATION are the semantic conflations investigated by Talmy (cf. inter alia Talmy 1985), as in the Spanish example in 1.

- (1) Span. *entrar* 'move-into', *salir* 'move-out', *subir* 'move-up', etc.
(closed set of directional verbs)

Here a manner-neutral motion meaning as head 'incorporates' a modifying direction meaning. Spanish is therefore said to be VERB-FRAMED, i.e. both motion and manner are inside the verb 'frame' (cf. Talmy 1991). Danish, in contradistinction, is a SATELLITE-FRAMED language, i.e. a language where the direction component is analytically coded, by a directional SATELLITE, as in 2.

- (2) Dan. *-gå ind* 'go-into', *-gå ud* 'go-out', *-gå op* 'go-up', etc.
(closed set of directional adverbs; open-ended set of motion verbs)

Notice that the motional head is here coded as a destressed MANNER-NEUTRAL verb. A specific manner component is most often also lexically incorporated in Danish, e.g. *spadsere* 'walk'. So-called UNIT ACCENTUATION (Hjelm-slev 1957; Rischel 1983; a better term might be 'one-word stress', Henning Andersen, pers. comm.) is an expression device for analytic incorporation in Danish (cf. Nedergaard Thomsen 1992). Even though English is also satellite-framed, it does not INCORPORATE the directional satellite to the same degree as Danish does: only word order restrictions seem to be present. English therefore only possesses incipient incorporation. It is noteworthy that Danish may code a directive illocution solely by use of the directional adverb, leaving out the (elsewhere incorporating) motional head, as in 3b.

- (3) a. Span. *Sube!* (imperative, major sentence type: 'go up (the stairs)!')
 b. Dan. *Op!* (directional, minor sentence type: '(go) up (the stairs)!')

At this point it will be useful to draw a distinction between incorporation proper and *INDERIVATION*, as found in Eskimo languages (cf. Langgård, this volume). Incorporation, on the dimension of *FUNCTION*, is an instance of compounding, whereas *inderivation* is a kind of derivation. Take the following illustrative examples from Danish (4a) showing prosodically coded compounding and West Greenlandic (4b) showing *inderivation*.

- (4) a. *De -har hund.*
 they INC:have dog:NON-REF (INC incorporation)
 Incorporation: 'They have_dog, i.e. are dog owners.'
- b. *Qimme-qarput.*
 dog_N-have_{N.V}:V_i:INDIC:3PL:S (S intr. subj.)
 Inderivation: 'They have_dog, i.e. are dog owners.'

It is evident that in the Danish example the verb is the head of an analytic construction, modified by the incorporated noun (which is placed in a co-predicate position, cf. Nedergaard Thomsen, this volume). In Greenlandic, on the other hand, the noun is the head of a synthetic construction: corresponding to the verb *have* in Danish is the Greenlandic category-changing derivative (*-qar-*) turning a noun stem into a verb stem (N-V). Both constructions are complex verbal predicates (labeled V2 below) belonging to the semantico-syntactic category verb (V), but differing in the ranking of their internal constituents. The verb is a lexical head (V1) in the Incorporation Construction whereas the derivative in the Inderivation Construction is a semi-lexical grammatical formative.

The V1 head of an Incorporation Construction is somewhat grammaticalized in comparison with a fully contentive lexical V—compare the partial grammaticalization scale in 5.

(5) GRAMMATICALIZATION SCALE

| | | | | | |
|--|--------|---|--------------------|---|----------|
| inderivative | (N-V2) | > | incorporative (V1) | > | normal V |
| GRAM;LEX | | | LEX;GRAM | | LEX |
| (where the components GRAM and LEX show different preponderance (:)) | | | | | |

This scale may be exemplified by the Danish verb *få* 'get' which is either a semi-grammatical, analytic inderivative as in 6a, a semi-lexical, analytic incorporative V I as in 6b, or a fully lexical verb V as in 6c (see Nedergaard Thomsen, this volume).

- (6) a. *Han -fik repareret bilen.*
 'He got repaired the car.' (inderivation: V2)
- b. *Han -fik bilen repareret.*
 'He got (had) the car repaired.' (incorporation: V2)
- c. *Han +fik bilen (,repareret).*
 'He got the car (, which was repaired).' (V)

In 6c the perfect participle is a free modifier (PARTICIPIUM CONJUNCTUM/'predicative attribute')—and the verb is accented (+). In 6b the participle is a bound modifier (incorporated participial predicative) and the verb is de-accented (-). In the periphrastic construction 6a the participle is the head of the construction, the 'get'-verb being an unaccented semi-auxiliary. Danish thus not only possesses analytic incorporation but also analytic inderivation. Notice that the variants of *få* containing the component GRAM are causative-resultative verbs, the LEX *få* a possessive achievement verb.¹

What unites the Greenlandic synthetic inderivation in 4b and the Danish analytic incorporation in 4a is that both constructions function as a pragmatic-semantic unit, a COMPLEX PREDICATE. This status may be conceived of as a variable or parameter whose variants, on the dimension of morphosyntactic function, are inderivation and incorporation, two types of word formation process. The constructions also differ on the dimension of mor-

1. A full grammaticalization scale is found with the verb *have* 'have' in Danish, as in i-iv.

| GRAM | > | GRAM;LEX | > | LEX;GRAM | > | LEX |
|---|---|----------|---|----------------------------------|---|--------------|
| (i) | | (ii) | | (iii) | | (iv) |
| i. <i>Jeg -har repareret bilen.</i> | | | | 'I have repaired the car.' | | (pf. aspect) |
| ii. <i>Jeg må -have repareret bilen.</i> | | | | 'I must have repaired the car.' | | (caus.-res.) |
| iii. <i>Jeg må -have bilen repareret.</i> | | | | 'I must have the car repaired.' | | (caus.-res.) |
| iv. <i>Jeg +har en bil (, repareret ...).</i> | | | | 'I have a car (, repaired ...).' | | (possessive) |

It should not go unnoticed that the presence of a PARTICIPIUM CONJUNCTUM (iv) may be felt strained (and is extremely rare) in contemporary Danish. (It is better with the 'get'-verb than with the 'have'-verb.)

phosyntactic technique, as mentioned above, the Greenlandic iderivation being synthetic, the Danish incorporation analytic.

Danish also has synthetic iderivation, as evidenced by the causative construction in 7a.

- (7) a. *De* *tæmmede* *hestene.*
 they tame:CAUS:PRET horses:DEF
 'They tamed the horses.'
- b. *De* *-giorde* *hestene* *tamme.*
 they INC:made horses:DEF tame:PL
 'They made the horses tame.'

Both the synthetic iderivative expressed by UMLAUT (*tam* 'tame (adjective)' – *tæmme* 'tame (transitive verb)') and the analytic semi-lexical incorporative verb *-gøre* 'make' code that segment of the lexico-semantic structure of an action predicate which indicates an activity produced by an agent plus the causality which triggers a resultant state—compare the bold-faced part of the Role and Reference Grammar style analyses in 8.

- (8) |ACT(X) CAUS STAT-tam'(Y)| (functional variable)
 a. |ACT(X) CAUS|_{ADJ-Vt2}^|STAT-tam'(Y)|_{ADJ} => /umlaut/ 'tam-/
 b. |ACT(X) CAUS|_{V1}^|STAT-tam'(Y)|_{Co-P} => /-gøre/ /tam-

(| is placed around lexico-semantic segments; / is placed around phonological segments; ^ indicates constituency; => connects a lexico-semantic representation with a phonological representation)

On the morphosyntactic function dimension the predicates in 7a-b are complex but differ as to the type of morphological process applied, either (in)derivation or incorporation (composition). And on the dimension of morphosyntactic technique they are synthetic and analytic, respectively. (Notice that umlaut-derivation is not a productive technique in Modern Danish whereas 'dis-pounding' is, conforming to the Danish analytic type.)

To return now to the phenomenon of lexical incorporation mentioned at the beginning of this section, English, as stated there, is typologically a satellite-framed language. However, constructions may also be found where the direction component is not required to be specified in a satellite, cf. 9a-b.

- (9) a. *climb* *a tree*
 a'. *climb* *up* *a tree*
 a''. *climb* *down* *a tree*
- b. *Lassie* *swam* *the river* (= from the sea to the lake)
 b'. *Lassie* *swam* *the English channel* (= 'crossed by swimming')
 b''. *Lassie* *swam* *across the English Channel*

The verb *climb* is a manner-conflating activity verb which may be transitive, as in 9a. It is direction-neutral in 9a, but the direction may be optionally specified by a satellite particle as in 9a'-a''. Likewise, *swim* is or may be a direction-neutral manner-movement verb which may be used transitively as in 9b, so that the object denotes the GROUND (the subject is the FIGURE). The PATH may be either from one end to the other, as in 9b, or across, as in 9b', the latter being specified in the intransitive construction in 9b''. 9a-b are mirror images of the Spanish directional examples in 1 above, where manner is only optional (specifiable by an adverbial gerund, as in *salir corriendo* 'go_out runningly', i.e. 'run out'). These examples—Spanish manner-neutral, English direction-neutral—are not productive word FORMATIONS (conflations), but conceptually complex LEXEMES coded by unitary lexis. There is in fact a problem with respect to the understanding of lexical conflations as instances of incorporation (word formation, expressed by suppletion): it may be that one should restrict incorporation, and word formation in general, to PRODUCTIVE formations, thereby excluding 'static' formations like the lexical conflations in 1, as well as those in 9a-b. Even though 1 and 9a-b are systematic, they are not productive: the set of directional verbal lexemes is a closed set.² Lexical conflations might accordingly be dealt with by a set of STRUCTURE RULES (Andersen 1974; Frellesvig 1995): ((Motion)Direction) in 1, or ((Motion)Manner) in 9a-b. But if this is true, what about the Danish direction incorporations in 2? In Danish, the set of directional adverbs is closed (cf. Harder, Heltoft, and Nedergaard Thomsen 1996), and thus the set of direction incorporations is also closed—with respect to the directional co-predicate.³ However, the few manner-neutral

2. But the set of verbal lexemes coding manner-motion does not seem to be closed (in the same way): there does not seem to be a closed system of manners as there is of directions.

3. [Note on next page].

motion verbs occur in a lexical, open paradigm together with manner-specific motion verbs as well as other manner (non-motion) verbs,⁴ and also these latter verbs must—or at least may—incorporate a directional satellite, if they are to occur in a motion construction. This state of affairs yields the productivity of Danish analytic incorporation, which is thus to be dealt with by a system of GENERATIVE RULES. As mentioned, not only motional manner verbs but also (out of context) non-motional manner verbs may incorporate a directional adverb in Danish, as in 10c.

- (10) a. *Drankeren +bøvsede højlydt.* (pure manner verb)
 drunkard:the belched loudly
 'The drunkard belched loudly.'
- b. *Drankeren +bøvsede højlydt rundt.* (> manner-motion)
 drunkard:the belched loudly around
 'The drunkard belched loudly (while walking) around.'

3. In some instances, there is commutation between directional adverb incorporation and the incorporation of a prepositional phrase, as in 1a-b.

- i. a. *Hun -gik hen til psykologen.*
 'She went over to the psychologist.' (person)
- b. *Hun -gik til psykolog.*
 'She went to (see) a psychologist.' (profession)

In other cases the directional adverb is more or less obligatory. In those instances, the adverb approaches the status of an analytic operator coding the category DIRECTIONAL (cf. Foley and Van Valin 1984, Van Valin 1993).

4. The picture is more complicated since Danish has the following sets, i-iv.

- i. deictic-directional (a is not manner-neutral, b is):
- a. distal/from-here -*gå* 'go/walk (leave here)'
- b. proximal/to-here -*komme* 'come (arrive here)'
- ii. direction&manner-neutral: -*tage* (*gå*) 'take = go (move)'
 (N.B. *gå* is less manner-neutral than *tage*)
- iii. manner-specific: +/-*gå* 'go/walk'
- iv. more specific manner-motion verbs: open set: *spadsere* 'walk', etc.

It seems to be the case that the more focus there is on the manner component the smaller is the tendency to incorporate a directional adverbial, and vice versa. Or, in other words, manner de-focussing seems to be a prerequisite for directional incorporation in Danish. This de-semanticization may be conceived of as incipient grammaticalization.

- c. *Drankeren -bøvsede højlydt rundt.* (directional incorporation)
 'The drunkard (walked and) belched loudly around.'

10a includes a pure manner verb which in 10b is contextually 'coerced' to contain a motional component, due to the presence of a dynamic directional adverb (suggesting motion). Notice that motion in 10b is semantically subordinate—compare the analysis in 10'b.

- (10') a. (Manner)
 b. <((Manner)Motion)> (<,> contextual variant)
 ci. <((Motion)Manner)> (re-ranked contextually)
 cii. ((Motion)Manner) (lexicalized re-ranking)

In 10c, on the other hand, the motion component is semantically ranked above the manner component, as in 10'ci, and the question is whether this state of affairs may also be lexicalized, i.e. whether the motional component may also become lexically incorporated, as in 10'cii. In that case—for some speakers—the verb *bøvse* 'belch' may come to be both a manner verb and a motion-manner verb. The important thing, however, is that the motional interpretation of the manner verb triggers the incorporation of a directional modifier. If 10'c is a true example of productive lexical incorporation, 10'a ~ 10'cii, it is to be dealt with by the production rules of the language.

Danish is characterized, in ordinary usage, by the extensive use of analytic incorporation, DIS-POUNDING. However, in language for special purposes there is a counter-norm of using synthetic incorporation—compare 11a-11a' concerning chicken ethology.

- (11) a. *NE fjer-piller NS.* (DRTV1, News, Jan. 1998)
 NE feather:INC:plucks NS (Vt2, Action reading)
 'NE featherplucks NS.'
- a'. (...) *som ikke fjer-piller så meget.* (DRTV1, News, Jan. 1998)
 which not feather:INC:plucks so much (Vi2, Activity reading)
 '(...) which does not featherpluck so much.'
- b. *NE +piller fjerene på NS.* (Constructed)
 NE plucks feather:(PL):the on NS (VP, Action)
 'NE plucks the feathers of NS.'

It seems that synthetic incorporations denote institutionalized states of affairs, and are 'technical' NAMES of states of affairs of the object domain. This brings us to the controversial matter of whether incorporation belongs in the Lexicon (paradigmatics: naming recognized states of affairs) or in the Syntax (syntagmatics: morphological and syntactic formations). This controversy between lexicalism and anti-lexicalism (Mithun 1984, 1986 contra Sadock 1986) may be resolved by using the distinction between PERFORMANCE and COMPETENCE (in a perhaps unorthodox way). By being names, incorporations are STORED in a PERFORMANCE LEXICON and may be readily accessed in processing (except when they are nonce formations); but by being systematic, productive formations they are also GENERATED by a functional COMPETENCE MORPHOLOGY, and may be processed there (the only possibility for nonce formations).⁵

The kind of morphosyntax that I propose is semantic (semantico-syntactic) – both the dimension of morphosyntactic function and the dimension of morphosyntactic technique are contentive, symbolized phonologically and topologically on the expressional stratum. I conceive of a TWO-DIMENSIONAL MORPHOSYNTAX with underlying conceptual-semantic and pragmatic substrata.

Standard Functional Grammar does not draw the distinction, within morphosyntax, between function and technique. De Groot (1996) mentions a PARAMETRIC VARIATION in the 'expression' of sentence negation: in Hungarian the negator is coded by a separate grammatical word and is analyzed as an operator, whereas in Wambon it is a derivative and is dealt with by predicate formation. However, typological adequacy would require that in both instances negation FUNCTIONS IN THE SAME WAY, namely as an OPERATOR (structural formative) assigned in the process of phrase and sentence formation. In Hungarian it is coded by the analytic technique (because it is a free morpheme in the Hungarian lexis component), whereas Wambon expresses sentence negation synthetically (because the negator is a bound morpheme in Wambon's lexis). Where there is variation there must be a variable, a parameter. In this case the parameter is a morphosyntactic function, the function of sentence negation.

When equating predicate formation with synthetic derivation as does de Groot (1996), following Kristoffersen (1992:151), one inevitably ends up

5. For a recent discussion on the trade-off between storage (lexicalism) and computation (anti-lexicalism), see FUNKNET 1998. The human cognitive system is better at storage than at computation (cf. also Lamb 1993).

with typologically inadequate analyses. A Central West Greenlandic example like 12 (from Kristoffersen 1992:151) is not an instance of ‘proposition-predicate formation’ (as Kristoffersen 1992:152 would have it), but of a derivational coding of sentence formation.

- (12) *Ajurualuartumik ilaa-ssa-nngit-suri-vara.*
 unfortunately take:part-will-not-think:that-DECL:1.SG:A:3.SG:O
 ‘I think that unfortunately he is not going to take part.’

The matrix predicate V (morphosyntactic function) is manifested by a synthetic derivative *-suri-* ‘think that’, the embedded predicate V by a synthetic root/stem *ilaa-* ‘take part’. Notice that the propositional satellite *ajurualuartumik* ‘unfortunately’ is STRANDED in the derivational process—it is outside the extended stem/propositional root. To emphasize the point: sentence formation may be coded not only (cardinally) by the technique of analysis but also by the technique of synthesis. The latter may be the unmarked norm, as in POLYSYNTHETIC languages like Greenlandic. Notice that the ‘pro-drop’ of the transitive subject, A, and object, O, in ex. 12 above are instances of syntactical processes, viz. TERM INSERTION, manifested by inflectional synthesis. The personal desinences code the instantiated argument slots.

The two-dimensional morphosyntax developed thus far can be represented as in Table 1, where the examples supplied in the preceding are tentatively classified.

| FUNCTION | TECHNIQUE | | | |
|--------------|------------|--------------|-------------|----------------|
| | Lexis | Synthesis | | Analysis |
| | | *Compounding | *Derivation | *Inflection |
| Lexicon | 1;9a,b | | | |
| Morphology | | | | |
| *Composition | 1,3a;10b/c | 11a,b | | 2,4a,6b,7b,10c |
| *Derivation | | | 4b,7a | |
| *Inflection | | | | |
| Syntax | 3b | | 12 | 12 6a |

TABLE 1. Two-dimensional morphosyntax: tentative classification of the examples mentioned in Section 1.

I shall not go into further details with the two-dimensional conception of morphosyntax here, except to note that it is important to study the possibly regular types of marked ‘mismatches’ (M) between functions and techniques (presumably dependent on language type), as in Table 2.

| | TECHNIQUE | | |
|------------|-----------|-----------|----------|
| FUNCTION | Lexis | Synthesis | Analysis |
| Lexicon | U | M | M |
| Morphology | M | U | M |
| Syntax | M | M | U |

TABLE 2. Two-dimensional morphosyntax: cross-tabulation of functions and techniques.

2. COMPLEX PREDICATES IN DANISH: THE CASE FOR ANALYTIC INCORPORATION.

2.1.1. THE VERBAL PREDICATE. Let us start our investigation of incorporation by considering the morphosyntactic mismatch between the function of word formation (composition: incorporation) and the technique of analysis—i.e. the case of analytic incorporation, or ‘dis-pounding’, in Danish, whereby a morphological word is coded by an analytic syntagm. A Danish sentence containing a dis-pound is seen in 13a.

- (13) a. *Han -læste avis-Ø.* (activity, incorporation)
 he INC:read newspaper-NON-REF
 'He was engaged in the activity of newspaper reading.'

- b. *Han* +*læste* *avis-en.* (action, transitive)
 he read newspaper-the
 ‘He read/was reading the (totally affected) newspaper.’
- c. *Han* (*sad og*) +*læste i avisen.* (activity, antipassive)
 he (sat and) read in newspaper-the
 ‘He was reading (in) the (partially affected) newspaper.’
- d. *Han* (*sad og*) +*læste* (activity, introversion)
 he (sat and) read
 ‘He was reading.’

The verbal variant *-læse-* ‘read’ in 13a denotes a generic ‘activity’ and the noun a first order entity CONCEIVED OF AS QUALITATIVELY DIFFERENTIATING the activity: the activity of newspaper reading is a kind of reading activity. Thus, the non-referential noun functions as a bound modifier (or ‘specifier’), as an object-like adverbial (\ddot{O}), not a goal term. The construction is accordingly INTRANSITIVE. In contradistinction, the example in 13b shows the verb *læse* in a transitive ‘action’ reading taking a referential direct object noun phrase denoting a first order entity as an object argument term (O). Notice in passing the coding of the determiner word by the synthetic flexive *-en* ‘the=referential-specific-definite’, another morphosyntactic mismatch.

The aktionsart variation between on the one hand the basic action in 13b and on the other the derived activity in 13a,c,d testifies to the existence of a morphological rule (on the level of function) whose input is a paradigmatic lexeme *læse-* ‘read’ denoting an ‘action’ (a telic combination of an activity and a resultant state), and whose output is, either the basic syntagmatic action variant seen in 13b or the derived syntagmatic activity variants illustrated in 13a,c,d. These basic and derived variants are stems in morphological/functional words. Note that in 13b the paradigmatic lexeme and the syntagmatic word stem are connected via an identity projection—i.e. there is no aktionsart difference between them: the virtual action is actualized as an action. In 13a,c,d, the action-denoting lexeme is ‘transformed’ into activity variants (the telicity and resultant state components of the action are defocused). The action variant in 13b is the basic stem morpheme, the activity variant in 13a,c,d the derived stem morpheme. Notice that the different aktionsarts are not expressed (morpho)phonologically but can be deduced from differences in syntactic behavior, e.g. compatibility with telic vs. atel-

ic time adverbials. These AKTIONSART CONVERSIONS, or recategorizations, are reminiscent of gender/countability conversions in Danish nouns, like for instance *øl-Ø* 'beer, common gender/countable' \leftrightarrow *øl-Ø* 'beer, neuter/mass' where the different classifications are coded in gender concord on an accompanying determiner.

So far we have derived two verbal stem morphemes from one underlying transitive action lexeme, viz. the basic transitive action stem and the derived unergative intransitive activity stem. These stems are either input to syntax, as in the derivation of a transitive verb phrase in 13b from the transitive action stem or an unergative verb phrase, as in 13c,d, from the intransitive activity stem, or are further input to morphology, viz. complex predicate formation, yielding the morphological HOST PREDICATE (V1) *-læse-* 'engage in an activity of ___ reading (with a slot for an incorporated 'specifier')'.

Parallelling this, we can conceive of a virtually referential noun lexeme *avis* 'newspaper', derived either as a basic referential nominal stem morpheme as in 13b,c or as a derived non-referential nominal stem morpheme as in 13a. The referential N stem functions as either totally affected, as in 13b, or partially affected, as in 13c. These referential N stem variants are input to syntax, combinable (when syntactically projected as determiner phrases) with the transitive action variant, 13b, and the unergative activity variant, 13c, respectively. The non-referential N stem is further input to morphology, viz. complex predicate formation, yielding the morphological CO-PREDICATE *avis* 'newspaper,non-referential'.

There seem to be two activity verb variants, one EXTENSIONAL, taking a referential, partially affected oblique object, as in 13c, the other INTENSIONAL, combinable with a non-referential 'specifier' copredicate, as in 13a. There are accordingly three goal or goal-like elements, viz. a referential, totally affected O, a referential, partially affected *chômeur* \hat{O} , and a non-referential, incorporated 'specifier' \ddot{O} , giving the GOALHOOD CLINE in 14 (cf. Hopper and Thompson's INDIVIDUATION OF O—Hopper and Thompson 1980).⁶

6. According to Durst-Andersen 1996 an activity (ACT) contains not only an agent (x) but also a virtual goal (y) which is co-present in an entailed state (STAT(y,x)). In 13d this virtual goal is not instantiated. In 13c the agent is conceived of as occurring in relation to a partially affected goal which is expressed by a prepositional phrase, *i avisen* 'in the newspaper', functioning as demoted object, \hat{O} . The actual goal of an action belongs in the resultant state and is a totally affected O, as seen in 13b. In terms of Herslund and Sørensen's

(14) O > Ô > Ö

Corresponding to the three goal variants above are the three diatheses given in 15 (cf. also Durst-Andersen and Herslund 1996).

(15) ACTIVE TRANS. > ANTIPASSIVE INTR. > INCORPORATIVE INTR.
 basic derived derived

Instead of analyzing 13d as an antipassive with an implicit Ô, it is also possible to conceive of it as a special diathesis, INTROVERSION (cf. Lehmann 1991), containing a fourth kind of goal (say, Ø), of the lowest degree: there is no goal present at all, it is solely VIRTUAL, part of the underlying valency (cf. also note 6).

The morphological variants, the stem morphemes mentioned above, are syntagmatic, complementarily distributed variants of the lexemes. The lexemes are then 'underlying', paradigmatic invariants: *læse*- 'read,action' and *avis* 'newspaper,referential'. In addition to the invariants proper, i.e. the lexemes, there seem to be also 'variables': the VARIATIONAL POTENTIAL of the invariants when implemented. These variables will be called ARCHI-LEXEMES. here: *læse* 'read,action/activity' and *avis* 'newspaper,+/-referential'. The archi-lexemes are restrictions on the lexemes' potential as input to different morphological processes.

In terms of morphosyntactic function, the 'assembly-line' of a construction, C, is as in Figure 1 where, in conformity with Functional Grammar, a component termed FUND has been inserted after the lexicon, and where, deviating from Functional Grammar, a component termed TEXT has been inserted for the output of syntax. (Lexemes and simplex morphemes are the limiting case of constructions, according to Construction Grammar.)

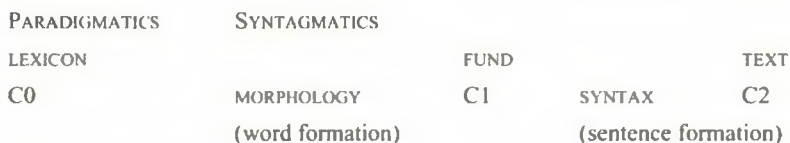


FIGURE 1. The assembly of a construction in functional morphosyntax.

Valency Grammar model, e.g. Herslund 1995, O is a bound 'fundamental' argument, Ô a free argument, and Ö a bound modifier.

There are accordingly two formation components (morphology and syntax) and three 'set' components (Lexicon, Fund, and Text). A lexeme is then an element of the Lexicon set, a morpheme of the Fund, and a syntagm of the Text set.⁷ Specifically, a complex predicate, e.g. an Incorporation Construction, is an element of the Fund,⁸ the result of a morphological competence process. Owing to frequent use and institutionalization an Incorporation Construction is—or may be—stored in the Performance Lexicon. I will come back to this in section 5 below.

Representations in the Lexicon, the Fund, and the Text are triadic signs, i.e. combinations of a content ('meaning') and an expression ('form'). Semiotically, the content side is the SIGN OBJECT, the expression side the SIGN VEHICLE, and the two sides are connected by a SIGN FUNCTION. The expression side has two dimensions, viz. a phonological and a topological, the latter involving word order. The phonological expression is a combined segmental and suprasegmental representation. Thus, the lexicon of a language is triadic, composed of a content sub-lexicon, an expression sub-lexicon, and a sign-functional sub-lexicon (consisting of the inventory of the sign functions of the language). The sign function is the storage address of the lexeme.⁹

The lexeme *læs-* is accordingly 'read V,action' => /'læ:s/, where the lexical accent is assigned by a lexical prosody rule in the expression sub-lexicon (cf. Nedergaard Thomsen 1992:193). The syntagmatic variants of the lexemes, inter alia the complementarily distributed stem morphemes in the Fund, are also signs. The representation of the marked extensional activity morpheme *læs-* is: 'read V,activityM,extens.U' => /'læ:sU/ (where the lexical accent is actualized). The representation of the marked intensional activity variant is: 'read V,activityM,intens.M' => /-læsM/ (where the lex-

-
7. This is not the place to discuss what a text is, in addition to its being an accumulative/incremental, sequential output from syntax.
 8. Notice that in STANDARD Functional Grammar (however not the present version), the Fund not only contains words but also syntagms, e.g. noun/determiner phrases. Thus, there is no clear-cut distinction between morphology and syntax in this theory. Only the Lexicon is a paradigmatic set.
 9. There seems to be external evidence that this conception of the lexicon is correct. Different parts of the brain implement the content side and the expression side, and a CONVERGENCE ZONE between them implements the semiotic functions, cf. Schnelle 1997. It is the sign function which gets distorted in for example acquired dyslexia, cf. Fromkin 1987.

ical accent is suppressed and vowel length reduced according to the Unit Accentuation rule in the morphosyntactic prosody component (cf. Nedergaard Thomsen 1992:194f.). (U stands for unmarked, M for marked.)

Morphology, as is well-known, is recursive: the output of word formation may be input to further word formation, as shown in Figure 2, where two lexemes are first recategorized in morphology, then combined into a composite stem morpheme, an Incorporation Construction.

| PARADIGMATICS | SYNTAGMATICS | |
|--------------------------------------|--------------------------------|---|
| LEXICON | | FUND |
| | MORPHOLOGY | |
| Lexeme (C0) | | Stem morpheme (C1) |
| <i>læs</i> - 'read V,action,extens.' | Recategorization | <i>læs</i> - 'read V1,activityM,intens.M' |
| /ˈlæ:s/ | | /-læsM/ |
| Lexeme (C0') | | Stem morpheme (C1') |
| <i>avis</i> - 'newspaper N.ref.' | Recategorization | <i>avis</i> - 'newspaper N,non-ref.M' |
| /ˈavi:ʔs/ | | /ˈavi:ʔsU/ |
| | | Composite stem morpheme (C1'') |
| | Incorporation (C1^C1'=C1'') | <i>læs</i> -^ <i>avis</i> 'read_newspaper V2 M, activityM' /-læs%ˈavi:ʔsM/ |

FIGURE 2. The assembly of an incorporative stem in functional morphology.

In the phonological representation of the composite, incorporative stem morpheme a 'mirror image' symbol, %, occurs for alternative linearization, head-dependent vs. dependent-head, indicating that the stem may be realized in MORPHOSYNTACTIC TECHNIQUE as either an ANALYTIC dis-pound (head-dependent ordering) or as a SYNTHETIC compound (dependent-head ordering, if it is nominalized, for example *avis-læsning* 'newspaper_reading', or adjectivalized, for example *avis-læsende* 'newspaper_reading').¹⁰

10. A more explicit formalization will contain a more specific indication of the technical manifestation possibilities for each composite stem morpheme. In fact, some composite stem morphemes are only realized synthetically, some only analytically, and others both synthetically and analytically. In the latter case different syntagmatic contexts require or fa-

In the preceding, markedness valuations (U,M) have been included in the semantic and phonological representations. The activity variant of the action lexeme is marked in opposition to an unmarked action variant (in transitive verb phrases), the value 'intensional' of a verb is marked as against 'extensional', corresponding to the valuation in nominals where a non-referential noun variant is marked in opposition to a referential variant. These valuations are operative in the morphosyntactic combinations, in that marked variants are selected and combined with marked variants and unmarked with unmarked, according to the semiotic PROJECTION PRINCIPLE to this effect (cf. Andersen 1991; also Hopper and Thompson's TRANSITIVITY HYPOTHESIS—Hopper and Thompson 1980). The combinations are accordingly orderly UNIFICATIONS. Notice that Figure 2 only includes the phonological expression, not the topological one. Topologically, the incorporated noun is placed in marked positions, in synthesis preverbally (dependent-before-head is marked, deviating from the type-conforming head-before-dependent ordering of Danish), in analysis postverbally, in a copredicate position between two adverbial positions and after the 'normal' object position (cf. Nedergaard Thomsen, this volume). Also notice that the Incorporation Construction in its totality (V2) is marked (it is morphological, which is marked in a 'syntactic' language type) as against a 'normal', EXTENSIONAL transitive verb phrase (VP, which is syntactic).

According to the above proposal, the Fund contains syntagmatic variants of the lexemes: both basic stem morphemes and derived and composite stem morphemes. The latter are generated by productive word formation processes. If such productive formations also function as NAMES—if they denote institutionalized activities, or are otherwise idiomatic (as they often are), and represent conceptual units, they are (also) stored—as if they were MACRO-LEXEMES—in the performance Lexicon (cf. section 1 above), from where they can be accessed directly. In addition to this the composite stem *læs-^avis* 'perform the activity of newspaper reading' includes the option of morphosyntactic realizational technique, viz. synthetic compounding or analytic disponding (note the ordering variable, %, in Figure

vor one or the other possibility; otherwise, there seems to be more or less free variation, the choice of either possibility depending on e.g. stylistic factors. In Danish a DRIFT is observed towards disponding, analytic incorporation, often seen in 'tmetic', discontinuous manifestation of what for other, elder speakers would clearly be synthetic compounding.

2).¹¹ Realizational technique is a prerequisite for the stem's becoming input to further processes of word formation and syntax. Thus the prenominal present participle (as in 16a) and (synthetic) nominalization (action noun, as in 16c) require synthetic realization, whereas hybrid nouns (analytic action nominalizations, as in 16d), past participle (as in 16b), as well as infinitive and finite forms require analytic realization.

- (16) a. *en avis-læsende mand* (**en læsende avis mand*)
 a newspaper:INC:read:PRPTC man
 'a man reading (a) newspaper'
- b. *Han havde læst avis hele dagen.* (**avislæst*)
 he had INC:read:PPTC newspaper whole day:the
 'He had been reading newspaper(s) all day long.'
- c. *Avis-læsning er en nødvendighed.*
 newsp.:INC:read:NACT is a necessity
 'Reading newspapers is a necessity.'
- d. *hans evindelige læsning avis*
 his perpetual:DEF INC:read:NACT newspaper:NON-REF
 'his perpetual reading (of) newspapers'

Accordingly, the two stem variants, the analytic *læs-avis* (disponed, DP) and the synthetic *avis-læs-* (compound, CP), may be analyzed as in 17, where the indexed Co-P indicates positioning in copredicate position.

| (17) CONTENT SUBFUND | SIGN | EXPRESSION SUBFUND |
|------------------------------------|-----------|---------------------------------------|
| | FUNCTIONS | |
| read_newsp.,V2 M,activity M,DP U' | ⇒ | /-læs ... 'avi:?'s _{Co-P} M/ |
| 'read_newsp.,V2 M,activity M,CP M' | ⇒ | /'avi:?'s-læs M/ |

Notice that morphosyntactic technique is taken to comprise both a content side and an expression side (topology and suprasegmentals).

11. The morphosyntactic technique may also imply a content of its own: synthetic implies 'abstract denotation', analytic 'concrete denotation', or the like. This distinction may be suspended, and is so in common innovations (see below).

2.1.2. THE VERBAL PREDICATE IN FUNCTIONAL GRAMMAR, A REVISION. In the above representations of the content sides of lexemes, of their syntagmatic variants, and of the words that are formed from them, I have not used the Functional Grammar (FG) format. Adopting the theory of Functional Grammar, I shall therefore, in the present section, revise my previous representations along FG lines, and in the course of doing so I shall also propose some necessary revisions of FG.

A semantic, 'underlying' representation in FG basically consists of an INDEXED VARIABLE and a RESTRICTOR over this variable—in the case of verbal predicates as in 18.

(18) $(f_i: \text{Pred}_V)$

The indexed variable, f_i , represents the mental entity POSSIBLE REFERENCE, or REFERENT, of the sign. The TYPE of mental entity referred to is conveyed by the different variable symbols of the theory, viz. f, x, e , etc. In 18 we have an f -variable symbolizing a RELATION/PROPERTY, i.e. a ZERO ORDER ENTITY. The Pred_V may be seen as representing the SENSE of the sign (e.g., a complex of semantic features). This sense belongs to a functional morphosyntactic category, here to that of the class of verbs, V —the designation of a verb being a 'processual' subtype of a relation/property. In actual usage, the i -index for possible reference should be replaced by an index, say I , for the ACTUAL/INTENDED REFERENCE, or REFERÉ, which is the individual mental phenomenon of DISCOURSE REFERENT.¹² The speaker uses the sense and referent of the sign in order that the addressee can reconstruct the intended (mental) referé. Paralleling the mental extension of possible reference, signs (may) additionally have a real-world extension, a REFERENCE DOMAIN, i.e. the SET of real-world referents to which the sign is applicable. Furthermore, the speaker imposes onto the sign INTENTIONALITY, i.e. directedness towards the 'real' world (cf. Searle 1983) whereby the referé gets an actual, real-world counterpart, a RELATUM, i.e. an element of the reference domain. In the case of NOMINAL referents, e.g. first order entities (x_1) like

12. That is, the sign as part of language (system) has a possible reference, or REFERENT. As part of speech (usage) it has an actual reference, or REFERÉ. For ease of exposition, this distinction between 'social' and 'individual' reference, is not maintained in the formalization in the rest of the paper.

DOG, a further distinction applies, viz. that of an ‘embedded’ INTENSION which is a property (zero order entity, f_i), like for example DOGINESS, which the non-referential nominal operator ‘profiles’.

The notation of a lexeme should also contain information as to the manifesting morphosyntactic technique. 18 above could be enriched accordingly, as in 19 (the slash symbolizes the manifestation between morphosyntactic function and technique).

$$(19) \quad (f_i: \text{Pred}_V)_{\text{lexeme/lexis}}$$

The inherent aktionsart and transitivity of the verbal predicate have been left out of the notation; they would be represented by verbal operators, as in 20.

$$(20) \quad (\text{TRANS.AKTIONSART } f_i: \text{Pred}_V)_{\text{lexeme/lexis}}$$

The scope of reference of the verbal sign may be specified by an OPERATOR (here abbreviated as p , for predicate operator, e.g. verbal aspect), in the course of word formation, as in 20’.

$$(20') \quad (p_{\text{CAT}} \text{ TRANS.AKTIONSART } f_i: \text{Pred}_V)_{\text{morphology}}$$

Note that the operator content, p , has no potential reference (there is no variable) and thus no actual *referé* and *relatum*, for it is a constant which anchors the potential reference of its scope. However, it does belong to a category in the lexicon (CAT; it is grammatical).

The verbal lexeme has or is assigned a PREDICATE FRAME (potential valency) of its combinatory potential for (inter alia) bound dependents, as indicated in 21, where o represents operators of the bound dependents and VAR stands for a given referent, e.g. a FIRST ORDER ENTITY, x_i .

(21) THE VALENCY OF A LEXICAL VERB

| | |
|------------------|--|
| predicate: | (TRANS.AKTIONSART $f_i: \text{Pred}_V$) |
| predicate frame: | (o VAR) _{BOUND} |

The predicate frame shows which bound dependents—prototypically arguments—the verbal predicate should cooccur with in the actual syntagmatics

(clauses/sentences) to yield a CLOSED, CORE predication. The syntagmatic variant in usage has an instantiated predicate frame/actual valency. The bound dependents are either TERMS (bound arguments: referential, first order entities) or non-terms (bound modifiers: non-referential, zero-order entities). The verbal predicate ASCRIBES the designated property/relation referent, f_i , to the valency-bound term referents, x_i : $f_i(x_i)$.¹³

To return to the sentence in 13b, let us now formalize the predicate and predicate frame of the verbal word *læs-* 'read' in the Fund, designating a transitive action relation between a transitive subject A (the reader) and a transitive object O (the readee), as in 22.¹⁴

(22) THE BASIC SYNTAGMATIC VARIANT OF THE VERBAL WORD *LÆS-* 'READ' IN THE FUND

verbal word: (TR,ACTION TR,ACTION f_i : $læse-v$)_{word/synthesis}

predicate frame: (TOT,REF REF x_i :___)_O (REF REF x_j :___)_A

The morphological aktionsart ACTION and the transitivity value TRANSITIVE are represented as nuclear operators, TR and ACTION, from the sublexicon of grammatical formatives, anchoring the potential reference of the relation denoted by the SYNTAGMATIC verbal stem *læs-*, which is identical to the PARADIGMATIC transitive action lexeme *læs-*. The morphosyntactic index 'word/synthesis' means that the morphological word is manifested synthetically. In this case the operators are Ø-desinences fused with the bound stem. The word inherits the aktionsart and transitivity values of the assigned operators.¹⁵

The outermost operator of the argument terms, REF, is redundant—it only means that the x_i 's should be used in their default function, as (build-

13. To the closed, core predication may be added further unbound/free dependents, either terms (free arguments) or non-terms (free modifiers).

14. Notice that I only indicate the macro-roles A and O, following Dixon 1994, not the semantic roles Agent, Patient, etc., which are unimportant for the present discussion.

15. Note that this conception of aktionsart in verbs is parallel to the analysis of nominal gender: the nominal stem (= lexeme) has an inherent gender which is indexed by the thematic vowel, as in Lat. *femin-a* 'woman' where the *-a-* assigns the root to the 1st declension class (which exceptionally also includes masculines like *agricola* 'farmer'). In many Australian aboriginal languages, for example, transitivity is shown explicitly by bound morphemes.

ing up) referring expressions (first order entities). The O referent is ‘bound’ by a semantic component TELIC inherent in actions: O should be totally affected and is assigned a totality operator (abbreviated TOT). The distinction between the O and the A argument is one of internal and external argument, respectively. Internal arguments, i.e. O and intransitive subject, S, are semantically closer to the verbal predicate than external arguments (cf. Keenan 1984); they form a constituent with the verbal predicate, a PREDICATION BASE, and are also in other respects FUNDAMENTAL to the constitution of a sentence (cf. Herslund 1995).¹⁶

The ‘extensional’ activities in 13c-d employ both a derived predicate and predicate frame, as in 23.

- (23) THE DERIVED ‘EXTENSIONAL’ ACTIVITY VARIANT OF THE VERBAL WORD *LÆSE*- ‘READ’
 verbal word: (INTR,ACTIVITY,EXTENS TR,ACTION f_i : læse-v)_{word/synthesis}
 pred. frame: (REF REF x_j :)_{Sa} (PART,REF REF x_i :)_O

The representation in 23 indicates a word which involves an aktionsart-transitivity recategorization. The input aktionsart and transitivity belong to the paradigmatic lexeme, the output to the syntagmatic variant, the word. Notice that the underlying valency is ‘transformed’ from <O,A> into <Sa, \hat{O} >, i.e. the O argument is demoted and assigned the operator PARTIALLY AFFECTED (PART), the A argument remains external, however, as an unergative intransitive Sa. A predicate thus ‘antipassivized’ has no internal argument (fundamental relation—cf. Herslund and Sørensen 1994). Notice that I do not intend this to mean that an ACTUAL O BECOMES an \hat{O} , but rather that a VIRTUAL O in the paradigmatics is related to an actual, oblique \hat{O} in

16. The ARGUMENT STRUCTURE, i.e. the priorities of the arguments, is derived from the EVENT STRUCTURE of the aktionsart. Thus, in actions, the status of O as an internal and of A as an external argument is derived directly from the event structure:

| | | |
|------------|----------------|------------------------|
| ((TELIC) | STATE(xi)Pat) | ACTIVITY(xj)Ag)Action |
| | → internal O | → external A |

where the semantic component TELIC is head, state is ‘complement’, and activity is ‘specifier’ of the event structure. The Patient belongs to the complement state, yielding the internal O, the Agent belongs to the specifier activity, yielding the external A. Transitivity is a functional category which relates the activity Agent to the state Patient (cf. Durst-Andersen 1992): TR(ACTION f_i)(xi)O:Pat (xj)A:Ag

the syntagmatics, and that an actual *O* would stand in opposition to this actual oblique \ddot{O} in a parallel sentence. In section 2.1.1 I introduced the concept of an ARCHI-LEXEME: a given lexeme includes information about its REALIZATIONAL POTENTIAL in syntagmatics, in this case a verb's transitivity-aktionsart categorizations and its derivative valency frames, as in 24.

(24) THE ARCHI-LEXEME *LÆS*- 'READ'

(<TR, ACTION>U ~ <INTR, ACTIVITY>M TR, ACTION f_i : læs-v)

<O, A>U ~ <Sa, \ddot{O} >M

The virtual categorization and potential valency of the lexeme is actualized as different words with different valencies, conforming to the possibilities sanctioned by the archilexeme. If the lexeme is not neutral in its inherent categorization, its manifestation by words is either an 'identity' transformation (i.e. a basic variant), or an 'elaborative' transformation (i.e. a derived variant). The derived variant is conceptually more complex than its basic opposite number because of the tension between the underlying specification and the actual categorization.

When comparing antipassivization (with an \ddot{O}) and object incorporation (with an \ddot{O}), with respect to a normal core object-verb construction, it is obvious that, in distinguishing three layers of a clause, viz. NUCLEUS, CORE, and PERIPHERY, the normal object is core, the antipassivized 'object' is peripheral, and the incorporated 'object' is nuclear, as in 25.

(25) OBJECT INCORPORATION, COMPARED WITH ANTIPASSIVIZATION

| <u>Nucleus</u> | | <u>Core</u> | | <u>Periphery</u> | Layer |
|----------------|---|----------------|---|------------------|--------------|
| \ddot{O} | ← | <i>O</i> | → | \ddot{O} | Macro-role |
| Bound modifier | | Bound argument | | Free argument | status |
| intensional | | extensional | | extensional | Aktionsart |
| Activity | | Action | | Activity | |
| intransitive | | transitive | | intransitive | Transitivity |

An incorporative Nucleus (V2) has two layers, a POLE for the incorporating verb (V1) and a NUCLEON for the incorporated NP (IN). The Pole is HOST PREDICATE, the Nucleon COPREDICATE. The incorporated nominal is a valen-

cy-bound modifier (as in 25). The host predicate denotes an 'intensional' activity, requiring a non-referential 'object' (\bar{O}), as in 26.

(26) THE DERIVED, INCORPORATIVE VARIANT OF THE VERB *LÆSE*- 'READ'

verbal word: (INTR,ACTIVITY,INTENS TR,ACTION

f_i : læsc-v₁)_{word/synthesis}

pred. frame: (+REF REF x_i : $\bar{}$) \bar{O} (REF REF x_j : $\bar{}$)_{Sa}

The above formalization, however, does not show directly the UNITARY STATUS (V2) of an incorporative predicate. Therefore, I propose that a SEPARATE REFERENT is needed for the complex predicate, say a variable f_k , resulting from the unification of the referent of the host predicate, f_i , and that of the copredicate, f_j (notice that the application of the operator \div REF to a first order referent, x_i , results in a zero order referent, f_j), as in 27.

(27) (... f_k : ((... f_i : Pred_{V1}) : (... f_j : (+REF ... x_i : $\bar{}$)) \bar{O})_{V2})_{word}

The idea is that the referent of the incorporative predicate (V2), f_k , is a function of the referent of the host predicate, f_i , specified (hence the colon) by the referent of the copredicate, f_j , as already proposed in section 1.

In section 2.1.1 I suggested that incorporation be understood as a DIATHE-SIS, on a par with active, passive, and antipassive. I shall hypothesize that diathesis is a PREDICATE OPERATOR, parallel to verbal aspect. Whereas aspect concerns the internal 'temporal' profile of a state of affairs, diathesis concerns the 'textual' configuration of the referents of a state of affairs. Although object incorporation resembles passive and antipassive—they all concern the mapping from a predicate (f) to a predication (state of affairs, e)—it is also different: incorporation is an 'internal' diathesis, passive and antipassive are 'external'. Object incorporation is the recategorization of an individual O argument (x_i) as an intensional (\bar{O} , f_j) part of the PARTICIPATUM (f_k). Personal passive is the demotion of the external argument, A, to free argument status (\bar{A}) and the (possible) concomitant promotion of the O argument (secondary topic) to So (primary topic)—in conformity with the reperspectivization of the transitive action from activity focus to resultant state focus. Antipassive is the demotion of the internal argument O to a free argument \bar{O} .

Given the above considerations, 27 may be revised as 27', where an INCORPORATION OPERATOR (Inc) is assigned to the formula.

- (27') (INTR,ACTIVITY f_k : ((Inc,INTR,ACTIVITY,INTENS f_i : Pred_{V1}) :
 (... f_j : (¬REF ... x_i : ____))₀)_{V2})_{word}

The Inc is assigned to the host predicate (V1). The non-referential operator recategorizes a first order entity (x_i) as a zero-order entity (f_j), and a bound argument (O) as a bound modifier (\bar{O}). Incorporation unifies two zero order entities, f_i , f_j , into one zero order entity, f_k .¹⁷

The reader may well have wondered why I have used the somewhat cumbersome notation as in 27-27' above when, seemingly, I could have made do with a more simple and economic formalization, like the one found in standard Functional Grammar, as in 28.

- (28) (... f_i : Pred_V : (... f_j : Pred_X))

The formalization in 28 is an application of attributive term structure to predicate structure (cf. Hengeveld 1992). The reference of the verb (f_i) is narrowed down (hence the colon) by the reference of another, modifying word, e.g. an adverbial (f_j). However, such a notation is needed in the first place for a normal 'attribution' of a modifier to the Nucleus—outside of it, not inside as in incorporation, as illustrated in 29a.

- (29) a. *Han* *+spiste* *hurtig-t.*
 he ate fast-ADV
 'He ate fast.'
 (INTR,ACTIVITY f_i : spise-v: (f_j : hurtigt_{Adv}))¹⁸
- b. *Han* *-spiste* *hurtig-t* (**sin mad*).
 he INC:eat fast-ADV (*his dinner)
 'He did fast_eating.'

17. Note that the instantiation of the term variable (x_i), and derivatively of the modifier variable (f_j), is one of incorporation/compounding, given the instantiation of the host predicate: only fully instantiating the bound modifier does a compound obtain (subsequently storable in the performance lexicon as a macro-lexeme). In 27' the copredicate is part of a valency frame only.

18. Note that the verbal lexeme *spis*- 'eat' occurs in two syntagmatic variants, an activity variant and an action variant, the former intransitive, the latter transitive, as in i and ii respectively.

By analyzing 29b as in 28 we would not capture the semantic difference between 29a and 29b. Both expressions would be analyzed as simple predicates extended by a free adjunct modifying the nucleus. First, the notation in 28 does not capture the fact that only in 29a is the verbal predicate alone the nucleus—the adverbial is outside, belonging to the periphery. Thus, an indication of layered structure is lacking in 28, to distinguish between 29a and 29b. Secondly, in 29b, the adverbial is not a free modifier, but a bound one, needed to make a COMPLETE predicate meaning: the verb is ungrammatical as a predicate without this modifier slot being instantiated. In addition, 29b denotes a (quasi-) institutionalized activity—which should be captured by a separate predicate variable, f_k (resulting from the combination of the variable of the host predicate and the variable of the co-predicate). In all, 29a-b should be formalized as in 29'a-b, where P symbolizes a simple predicate, P' an 'extended' predicate, and P* a complex predicate.

(29') a. ((INTR,ACTIVITY TR.ACTION f_i : spise- v)_P : (f_j : hurtigt_{Adv}))_{P'}

b. (INTR,ACTIVITY f_k :
 ((Inc,INTR,ACTIVITY TR,ACTION f_i : spise- v_1)_{Host} :
 (f_j : hurtigt_{Adv})_{C_U-P}) v_2)_{P*}

The output of incorporation is an intransitive activity variant. In competence, this composite morpheme belongs to the Fund, possibly stored in the performance lexicon as a *MACROLEXEME*.

2.1.3. THE PREDICATION: INTERACTION BETWEEN INCORPORATION AND (OTHER) DIATHESES. In the examples under 13 above, incorporation and antipassivization were shown in non-interacting occurrences—they are in complementary distribution where they concern objects. However, they

| | | | | | | | | |
|-----|--|---------------|---------------|--------------|-----------|------------|---------------|-------------------|
| i. | <i>Han</i> | <i>spiste</i> | (* <i>sin</i> | <i>mud</i>) | <i>i</i> | <i>fem</i> | <i>timer.</i> | (activity, intr.) |
| | he | ate | (*his | dinner) | for | five | hours | |
| | 'He ate (*his dinner) for five hours.' | | | | | | | |
| ii. | <i>Han</i> | <i>spiste</i> | <i>sin</i> | <i>mud</i> | <i>på</i> | <i>fem</i> | <i>timer.</i> | (action, trans.) |
| | he | ate | his | food | in | five | hours | |
| | 'He ate his food in five hours.' | | | | | | | |

The transitive action variant (in ii) is the basic variant, corresponding to the lexeme.

may cooccur, as seen in the examples under 30' and 30'', involving incorporation of two different kinds of motion adverbial into a transitive verb.

- (30) a. *Han bar barnet.* (transitive, active)
 he carried child:the
 'He carried the child.'
- a'. *Barnet blev båret.* (intransitive, passive)
 child:the was carried
 'The child was carried.'
- b. *Han bar på barnet.* (intransitive, antipassive)
 he carried on child:the
 'He was carrying the child.'
- c. *at bære på børn* (intr., antipass., incorp.)
 to INC:carry on children:NON-REF
 'to be carrying children'
- (30') a. *Han -bar barnet rundt.* (trans., act., incorp.)
 he INC:carried child:the around
 'He carried the child around.'
- a'. *Barnet blev -båret rundt.* (intr., pass., incorp.)
 child:the was INC:carried around
 'The child was carried around.'
- b. *Han -bar rundt på barnet.* (intr., antipass., incorp.)
 he INC:carried around on child:the
 'He was carrying the child around.'
- c. *%Barnet blev -båret rundt på.* (intr., pass., antipass.,
 child:the was INC:carried around on inc.) (= pseudopass.)
 'The child was being carried around.'
- (30'') a. *Han -bar barnet hjem.*
 he INC:carried child:the home:DIR
 'He carried the child home.'
- a'. *Barnet blev -båret hjem.*
 child:the was INC:carried home:DIR
 'The child was carried home.'
- b. **Han -bar hjem på barnet.*
 he INC:carried home:DIR on child:the
 '**He was carrying home on the child.'

The transitive verbal lexeme *bær-* 'carry' denotes a non-action, either a state or an activity (i.e. a non-telic, simple situation). By being transitive it deviates from the prototypical mapping of an action on the value transitive. By antipassivization, as in 30b, the aktionsart of this verbal lexeme is fixed as an activity. Notice that the antipassivized state of affairs may be input to incorporation, as in 30c, where the peripheral \tilde{O} 'becomes' nuclear \tilde{O} . (A possible analysis is that the mediating preposition marking the \tilde{O} , viz. *på* 'on', is functionally a morphological formative, but MANIFESTED in the ANALYTIC technique as a preposition: *bære-* 'carry, tr., active' ~ *bære-[^]på* 'be carrying, intr., antipassive'.)

The verbal lexeme *bær-* incorporates a motion modifier in 30'-30''.¹⁹ In 30' the motion modifier *rundt* 'around' is dynamic, non-transitional, in 30'' the motion modifier *hjem* 'home' is dynamic, transitional. Both motion modifiers are combined with the activity variant of the verbal lexeme (because they are dynamic), but the referent of the resulting Incorporation Construction inherits the aktionsart value of the incorporated modifier. In 30'a it is an ACTIVITY because the motion modifier is non-transitional. In 30'b it is an ACTION because the modifier is transitional (involving the addition of telicity and resultant state).

As mentioned above, the referent value of the complex predicate, f_k , is a function of the referent value of the co-predicate, f_j , here the motion modifier. An interesting observation is the ungrammaticality of 30''b. It results from the clash between the activity reading implied by antipassivization and the resultant action reading of the composite, incorporative morpheme *bær-[^]hjem* 'carry home'. The state added by the telic modifier requires a fundamental argument (a core O) in a secondary predication, i.e. the ADJECT RELATION of Herslund and Sørensen (1994), but this argument is demoted by antipassivization to a peripheral \tilde{O} and is thus not free in this core function (presupposing that antipassivization is inside the scope of incorporation).

19. Motional modifiers nearly always trigger incorporation (cf. Harder, Heltoft, and Nedergaard Thomsen 1996; Nedergaard Thomsen 1998b).

By contrast, 30'b is grammatical because the modifier does not add a state requiring an underlying subject of a secondary predication.²⁰ But why can the aktionsart value resulting from the incorporated transitional modifier not be altered by antipassivization from an action to an activity? The analysis implies that the transitional adverb functions as a predicative, and predicatives cannot be predicatives of *chômeurs*. This again implies that the non-transitional modifier above is not a predicative—there is no secondary predication possible.²¹

I have characterized incorporation as a diathesis on a par with passive and antipassive. However, this conception should be modified: elements within a paradigm cannot be combined with one another. Perfect cannot be combined with imperfect in the same verbal form because they are elements of the same paradigm, and the same should apply to incorporation and antipas-

20. Ex. 30'-30'' could be represented as in ii'-ii'' (simplified).

- i. a. (TR,ACTIVITY TR,ACTIVITY fi: bære-V)P (xi:___)O (xj:___)A
 b. (INTR,ANTIP,ACTIVITY TR,ACTIVITY fi: bære-V)P (xj:___)Sa (xi:___)Ö
- ii'. a. (TR,ACTIVITY fk:
 ((Inc TR,ACTIVITY fi: bære-V1) : (DYN,-TRANS fj: rundtAdv))V2)P*
 (xi:___)O (xj:___)A
 b. (INTR,ANTIP,ACTIVITY TR,ACTIVITY fk:
 ((Inc TR,ACTIVITY fi: bære-V1) : (DYN,-TRANS fj: rundtAdv))V2)P*
 (xj:___)Sa (xi:___)Ö
- ii''. a. (TR,ACTION fk:
 ((Inc TR,ACTIVITY fi: bære-V1) : (DYN,+TRANS fj: hjemAdv))V2)P*
 (xi:___)O (xj:___)A
 b. *(INTR,ANTIP,ACTIVITY TR,ACTION fk:
 ((Inc TR,ACTIVITY fi: bære-V1) : (DYN,+TRANS fj: hjemAdv))V2)P*
 (xj:___)Sa (xi:___)Ö

Note that an operator for active diathesis has been left out in the above formulae.

21. That is, there is no copular sentence like the one in ia.

- i. a. **Drengen er rundt-Ø.*
 child:the is around-ADV
 'The child is around.'
- b. *Drengen er hjemm-e.*
 child:the is home-LOC
 'The child is at home.'

sivization, if indeed they are elements of the same paradigm.²² The examples given in 13 conform to this scheme—no two diatheses cooccur. However, it would be possible to incorporate an antipassivized O, as in 13'c.

- (13) c. *Han +læste i avisen.*
 he was:reading in newspaper:the
 'He was reading the newspaper.'
- (13') c. *Han kunne godt lide at -læse i gamle aviser.*
 he liked INC:reading in old papers
 'He liked reading (partially affected) old papers.'

In 30c, likewise, an antipassivized O, \bar{O} , is incorporated, whereas in 30'b the incorporative complex predicate takes an \bar{O} (cf. the active in 30'a), and in 30'c this antipassivized O is 'pseudo-passivized' (note the 'stranding' of the preposition *på* 'on'). These seeming contradictions may be resolved if incorporation is, as it should be, analyzed as an operator, not on the level of syntax (functional sentence formation), but on the level of MORPHOLOGY (functional word formation). This would imply that diathesis 'proper' (passive, etc.) is a SYNTACTIC formative. Alternatively, all diatheses, including incorporation, are morphological operators (which may be manifested synthetically, analytically, or periphrastically) which, however, may have divergent functions. Incorporation, then, is a diathesis with a morphological function, whereas the other diatheses function syntactically. Antipassivization seems to be recategorized in cases of pseudo-passivization: rather than taking an oblique (\bar{O}), the complex predicate variant underlying 30'c, *-bære^rundi^på* 'be carrying around', takes a passivizable core O—the predicate is recategorized from intransitive to transitive.

The above qualifications yield the structure in 31.

- (31) (e: **Diathesis** (f_k : (**Inc** $f_i \dots$: $f_j \dots$)) (x;y))
 Predication Predicate Host Co-P Bound;Free Arg's

This analysis has diathesis proper as an operator on the SYNTACTIC predicate

22. Ex. 30'c shows that PSEUDO-passivization may apply to the output of antipassivization. However, this is only marginally possible—note the percentage sign for variational grammaticality.

(nucleus) with scope over bound (core, *x*) and free (periphery, *y*) arguments, which is a well-known configuration. Active assigns status as subject (primary grammaticalized topic) to the A role, object (secondary topic) to the O role. Passive assigns subject status to the underlying O-role (in personal passives) and *chômeur/oblique/peripheral* status to the underlying A role.

Incorporation is an operator on the MORPHOLOGICAL host predicate with scope over a copredicate (Co-P). There are thus two 'pre-syntactic' layers of the predicate—what was referred to above as the POLE and NUCLEON, respectively. Incorporation presupposes morphological aktionsart and transitivity. The output of the application of incorporation is a morpheme/word stem in the Fund. Analytical incorporation in Danish is manifested by Unit Accentuation of the host predicate, by HEAD MARKING, and a special placement, in copredicate position, of the copredicate, by DEPENDENT MARKING.

Construing diathesis as 'syntactic' and incorporation as 'morphological' might be problematic. Cardinal passive can be understood as the CONVERSE PERSPECTIVE, indicated as ⁻¹, of the causality component of the lexical structure of a transitive action verb (ACTIVITY CAUSE STATE), thus: STATE CAUSE⁻¹ ACTIVITY. The unmarked CAUSE and the marked CAUSE⁻¹ are the representations of prototypical active and passive, respectively. Therefore, even the verbal lexeme may be said to have an INHERENT, LEXICAL (paradigmatic) diathesis. Passive is the TEXTUAL foregrounding of the resultant state and the backgrounding of the causal activity of the aktionsart. Intransitivization is concomitant. Antipassive in a syntactically accusative language like Danish suppresses the resultant state but may involve a 'focusing' on the Patient referent ENTAILED by the activity component, i.e. the referent of the fundamental argument of the suppressed resultant state.²³ I assume that diathesis proper is a syntactic operator which

23. Aspect (according to Durst-Andersen 1992), as well as diathesis, is defined within action verbs: perfective aspect involves assertion of the resultant state and presupposition of the causal activity. Imperfective aspect involves assertion of the causal activity and standard implication of the resultant state. Thus, both aspect and diathesis concern a 'perspectivization' of the semantic components of the lexical structure of action verbs. Notice that the antipassive in cardinal ergative languages is not like the antipassive in accusative languages: it is the converse of a resultative-causative connective, i.e. ACTIVITY RESULT⁻¹ STATE (Nedergaard Thomsen 1994).

has scope over the internal lexico-semantic structure of the predicate—the components of the predicate are ‘visible’ to diathesis, as they are to aspect (compare the previous footnote).

As seen in the above analyses, operators in the present, more ‘dynamic’ version of FG are FUNCTIONAL CATEGORIES in the sense of Thrane (1983). Incorporation takes a (simple) predicate (the host), has scope over its dependent copredicate and delivers a complex predicate of which it is ‘characteristic’.

2.1.3.1. INCORPORATION IN RELATION TO OTHER VERBAL OPERATORS; RECURSIVE INCORPORATION; INTER- AND INTRA-LEVEL DEPENDENCIES. It was argued above that incorporation may be conceived of as a morphological (word formation level) diathetic operator which in the case of argument incorporation (typically O) ‘prevents’ a bound argument from being EXTERIORIZED (Lehmann 1991), i.e. from being instantiated by a referential first order term, but requires a zero order INTENSION to occur as a bound modifier. In this sense incorporation is relation changing (valency transforming). Antipassivization was seen as a syntactic diathetic operator which changes a bound O argument into a free, oblique Ô argument. Furthermore, there is a paradigmatic option between non-incorporation and incorporation, just as there is between active transitive and antipassivization. The distinction between the two types of process was that incorporation is a word formation process (generating a complex predicate) whereas antipassivization is a sentence formation process (generating a predication variant). Both constructions are GRAMMATICAL CONSTRUCTIONS—they are signs, but whereas incorporation is both head and dependent marked, Danish antipassivization is only dependent-marked (involving a mediated, or DISTANTIATED object, Lehmann 1991). Incorporation is Janus-faced: it is part of word formation but has an additional impact on sentence formation (via valency). It was also shown that incorporative complex predicates may be input to syntactic diathesis, like the active-passive alternation.

In this section, we shall delve deeper into the behavior of incorporation. Let us start out with some examples involving ditransitive verbs (and the Dative Alternation) interacting with Object Incorporation, as seen in 32.

- (32) a. *Han -gav hende blomster.*
 he INC:gave her flowers:NON-REF
 'He gave her flowers.'
- b. *Hun blev -givet blomster.*
 she was INC:given flowers:NON-REF
 'She was given flowers.'
- c. **Blomster blev -givet hende.*
 flowers:NON-REF were INC:given her
- c'. *Der blev -givet hende blomster. (Dative)*
 there were INC:given her flowers:NON-REF
 'Flowers were given her.'
- d. *Han -gav blomster til hende. (Dative Shift)*
 he INC:gave flowers:NON-REF to her
 'He gave flowers to her.'

32c shows that an incorporated object cannot, at the same time, be promoted to subject (primary internal topic) in a passive—a primary topic has to be referential, whereas the incorporated non-referential constituent must be placed in copredicate position, as in 32c'. 32a-b,d illustrate that incorporation remains constant under passivization, 32a-b, and Dative Shift, 32d. Thus in Danish an indirect object does not require the cooccurrence of a direct object (cf. 32a). This implies that, contrary to the Adject theory proposed by Herslund and Sørensen (1994), an IO is not (necessarily) an argument of a secondary predicate (the Adject relation) of which there is a fundamental argument (e.g. O). The non-referential *Ö* in 32a for example cannot be a fundamental argument (it is non-topical) with respect to the Adject relation. Thus there is no Adject relation in 32a, in the proposed sense. But in Danish an IO seems to be able to be the 'receiver' (beneficiary) of an activity, so to speak. It is important to mention here that the indirect object does not 'usurp' the role of direct object when the latter is incorporated (cf. 32a ~ 32d): the IO of 32a corresponds to the chômeur *ÎO til hende* 'to her' in 32d—not a chômeur *Ô på hende* 'on her', or the like, if the Recipient IO had been promoted to object position.

Incorporation also interacts with the formation of Verbo-Nominal Predicates (cf. Herslund and Baron 1998a,b). A verbo-nominal predicate is a complex predicate with a fairly general host predicate specified by a copredicate which is an OBJECTIFICATION (reification) of a verbal concept,

primarily by way of nominalization, thus ‘verbo-NOMINAL’. Two examples, with the ditransitive verb *yde* ‘contribute’ and the nominalized verb *hjælp* ‘help’, are seen in 33b–33c, the former incorporating the copredicate (as \ddot{O}), the latter retaining it as a normal O. The verbo-nominal predicate of 33b corresponds to the simple transitive predicate in 33a *hjælpe* ‘help’, contracting an UNDATIVE O_1 .

- (33) a. *Han hjalp hende.*
 he help:PAST her
 ‘He helped her.’
- b. *Han -ydede hende hjælp.* (Dative)
 he INC:contributed her help:NON-REF
 ‘(He helped her).’
- b’. *Han -ydede hjælp til hende.* (Dative Shift)
 he INC:contributed help:NON-REF to her
- c. *Han +ydede hende den hjælp, hun havde brug for.*
 he contributed her the help that she needed

Sentence 33c is in a way a hybrid, in that the copredicate (the nominalized verb) is also a referential, bound argument term (O) rather than a bound modifier (\ddot{O}). Referential verbo-nominal predicates seem to be the loosest kind of SYNTACTIC complex predicates (see section 2.1.4).

Incorporation may also interact with the semi-diathetic, syntactic operation APPLICATIVE (cf. Herslund 1995b), seen in 34.

- (34) a. ACTION, TRANSITIVE
Han +plantede roserne i haven.
 he planted roses:the in garden:the
 ‘He planted the roses in the garden.’
- b. INCORPORATION: ACTIVITY, INTRANSITIVE
Han -plantede roser i haven.
 he INC:planted roses:NON-REF in garden:the
 ‘He planted roses in the garden.’

c. APPLICATIVE: ACTION, TRANSITIVE

Han be-+plantede haven med roserne.
 he APPL-planted garden:the with roses:the
 'He planted the garden with the roses.'

d. APPLICATIVE INCORPORATION: ACTIVITY, INTRANSITIVE

at -beplante haver med roser
 to INC:APPL:plant gardens:NON-REF with roses

34a denotes a figure-ground relationship between a core O (figure) and a core IO_{Loc} (ground). The O may be incorporated as an *Ö*, as in 34b. Nevertheless, the IO_{Loc} is still the location for the activity, i.e. there is no adjunct relation, as in 32a above. The locational relationship may be inverted, as in the applicative construction in 34c where the former IO becomes an undative O_i. This inversion 'antipassivizes' the former O as *chômeur* *Ô* (indicated by the instrumental preposition *med* 'with'). Note that Danish applicatives are manifested 'technically' by the synthetic technique derivation.

Cases were given above where morphological incorporation interacts with syntactic diathetic processes. However, incorporation may also occur recursively in RECURSIVE INCORPORATION, one incorporation process being input to yet another one, as in 36.

- (35) a. *Han -rev en væg ned.* (Disponding inc.)
 he INC:pulled a wall. down
 'He pulled down a wall.'
- b. *%Han ned-rev en væg.* (Compounding inc.)
 '(do.)'
- (36) a. *Der -ønskes ned-revet en væg.* (Twin Nuclei)
 there INC:wish:PASS down-INC:pulled a wall
 'A wall is wished pulled down.' (thetic)
- b. *Der -ønskes en væg ned-revet.* (Incorporation)
 there INC:wish:PASS a wall down-INC:pulled
 '(do.)'
- c. *En væg -ønskes ned-revet ____.* (Twin-Nuclei)
 c'. *En væg -ønskes ____ ned-revet.* (Incorporation)
 '(do.)'

- d. *Der -ønskes -revet en væg ned.* (Incorporation)
 there INC:wish:PASS INC:pulled a wall down
 '(do.)'
- e. *Der -ønskes en væg -revet ned.* (Incorporation)
 there INC:wish:PASS a wall INC:pulled down
 '(do.)'
- f. **Han -ønsker nedrevet en væg.* (Twin-Nuclei)
 he INC:wish down:INC:pulled a wall
 'He wishes pulled down a wall.'
- g. *Han -ønsker en væg nedrevet.* (Incorporation)
 g'. *Han -ønsker en væg -revet ned.* (Incorporation)
 '(do.)'
- h. **Han -ønsker -revet en væg ned.* (Twin-Nuclei)
 he INC:wish INC:pulled a wall down
 '(do.)'

The examples in 35-36 above all involve incorporation, either compounding, 35a, or disponding, 35b, and some of them not simple incorporation but recursive incorporation, as in 36. The first example of recursive incorporation is 36b. It contrasts with 36a, which may be an instance of inderivation (cf. section 1): if the object in 36a is not right dislocated but is positioned in its normal O-position, the perfect participle *nedrevet* 'pulled_down' is in normal non-finite head V position, and the finite main verb *-ønskes* is in finite (auxiliary) v position. Accordingly, the main verb must be semi-grammatical. However, another analysis is possible and plausible. The finite verb is not semi-grammatical but is a syntactic head, NUCLEUS, thus fully lexical, so that there are TWO NUCLEI of the (complex) clause, viz. the finite and the non-finite. Technically, the finite verb represents a 'matrix' and the non-finite an 'embedding', the embedded nucleus thus being dependent on the governing matrix. Functionally, however, there seems to be a 'double dependency' between the two verbs. The construction is accordingly a TWIN-NUCLEI Construction (cf. section 2.1.4). The difference between the two analyses is one of degree of grammaticalization of the finite verb. An auxiliary is grammaticalized/desemanticized whereas the finite verb in a Twin-Nuclei would not be grammaticalized. Notice that the active form of the finite nucleus is not possible in the Twin-Nuclei construction, as in 36f,h. The active of the finite *ønsker* 'wish' requires an Incorporation Construction manifested as an ACCU-

SATIVE CUM PARTICIPLE with the participle being copredicate of a complex predicate and secondary predicate in a secondary predication, as in 36g-g'.

Having now seen the morphological operator Incorporation in interaction with operators of 'external' diathesis, which are functionally syntactic, belonging to the predicate level, we now turn to its interaction with the predication level, more specifically with operators of tense which in the present version of FG turn a predication into a proposition.

There are different uses of the basic tenses, one of them being the generic use. The generic use of the present tense is found in generic statements. Incorporation is compatible with generic tense, but active and antipassive is not—compare 37b vs. 37c-37d.

- (37) a. *Løverne* *-æder* *kød.* (Incorporation)
 lions:the INC:eat:PRS meat:NON-REF
 'The (particular) lions eat (particular pres.) meat.'
- b. *Løver* *-æder* *kød.* (Incorporation)
 lions:GENER INC:eat:PRS meat:NON-REF
 'The (generic) lions eat (generic pres.) meat.'
- c. **Løver* *+æder* *kødet.* (active, transitive)
 lions:GENER eat:PRS meat:the
 'The (*generic) lions eat (*generic pres.) the (particular) meat.'
- d. **Løver* *+æder* *af* *kødet.* (antipassive)
 lions:GENER eat:PRS of:ANTI meat:the
 'The (*generic) lions eat (*generic pres.) of the (particular) meat.'

In 37a the speaker observes or imagines some concrete lions eating meat at the moment of speaking. In 37b the present tense is used 'atemporally' to express generic knowledge.²⁴ The problem is whether in the latter case 'activity' is a correct aktionsart description—it might be classified as a state (property), thus roughly, 'the lion is a meat eater'. However, rather than recognizing an aktionsart 'transformation', activity → state, triggered by the generic present, two OPERATORS ON AKTIONART, viz. so-called STAGE LEVEL (*E*: event, accidental, contingent, transitory) vs. INDIVIDUAL

24. Tense in Danish has a significant EVIDENTIAL semantics: simple past may imply direct experience, present perfect on the other hand may imply knowledge obtained by way of reasoning.

LEVEL (*P*: property, essential, permanent), cf. 37'a-b, are recognized (see Tenny and Pustejovsky 2000).

- (37') a. **Spec_Prs** *e* (E,ACTIVITY f_k : (Inc ...)Host (-ref)_{Co-P})**P*** (**±gen**)_{Sa}
 b. **Gen_Prs** *e* (P,ACTIVITY f_k : (Inc ...)Host (-ref)_{Co-P})**P*** (**+gen**)_{Sa}

37b accordingly concerns an activity ATTRIBUTED AS A PROPERTY to a class of individuals, here in the generic plural form of the subject. Observe the operator harmony in the two examples, as indicated in 37', in boldface. The genericity of the subject and the 'permanency' of the predicate in 37b are selected by the generic tense operator. That is, tense has influence 'top-down' on operator assignment of predicate and subject, 37b, and object, 37c.²⁵

This, secondary aktionsart opposition is also relevant in the analysis of existential/locational state incorporations (stage level, E) in Danish, as in 38b.

- (38) a. *Skabet +er op-pe på loftet.*
 cupbord:the is up-POSITION on attic:the
 S_o (P,STAT f_i)_P IO_{Loc}
 'The cupbord is (has its proper place) in the attic.'
- b. *Hans -er op-pe på loftet.*
 Hans INC:is up-POSITION on attic:the
 S_o (E,STAT f_k : (Inc,STAT f_i)_{Host} (...)Co-P_{Loc})**P***
 'Hans is upstairs (e.g. cleaning the attic).'

The distinction between E- and P-operators seems to be neutralized in actions which are only stage level, as in 37e.

25. This is in conformity with an analysis of the clause as having two heads, viz. the interpersonal locutionary force, *Fi*, as superordinate and the representational verbal nucleus, *fi*, as subordinate. Tense is a mediator between the representational level of the clause (the *e* determined by the *fi*) and the interpersonal level (the E, speech event, determined by the *Fi*), but presupposes the interpersonal level for deictic anchoring. I propose that tense and JUDGMENT TYPE (theticity/categoricity, cf. Sasse 1987) are on the same propositional level of the clause and interact. The subject of a generically present clause is generic subject of a GNOMIC categorical judgment.

- (37) e. *Løven +æder kødet.*
 lion:the eat:PRS meat:the
 'The (particular) lion eats (particular pres.) the meat.'

Qualificational copular states are always complex predicates in Danish, the copula being a grammatical (unaccented) host predicate. A present participle of an individual level (P) activity may be used as a copredicate with this type of copula, as in 39a.

- (39) a. *Løver -er kød-ædende.* (complex predicate)
 lions:GENER are meat-INC:eating
 Core Nucleus
 'The (generic) lion is (generic pres.) meat_eating.'
- b. *Løven -er en kød-æder.* (simple predicate)
 lion:the:GENER is a:GENER meat-INC:eater
 Core Nucl Core
 'The (generic) lion is (generic pres.) a (generic) meat_eater.'
- b'. *Løver -er kød-ædere.* (simple predicate)
 lions:GENER are meat-INC:eat:ERS:GENER
 Core Nucl Core
 'Lions (generic) are (generic pres.) meat_eaters (generic).'

The agentive nominalization in 39b-b' seems to be the least activity-like of the above P-descriptions.²⁶

Aspect is another type of operator relevant to incorporation in Danish. It seems that Danish has a (syntactic, ungrammaticalized) aspectual operator distinction between perfective (state focus; unmarked) and imperfective (activity focus; marked). Imperfective may trigger incorporation of the (spatial) IO, as in 40-40'.

26. The reader may have noticed the generic use of the singular and the plural in Danish, cf. *løven* 'lion:the:GENER' and *en kød-æder* 'a:GENER meat_eater' vs. *løver* 'lions:GENER'. The singular is the 'class-as-one' reading, the plural the 'class-as-many'. The 'class-as-one' is somehow a higher-order (uncountable) individual. Notice, in passing, the number concord between the subject and the predicative complement.

- (40) a. *Hun +stillede mælken (ind-e) i køleskabet.* (PERF, ÷INC)
 she put:PAST milk:the in:POSITION fridge:the
 'She put the milk in (position) the refrigerator.'
- b. *Hun -stillede mælken (ind-Ø) i køleskabet.* (IMPF, +INC)
 she INC:put:PAST milk:the into:DIR fridge:the
 'She put the milk into (direction) the refrigerator.'
- (40') a. *Fundet kan +dateres til forhistorisk tid.* (PERF, ÷INC)
 finding:the can date:PASS to prehistorical time
 'The finding can be dated to prehistorical time.'
- b. *Fundet kan -dateres tilbage til forhistorisk tid.* (IMPF, +INC)
 finding:the can INC:date:PASS back to prehistorical time
 'The finding can be dated back to prehistorical time.'

The incorporated transitional particles in 40b-40'b might be said to underline the imperfective aspect assigned to the actional predicates *stille* 'put' and *datere* 'date, assign a date to'. The positional specifier of the locational IO argument in 40a, *inde i køleskabet* 'in the fridge' in a similar fashion underlines the perfective aspect. By denoting a transition between two states the transitional particle focuses on the transition and thereby also draws into focus the activity causing the 'trans-location' (imperfective activity focus), which is coextensive with the first, negative state. When the activity of putting is terminated, the negative state of the milk not being in the fridge is also over, and the second, positive state of the milk being in the fridge obtains. The positional particle, on the other hand, by not denoting a transition between the negative and the positive state, focuses on the positive state signified by the locational IO (perfective state focus).

There is a whole group of 'incorporations' where the transitional particles do not function as (part of) incorporated IOs in imperfectives, but occur as 'incorporated' COMPLETIVE-PERFECTIVE ASPECT operators, as in 40''b.

- (40'') a. *Han +drak.* b. *Han -drak ud.*
 he drank he INC:drank out
 'He was drinking.' 'He finished drinking/drank up.'

40''a may be said to contain the diathesis operator INTROVERSION on the action designated by the lexical verb (cf. also 13d and note 6 above), whereby the O of the action is 'introverted' (becomes Ø—cannot be lexically

instantiated) and the action accordingly recategorized as an activity. If, then, a transitional particle is added and 'incorporated', as in 40''b, the underlying action is (re-)activated, and thus—by profiling the transition—the resultant state is drawn into focus (perfective state focus).

2.1.4. COMPLEX PREDICATES AND THE PREDICATION—'NECTION' AND 'JUNCTURE'. In the introductory section I mentioned lexical incorporation as a kind of (unproductive) pre-lexical 'syntax', only to be understood as the static description of lexical structure (cf. *salir* 'go out' in Spanish). I then described incorporation proper as a kind of productive word formation, i.e. as a morphological process (cf. *-gå ud* 'go out' in Danish), which in terms of morphosyntactic function is not syntactic, i.e. does not concern functional phrase, clause, and sentence formation. In the course of the exposition, complex predicates seemed perhaps in general to be always restricted to the morphological, word level—as always the result of morphological composition. This was not meant to be the case, however, for there are indeed productive complex predicates on the level of SYNTAX (predication structure).²⁷ Two syntactic predicates (output of morphology) may be combined syntactically, for example in so-called CO-SUBORDINATION (cf. Foley and Van Valin 1984) as in 41.

- (41) a. *Han (-)sad og sov.*
 he sat and slept
 'He was sleeping.'
- b. *Han har (-)siddet og (*har) sovet hele dagen.*
 he has sat and (*has) slept all day (long)
 'He has been sleeping all day.'

Here, two situations are described in the same clause, viz. one of sitting and one of sleeping, and it is stated that they occur simultaneously with the same performer (Actor). It is evident that the first predicate, P, in a complex SYN-

27. The lexico-grammatical system of a language is normally taken to be a set of productive rules, but the above description distinguishes between a STATIC sub-system, accounting for lexicon, the ordered inventory of lexemes, describable by non-productive rules (lexical decomposition), and a DYNAMIC sub-system, accounting for morphology and syntax, describable by an (ordered) inventory of productive rules (composition).

TACTIC predicate, P&Q, is in some sense a dependent SETTING PREDICATE (instantiated by a 'situative' verb) on the background of which the second, head predicate, Q, is seen (focal). P is thus subordinated to Q. This is coded in some Danish dialects by deaccenting P, thereby putting Q in profile. But note that this instance of Unit Accentuation is different from the one involved in incorporation proper, in that in incorporation it is the head (host) which is deaccented, and additionally the dependent copredicate is placed in a specific copredicate position. In the above type of SYNTACTICALLY complex predicates, neither the dependent (P) nor the head (Q) is placed in any 'privileged' position—both verbs occur in the non-finite verb position in composite tenses, as in 41b.

Incorporation, as a word formation process, may interact with sentence formation (predication), as seen in 42b.

- (42) i. ii.
- | | |
|---------------------------------|---|
| a. <i>-jage rotter</i> | <i>-jage fede rotter</i> |
| chase rats | chase fat rats |
| 'chase rats' | 'chase fat rats' |
| a'. <i>-jage rotter og mus</i> | <i>-jage fede, grimme rotter og søde, små mus</i> |
| chase rats and mice | chase fat ugly rats and cute little mice |
| 'chase rats and mice' | 'chase fat, ugly rats and cute, little mice' |
| b. <i>+jage og +spise</i> | <i>rotter (og mus)</i> (coordination) |
| chase and eat | rats (and mice) |
| 'chase and eat rats (and mice)' | |

Syndetic coordination is a productive syntactic rule, and thus what is incorporated in 42i.a' is a syntax-level phrase. Also NPs without determiners CONTAINING ATTRIBUTES are clearly constituents of the syntax—compare 42ii.a. That is, an output from syntax may be input to morphology—these two components are clearly feeding one another, interlocked, as illustrated in Figure 3.



FIGURE 3. The relation between morphology and syntax.

42b testifies to the fact that the predicate is the nucleus of the clause and that a syntagm consisting of two coordinated predicates cannot be a host stem in word formation (in Danish, at least). If they could, incorporation would not code a unitary concept of a host and a specifier concept; but, interestingly, as was seen in 42a', a coordinate concept may be copredicate and fuse with the host.²⁸

The following HIERARCHY OF COHESION of Complex Predicates (with the variable f_c) is proposed, cf. 43.

(43) HIERARCHY OF COHESION OF COMPLEX PREDICATES

| <u>Lexicon</u> | | <u>Morphology</u> | | <u>Syntax</u> |
|----------------|---|-------------------|---|---------------|
| f_{cL} | > | f_{cM} | > | f_{cS} |
| (P) | | (P*) | | (P&Q) |

Incorporation proper, i.e. morphological incorporation (f_{cM}), is half-way between lexical conflation/decomposition (f_{cL}) and syntactically complex predicates (f_{cS}). There are thus three different kinds of predicates in syntax, as shown in the hierarchy: lexically simple/basic predicates (P), morphologically COMPOSITE predicates (P*), and syntactically COMBINED predicates (P&Q).²⁹

2.1.4.1. NECTION AND JUNCTURE. Above we saw a distinction between three types of syntagmatically complex predicates, viz. the morphologically incorporating complex word, as in 42a-a', and the syntactically complex predicate, of which latter there was an example of a cosubordination construction, as in 41, and a coordination construction, as in 42b. As regards the

28. Note that morphologically incorporated non-referential objects are often PLURAL, which means that morphological number is indeed a morphological (inflectional) category. Morphological number formation is thus presupposed by incorporation. However, objects specified by numeral words are REFERENTIAL, quantificational syntactic phrases and do not incorporate.

29. Notice that disponds may be less cohesive than compounds, the manifestation technique codetermining cohesiveness. Sweetser (1997) shows that in English compounds are more 'compact' semantically than what corresponds to disponds in Danish: the former only have an 'individual' interpretation, the latter both an individual and a 'role' interpretation in change predicates.

coordination and cosubordination of predicates, the typology of CLAUSE LINKAGE proposed in *Role and Reference Grammar* (Foley and Van Valin 1984; Van Valin 1993) is relevant. In this typology, a distinction is drawn between JUNCTURE, i.e. the levels which are combined, and NECTION, in *RRG* called *Nexus*, the type of combination involved at the given *Juncture*. At the lowest level, a nuclear predicate is combined with a nuclear predicate, as seen above. (Incorporation as a morphological process is then at a pre-syntactic juncture where a host predicate pole is combined with a copredicate nucleon—provided the copredicate is independently predicational, as with predicatives.) *Nection* is concerned with textual COHESION, the predicate nucleus being the lowest level of coherent text.

Grammatical copular verbs are host predicates in complex predicates with adjectival or other predicatives functioning as copredicate. Nevertheless, they are not instances of incorporation IF by this term is understood a requirement of the existence of a related free construction: all grammatical copulae are deaccented and all their copredicate predicatives occur in copredicate position.³⁰ However, they are productive formations. Accordingly, there are two types of morphological composition, viz. incorporation and non-incorporative composition.

There are also lexical, PERSPECTIVIZED copular verbs, combined with complements. Some of the complements are copredicates in copredicate position, having a deaccented host, as in the incorporation construction in 44a, while some are more loosely combined, as in the non-incorporating counterpart in 44b.

-
30. Grammatical copular verbs may be instances of incorporative hosts where a qualificational (and then incorporating) copula variant correlates with an identificational (and then non-incorporating) copula variant. Thus, an argument, in the role of Identifier, can be incorporated as a qualificational copredicate, as in iib.

- i. a. *Han -er den smed som jeg fortalte dig om.*
 he is the smith that I told you about
 ‘He is the blacksmith I told you about.’ (identificational)
- b. *Han -er smed.*
 he is smith
 ‘He is (a) blacksmith.’ (qualificational)

In ib the bare N has a ‘role’ interpretation, whereas in ia an ‘individual’ interpretation is given to the determined NP.

- (44) a. *Han* *-synes* *træt.* (subordination, +INC)
 he INC:seems tired
 Core Pole Nucleon (nuclear complex predicate)
 'He seems tired.' (COMPLEX NUCLEUS)
- b. *Han* *+synes* *træt.* (subordination, ÷INC)
 he seems tired
 Core Nucleus Margin (central complex predicate)
 'He seems tired.' (SIMPLE CENTER)

In so far as the bound modifier in 44b, which denotes an adjectival quality, is not an argument (core) and not a copredicate (nucleon), a layer is needed between the nucleus and the core to deal with this type of complex predicate. I propose to call it MARGIN. The nucleus and margin layer will then constitute a CENTER level. A margin may be instantiated by a 'linked' infinitival grammatical copula construction, as in 45a.

- (45) a. *Han* *+synes* *at -være* *træt.*
 he seems to be tired
 Nucleus Margin=:Nucleus (central complex predicate)
 Core Center
 'He seems to be tired.' (CATEGORICAL judgment)
- b. *Det* *+synes* *som om han -er træt*
 it seems as if he is tired
 Core Nucleus Core=:Clause (core construction)
 'It seems as if he is tired.' (THETIC judgment)

In 45a, a morphological complex predicate, namely the 'marginal' infinitival construction, is linked to a syntactic nuclear predicate to yield a syntactic complex predicate, a CENTER. 45b is an indication that 45a is a RAISING construction: the subject of the matrix in 45a is the subject of the embedded argument clause in 45b. 45a is accordingly a categorical judgment—with a personal subject, and 45b a thetic judgment—with an impersonal subject (cf. Sasse 1987). A HIERARCHY OF SENTENTIAL CONDENSATION is proposed on the basis of these examples, as in 46.³¹

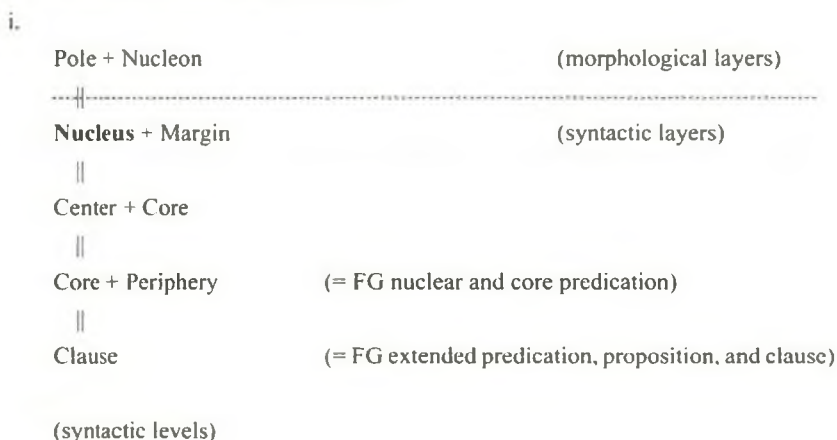
31. Note that 'core' is inconveniently used both for the bound argument LAYER and for the LEVEL established by the nucleus plus the core arguments. The layered structure of the

(46) HIERARCHY OF SENTENTIAL CONDENSATION

| | | | | | | |
|-----------------|---|---------------|---|----------------|---|--------|
| Complex Nucleus | > | Simple Center | > | Complex Center | > | Core |
| (+INC) | | (÷INC) | | (÷INC) | | (÷INC) |
| (44a) | | (44b) | | (45a) | | (45b) |

In the core construction, 45b, the two predicates are separated by a **STRONG** juncture (clausal boundary). In the complex nucleus, 44a, the predicates are integrated morphologically (presyntactically/postlexically). The syntactic section between the nuclear predicate and the marginal predicate in the simple center in 44b is transferred as a morphological section between the polar predicate and the nucleonic copredicate in the incorporative complex nucleus in 44a. The complex nucleus is a **UNITARY CONCEPT** semantically and pragmatically (thus already Jespersen 1897-99). (A referential verbo-nominal predicate, as in 33c in section 2.1.3, also exemplifies sentential condensation: it differs from the complex predicate that comprises a matrix predicate and the predicate of a subordinate clause, the core construction in the hierarchy above, as in 45b, in that the nominalized verbal complement

clause is, in the present conception, as in i.



The layers are the **ULTIMATE** constituents, the levels the **IMMEDIATE** constituents. Notice that the Nucleus is the lowest layer and the lowest level of syntactic clause structure, its **ORIGO**. The levels are subject to operator assignments. Thus, the operator of incorporation takes a polar predicate and a nucleonic copredicate and delivers a nuclear complex predicate.

of the former, verbo-nominal predicate is non-sentential—it has no sentential operators, and does not even constitute a predication. Nevertheless, it must be on the Core level of the hierarchy of sentential condensation.)

A complex nucleus may be a CLAUSE UNION, as in 47a.

- (47) a. *Jeg -finder teori-er-ne uinteressant-e.*
 I INC:find theory-PL-the uninteresting-PL
 'I find the theories uninteresting.' (COMPLEX NUCLEUS)
- b. *Jeg +finder at teorierne -er uinteressante.*
 I find that theories:the are uninteresting:PL
 'I find that the theories are uninteresting.' (CORE CONSTRUCTION)

The copredicate of the embedded clause in 47b, *uinteressante* 'uninteresting', is copredicate of the resultant Incorporation Construction in 47a which has the simple predicate of the matrix clause in 47b as resultant host predicate. The embedded subject in 47b is resultant ambidependent object in 47a. As we have seen, all sentential operators of the embedded clause are left out in the morphological process of incorporation, except for number (-gender) agreement.³² Gender is elsewhere analyzed as a lexical operator in the noun, and number as a morphological operator (inflection). That is, if these operators are presyntactic, it is understandable that they may be retained in word-formation. However, they are not only presyntactic, they also function (semantico-) syntactically, viz. to indicate the predication level subject-predicate relation, NEXUS. This syntactic function survives. Therefore, it seems reasonable to speak of a UNION (or integration) of two clauses, with a complex nucleus as the PIVOT, and with subject-to-object raising in a DOUBLE CATEGORICAL JUDGMENT.

The examples in 44-45, 47 are all subordinations. 41 and 42b are cosubordinative and coordinative, respectively. The fourth logically possible type of nection (not recognized in Role and Reference Grammar, as in Foley and Valin 1984, Van Valin 1993) I shall term SUBCOORDINATION: the two levels in the nection have separate sentential operators and/or function as separate illocutionary acts, but one of them is nevertheless embedded as a layer inside the other, as in 48a-b.

32. Gender agreement is visible in the singular in Danish.

- (48) a. *Han -sagde "av for helvede!"* (subcoordination, +INC)
 he INC:said "ouch, damn it!"
 'He said, "ouch, damn it!"
- b. *Han +sagde så: "av for helvede!"* (subcoordination, ±INC)
 then:
 'He said then: "ouch, damn it!"
- c. *Han sagde at det gjorde ondt.* (subordination, ±INC)
 he said that it did harm
 'He said that it hurt.'

The direct quotation is incorporated into the INQUIT predicate in 48a, but each layer of the subcoordination is assigned its own mood/sentence type (the quotation, as direct speech, is interjectional). Note that the embedded direct speech is only 'mentioned' (a marked function), not 'enforced' (the unmarked function), and this metalinguistic use is responsible for the subordinative feature of subcoordination. The close-knit combination of a general 'inquit' predicate and its (notably short) direct speech complement may be broken by intervening adverbials, as in 48b. Indirect speech complements (in subordination) cannot be incorporated, as in 48c—they occur in right extraposition in Danish.³³

2.1.5. INCORPORATION, VERB TYPES, AND HIERARCHICAL SEMANTIC STRUCTURE. In the preliminaries (section 1), the concept of *aktionsart* was adduced in the analysis of incorporation. It was hypothesized that, universally, there are three *aktionsarts*, viz. states, activities, and actions (cf. Durst-Andersen 1992, Durst-Andersen and Herslund 1996). Furthermore, it was claimed that the argument structure of the verb is determined by the event structure of the *aktionsart* and its default (or assigned) transitivity values. A set of semantico-syntactic macro-roles for arguments was employed, including the classical ones of intransitive subject S, transitive actor A, and transitive undergoer O (cf. Dixon 1972, 1994). The argument structure of macro-roles

33. The proposal of incorporated subordinate complements may seem far-fetched, but there are clear examples in Danish of idiomaticized constructions of this kind, as in ia,b.

- i. a. *-takke nej* 'to thank no', i.e. to refuse
 b. *-takke ja* 'to thank yes', i.e. to accept

Also 'citation' of animal sounds incorporate in Danish, as in ii.

- ii. *-sige vov* lit. 'to say bow wow'

is further specified for micro-roles (e.g. $IO_{\text{Recipient}}$ vs. $IO_{\text{Direction}}$). This specification is based on the classification of verbs into VERB TYPES (e.g. locational, qualificational, possessional), according to 'semantic field' (cf. Durst-Andersen 1992). Semantic field may influence transitivity and thereby argument structure. In Danish, a HAVE-language, 'trans-possessions' rank the IO above the O whereas 'trans-locations' rank O above IO (and incorporate a directional IO). Examples 49a-b and 50a-b are transpossession and translocations, respectively.

- (49) a. *Jeg +sendte Peter en hval.*
 I sent Peter a whale
 A P IO_{Rec} O
 'I sent Peter a whale.'
- b. *Jeg +sendte en hval til Peter.*
 I sent a whale to Peter
 A P O \bar{IO}_{Rec}
 'I sent a whale to Peter.'
- (50) a. *Jeg -sendte en hval til Sydpolen.*
 I INC:sent a whale to South:Pole:the
 A Host O Co-P: \bar{IO}_{Dir}
 'I sent a whale to the South Pole (Antarctica).'
- b. **Jeg +sendte Sydpolen en hval.*
 I sent South:Pole:the a whale
 A P * IO_{Dir} *O
 '*I sent the South Pole (Antarctica) a whale.'

When comparing 49 and 50, the IO_{Rec} is seen to be ranked above the O (49a), but may be demoted to *chômeur* status (\bar{IO}_{Rec} , 49b). IO_{Dir} is seen not to be ranked above O, in that 50b is ungrammatical. Thus, the two types of verb, transpossessional and translocational, are combined with two different argument structures: the transpossessional has the recipient as 'undative' subject in a secondary semantic nexus, whereas the translocational has the patient as unaccusative subject in a secondary nexus. The recipient is secondary external argument (TRANSITIVITY PRINCIPLE), the direction secondary internal argument (SPATIALITY PRINCIPLE). Direction is normally incorporated in Danish—it occurs as a bound transitional modifier copredicate. Note that the combination of a translocational verb and a transitional

modifier does not seem to designate a special kind of verb, as did the composition of a verb with a non-referential \bar{O} (the 'read_newspaper' type). (However, direction was seen to be semantically conflated in some languages, as in Spanish above, suggesting a rather 'tight' coherence status for it.) This means that probably this type of incorporation is not related to term attribution (cf. the colon notation above), and thus this type of incorporated constituent, $\bar{I}O$, is not a 'specifier'. I propose to represent this rather different kind of relation by a SEMI-COLON, as in 50'a.

(50') a. $(\dots f_k: (\text{Inc} \dots f_i: \text{send-}_V) ; ((\text{DIR } f_j: \text{til}_{Pr}) (\dots x_i: \text{Sydpolen}_N))_{Dir})_P$ ³⁴

The referent f_k is highly compositional, and thus the degree of institutionalization is low.³⁵

The difference between object incorporation and translocational incorporation is cardinal: whereas there is always a 'free', syntactic counterpart to an Object Incorporation, as in 13a-b, involving the distinction between a free, SYNTACTIC referential O and a bound, MORPHOLOGICAL non-referential \bar{O} with the SAME SEMANTIC ROLE, there are no two variants of a translocational IO with the same semantic role, the one being incorporated, the other not. What we have here is a distinction between a bound, morphological incorporative translocational $\bar{I}O$ (e.g. $\bar{I}O_{Dir}$, in 50a) and a free, syntactic non-incorporative transpossessional IO (e.g. IO_{Rec} , in 49a), or rather its

34. The preposition *til* 'to' may alternatively be a Path satellite analytically incorporated into the translocational verb, thus making its complement determiner phrase a 'stranded' Ground. However, this analysis may be relevant only for transpossessional which may synthetically incorporate the preposition, as in ia-b.

- i. a. *Han +sendte pengene til hende.*
 he sent money:the to her (IO)
 'He sent the money to her.'
- b. *Han til-sendte hende pengene.*
 he to-INC:sent her money:the
 lit. 'He to_sent her the money.'
- c. **Han til-sendte pengene til hende.*
 *he to-INC:sent money:they to her (*IO)*

35. There seem to be different degrees of conceptual unithood, thus ia-c.

[Footnote continued on next page]

chômeur $\dot{I}O$ (as in 49b). But not only is there an opposition between non-incorporating syntactic transpossession and incorporating morphological translocation, there is also one between syntactic local (non-transitional) movement (involving an IO_{Loc} and an activity variant of the verb) and morphological translocational (transitional) movement (involving an $\dot{I}O_{Dir}$ and an action variant of the verb), as in 51.

- (51) a. *Han +gik (ude) i vandet.* (local movement, \div INC)
 he walked (out) in water:the
 'He walked (out) in the water.'
- b. *Han -gik ud i vandet.* (translocational movement, +INC)
 he INC:went out into water:the
 'He went out into the water.'
- b'. *Han -gik i vandet.* (metaphorical transl., +INC)
 he INC:went into water:the
 'He went for a bath.'

In 51b, a directional adverb is involved in the incorporation. Danish is typologically characterized by extensively employing incorporated directional adverbs (cf. Harder, Heltoft, and Nedergaard Thomsen 1996). Note that the directional adverb yields a concrete but subjective (non-institutionalized) reading whereas the construction without directional adverb, 51b', is (objective but) 'institutionalized'.

-
- i. a. *Ind +for han.* (literal, fronted dir. modifier)
 into \div INC:rushed he
 '(lit.) In he rushed.'
- b. *Ost kunne hun godt +lide* (literal, fronted naked O)
 cheese could she well \div INC:like
 'Cheese she liked.'
- c. **Amok +gik hun.* (idiomatic, fronted modifier)
 amuck \div INC:went she
 '(lit.) Amuck she ran.'

If deaccenting is taken as a necessary sign of incorporation in Danish, then the above examples are not cases of discontinuous incorporation. Attentional factors (information structure and emphasis) may then block the coding of conceptual units, or even the 'creation' of them.

It was claimed above that directional incorporation is always obligatory. However, this is only superficially true: motional verbs may always occur accented, when profiling the manner component, as in 52.

- (52) *Han* +gik/+spadserede/+løb/+hoppede/... *hjem.* (translocational, ≠ INC)
 he (went/)walked/ran/jumped/... home:DIR
 'He walked/ran/jumped ... home.'

Here, the adverbial is MARGINAL (or, core, depending on whether it is an argument (core) or a modifier (adverbial or predicative margin)).

Notice, concerning the examples in 49-50, that PERSON is unmarked as a third argument, person/recipient being high in transitivity, whereas SPACE is marked, directional path being low in transitivity. With respect to example 51 it must be noted that stative locative is unmarked—it is conceptually simple, whereas dynamic directional (goal or source) is marked. Manner-profiling motion verbs, as in 52, have the manner component as semantic head, the motion component as dependent: ((*manner*)*motion*). In this case, a directional will be marginal, outside the verbal nucleus of the clause. When, on the other hand, motion is superordinate (i.e. ((*motion*)*manner*)), a directional will be nuclear.

Returning now to the examples in 49-50, we have to realize that the verb *sende* 'send' is not polysemous but that there are two semantically related verbs *sende*, i.e. two specific lexemes, one translocational, the other transpossessional. However, they may be united in a general HYPERO-LEXEME which is neutral as to semantic field (possessional versus locational), and thereby as to the specification and ranking of the IO argument. The hypero-lexeme has a figure O and a ground IO. The transpossessional HYPO-LEXEME *sende* specifies the ground IO as an external recipient argument whereas the translocational hypolexeme specifies it as an internal direction argument, which gets incorporated as a bound modifier, $\bar{\text{IO}}_{\text{Dir}}$, in the prototypical situation. In this way the macro-roles, S, A, O, IO, are VARIABLES which are fixed by the requirements of the concrete (hypo-) lexemes.

Semantico-syntactic CONFIGURATIONALITY concerns the layered structure of the predication. As we have seen, external arguments do not incorporate in Danish, neither transitive As nor transpossessional IOs. This has a bearing on the distinction between unergative and unaccusative intransitive subjects (S_a versus S_o). An unergative S_a corresponds to an A, an unaccusative

(53) a. *Der -kommer gæster.*
 there INC:come:PRS guest:NON-REF:PL
 S_o

b. *Der -arbejdede mænd på gaden her til morgen.*
 there INC:worked man:NON-REF:PL on street:the this morning
 S₂

2.2. INCORPORATION AND THE DISTINCTION BETWEEN MORPHOSYNTACTIC FUNCTION AND TECHNIQUE. In section 1, I argued that a distinction between morphosyntactic FUNCTION and morphosyntactic TECHNIQUE is needed to account adequately for the similarities and differences between analytic and synthetic incorporation in Danish.

Although it is possible to come up with minimal pairs of compounds and disponds, as e.g. *-komme an* 'to challenge smbd, lit. come_to' vs. *an-komme* 'to arrive, lit. to_come', there are also clear instances of constructions only possible in one or the other of the two syntagmatic morphosyntactic techniques, as e.g. *-fange an* 'lit. to catch_to, from Germ. *anfangen*' and *ned-komme* 'to give birth to, lit. to down_come', and equally clear cases of 'free' variation, as e.g. *-bygge op/op-bygge* 'to build up, construct', where the dispond is or may be (felt as) more concrete, spatial than the compound, or more informal. In the latter case the technique is an INDEXICAL sign, point-

ing to the ‘triggering’ context. There is a (Sapirian) DRIFT in Danish to split up fixed compounds; one often encounters instances of dispond manifestation instead of norm-governed compounding. This means that disponding in general is more productive than compounding, that the language ‘strives’ to make the variable morphosyntactic technical SYSTEM (i.e. analytic or synthetic) correspond (closer) to the invariant morphosyntactic technical TYPE, viz. analytic. An authentic example of disponding for compounding is the following 54b—the norm-governed alternative is given in 54a.

- (54) a. *Dit kort ud-løber om en måned.* (compound)
 your card out-INC:runs in a month
 ‘Your card expires in a month.’
- b. *Dit kort -løber ud om en måned.* (dispond)
 your card INC:runs out in a month
 ‘Your card expires (lit. runs out) in a month.’

The incorporative verb meaning ‘to expire’ is normally a compound-only, *udløbe* (it is abstract; ‘lit. to out_run’), whereas its concrete counterpart ‘to run out (concrete translocation)’ is a dispond-only, *-løbe ud*. Therefore, the authentic example, 54b, above is potentially funny: EXPIRING is construed as a kind of concrete ablative motion, presupposing a spatial source. The semantic distinction abstract-concrete correlating with the manifestational distinction between compounding and disponding, respectively, is in the process of becoming obliterated in modern Danish. Concrete is becoming the unmarked term and may thus trigger disponding in referentially abstract contexts, as in 54b above.³⁶ Compounds die out, leaving the corresponding disponds as the sole member of the paradigm, whereby disponds may become totally neutral with respect to the abstractness distinction.³⁷

I have just mentioned cases of variation between disponding and compounding, but of course there are also instances where compounding is totally ruled out. A case in point is the causative-resultative disponds, mentioned in section 1 and repeated here for convenience as 55b.

36. One would never—I am quite sure—hear (or read) a compound *udløbe* in the sense of concrete ‘running out’ in contemporary Danish.

37. The system of morphosyntactic manifestation of incorporation is thus the following.

A. Disponds-only (+DP, +CP)

- (55) a. *Han -fik repareret bilen.*
 he got repaired car:the
 'He got the car repaired.'

a'. CAUSATIVE IINDERIVATIVE (MORPHOLOGY: DERIVATION)

(PAST e_i : (... f_k : (STAT PPtc f_j : **reparer-v**); (Inder ACT CAUS f_i : $f\ddot{a}_V$))_P•
 (x_i :___)_O (x_j :___)_A)

a''. RESULTATIVE-PERFECTIVE OPERATOR (SYNTAX: OPERATOR ASSIGNMENT)

(PAST e_i : (< $f\ddot{a}_V$ <result> PPtc> ... **ACTION f_i : reparer-v**)_P
 (x_i :___)_O (x_j :___)_A) (= 'He finally managed to repair the car.')

- b. *Han -fik bilen repareret.* (**repareret-fik*)
 he INC:got car:the repaired
 'He got his car repaired.'

b'. CAUSATIVE INCORPORATIVE HOST (MORPHOLOGY: COMPOUNDING)

(PAST e_i : (... f_k : (Inc ACT CAUS f_i : $f\ddot{a}_{V1}$)_{Host}; (STAT PPtc f_j : **reparer-v**)_{Co-P})_P•
 (x_i :___)_O (x_j :___)_A)

B. Compounds-only (+DP,+CP)

C. Free variation (+DP,+CP)

a. dispond variant (+DP,÷CP)

b. compound variant (÷DP,+CP)

D. Simplex verbs (÷DP,+CP)

The development is that A survives, B develops into C, Cb gets more and more infrequent, whereas Ca gains in frequency. There are even instances where D acquires a dispond particle and thus becomes A.

An example of the development B > Ca is seen in i.

- i. *-drage af på vores store udlandsgæld*
 INC:(pay) off on our huge foreign:country:debt
 '(to) pay (smth.) off on our huge debt to foreign countries'
 (DRTV1, News, 22.5.1996, uttered by the well-known, skilled journalist Hans Bischoff)

An example of the development D > A is seen in ii.

- ii. *... -linde lidt op for*
 '(lit.) to loosen_up a little (for)'
 (DRTV2, After Deadline, 23.10.1998, uttered by the well-known, skilled politician and researcher, Preben Wilhjelm)

In section 1, I analyzed the construction exemplified in 55a as an *INDERIVATION* (as in 55a', here signaled by the operator *INDER*), that is as half-way between morphological incorporation (55b) and syntactic (aspectual) operator assignment (55 a''). However, it is possible to be more precise about the possibilities. First, there may be two homophonous variants, viz. the *inderivation*, 55a', and the syntactic operator, 55a''. Secondly, the syntactic operator is desemanticized—it retains only the result meaning of the causative-resultative meaning complex, and the perfect participle (PPTC) content is integrated with it. Thirdly, the syntactic, aspectual operator *fā* is dynamic/'inchoative' (compare its opposite number, the static perfective operator *have*). The *fā* perfective is 'subjective' (reflexive, 'medial'). Notice that *PERIPHRAISIS* is a natural coding of syntactic operators. It is the unmarked combination of syntax and analysis—leaving aside the synthetic participial component. Fourthly, notice that causative-resultative incorporations and *inderivations* are 'additive', not 'specificative' (symbolized by the semi-colon rather than the colon), in that the meaning of the total construction is not a specification of the head but the addition to the meaning of the head of the meaning of the modifier. Notice that in incorporation the *fā* verb is head/host predicate and the participle is dependent/co-predicate whereas in *inderivations* the *fā* verb is dependent operator, the participle head.

The above causative-resultative constructions may be seen as passive variants of active causative constructions—which also evince incorporation, as in 56.

- (56) a. *Han -fik mekanikeren til at reparere bilen.*
 he INC:got mechanic:the to that repair car:the

ACT CAUS (ACT CAUS STAT)

'He got the mechanic repair the car.'

- b. *Mekanikeren reparerede bilen.*

'The mechanic repaired the car.'

- (57) a. *Han -fik bilen repareret (af mekanikeren).*
 he INC:got car:the repaired by mechanic:the

ACT CAUS (STAT CAUS¹ ACT)

'He got the car repaired by the mechanic.'

- b. *Bilen blev repareret (af mekanikeren).*

'The car was (got) repaired (by the mechanic).'

- (58) **Han -fik repareret bilen af mekanikeren.*
 *He finally repaired the car (by himself) by the mechanic.'

Note first that incorporation and argument addition are not contradictory: the causative verb in 56a introduces a secondary agent, a CAUSER, and 'demotes' the original agent as CAUSEE. Simultaneously, the state of affairs that the original agent/causee controls/effects provides a relational denotation which is incorporated—the prepositional phrase containing the linked infinitive which is the embedded nucleus. Passivization may remove/demote the causee agent, as in 57a, and the embedded object gets promoted to secondary topic (object) of the total construction. Second, notice that I analyze causativization as word formation (either compounding or derivation), whereas diathesis is an instance of syntax (operator assignment). Danish both has an incorporative 'pure' causative with *få* 'get', involving the causal connective CAUS, and an incorporative PERMISSIVE causative with *lade* 'let', involving the causal connective NON.CAUS.NON, as in 59.

- (59) a. *Han -lod mekanikeren reparere bilen.*
 he INC:let mechanic:the repair:INF:ACT car:the
 'He let the mechanic repair the car.'
- b. *Han -lod bilen reparere (af mekanikeren).*
 he INC:let car:the repair:INF:ACT (by mechanic:the)
 'He let the car repair.'
- c. **Han -lod reparere bilen (af mekanikeren).*

Notice that the passive subclause in 59b is coded by an active voice infinitive,³⁸ and that the infinitive may not occur in the position for non-finite main verbs, only in copredicate position, after the object position: *lade* 'let' is neither a morphological inderivative nor a syntactic operator, and is thus only incipiently grammaticalized (the incorporation stage in 5 above).

38. DIATHESIS is a FUNCTIONAL operator, VOICE its manifestation. Thus, the marked DIATHESIS passive is coded as the unmarked VOICE active, an instance of neutralization.

3. COMPLEX TERMS AND INCORPORATION. When reading section 2, it may have seemed to the reader that the concept of incorporation is restricted to the verbal, predicate domain. However, this is far from being so, as will become evident in this section, where incorporation in the nominal, term domain is investigated, and in section 4 where the subject matter is incorporation in connection with other word classes as well as further complications.

3.1. VERB INCORPORATION IN TERM FORMATION: SYNTHETIC VERSUS ANALYTIC V2 AS HEAD WITHIN A TERM HEAD, OR INCORPORATION INTO A NOMINALIZED VERB? Before dealing with incorporation into term hosts (section 3.2), I shall start out with the case of V2-nominalization, i.e. the morphological process of complex term formation manifested by derivational synthesis. Derivation has a stem as the head and a derivative as modifier. There are two types of event nominalization in Danish: the verbal head (stem) is either synthetic or analytic. Thus, if the verbal head is an incorporative compound (V2), it is manifested either synthetically, as a compound, as in 60a, or analytically, as a dispond, as in 60b.

- (60) a. *avis-læsning*
 newspaper:NON-REF:SG-read:ing
 læs- % avis- → (-ning(læs- % avis-)) = avis-læsning
 '(lit.) newspaper reading'
- b. *-læsen* *avis*
 read:ing newspaper:NON-REF:SG
 læs- % avis- → (-en(læs- % avis)) = -læsen avis
 'reading (of) newspaper'

The derivative *-ning* is lexically specified as only combinable with a synthetically incorporative V2 as stem, whereas the derivative *-en* is only combinable with an analytically incorporative V2 as head. Notice, in the latter case, the use of Unit Accentuation to code analytic incorporation, as mentioned in section 1. The complex nouns in 60 are potential term heads and may be analyzed as in 60', where T* means complex term head.

- (60') a. (N_ACTIVITY x_j : (-ning_{V(synth)-N} (ACTIVITY f_k : (Inc ACTIVITY f_i : læs-V₁)) : (f_j : (=REF,SG x_i : avis-N)))_{p*,V2})_N)_{T*}
- b. (N_ACTIVITY x_j : (-en_{V(analyt)-N} (ACTIVITY f_k : (Inc ACTIVITY f_i : læs-V₁)) : (f_j : (=REF x_i : avis-N)))_{p*,V2})_N)_{T*}

Functionally, the derivatives *-ning* and *-en* are TRANSLATIVES in Tesnièrean terminology in that they recategorize a V as an N. This N is the term head delivering the term variable x_j . Note that in both cases of recategorization of an Incorporation Construction the derivative is manifested on the VERBAL host predicate (V1), the head of the incorporation (V2).

In the verbal domain we saw that incorporations (nearly) always have non-incorporative counterparts (cf. 13a-b in section 2 above), but is this also the case in nominalizations of V2s? Event nominalizations have the possibility of taking an objective genitive, which in Danish is realized analytically by the genitival preposition *af* 'of' (or more specific oblique ones like *på* 'on', *om* 'about', and *mod* 'against'), and they may also take subjective genitive, which is coded by the phrasal/enclitic *-s*-genitive. The latter, subjective genitive may correspond to a passive subject, as seen in Table 3.

| | FINITE VERBAL SYNTAGM | | EVENT NOMINALIZATION (SYNTH. STEM) | |
|-----------|---|---|--|-----------|
| ACT,-INC | +læste aviserne 'read the newspapers' | | +læsning <i>af</i> aviserne 'reading of the newspapers' | obj.gen. |
| ACT,+INC | -læste aviser 'read_newspapers' | ~ | avis-læsning 'newspaper reading' | +INC |
| PASS,-INC | aviserne blev +læst/læstes 'the newspapers were read' | ~ | aviserne læsning 'the reading of the newspapers' | subj.gen. |
| PASS,-INC | der blev +læst/læstes nogle aviser 'some newspapers were read' | | | |
| PASS,+INC | der blev -læst/læstes aviser 'newspapers were read' | ~ | avis-læsning 'newspaper reading' | +INC |

TABLE 3. The cross-categorial paradigms of diathesis and incorporation within the verbal and the nominal domains.

Notice that synthetic manifestation of incorporation, as in *avis-læsning* 'newspaper reading', is confined to a singular \ddot{O} , whereas analytic manifestation has no such restriction.³⁹ Impersonal/thetic passives are transitive/object-taking passives which 'spontaneously' erase/demote the \hat{A} argument but do not promote the object referent to intransitive subject status. An Object Incorporation Construction denoting an activity may also be impersonally passivized. The passive *chômeur* \hat{A} Sa is normally 'erased'. In the nominal domain nominalization is indifferent as to the distinction active/(impersonal) passive but, as mentioned above, the non-referential \ddot{O} is always singular (the unmarked value).

3.1.1. INCORPORATION AND BACKFORMATION. One might react to the above analyses and claim that the constructions are not nominalizations of V2s but of simplex Vs, the result of which (i.e. the DERIVATE) is then input to compounding/incorporation: *læs-* \rightarrow *læsning* \rightarrow *avis-læsning*; *læs-* \rightarrow *læsen* \rightarrow *-læsen avis(er)*.

If this analysis is correct, as I believe it is (see below), we have a case of a noun (the nominalized V) incorporating another, non-referential noun. The head stem (the nominalized V) is then a HOST TERM, Host-T, the dependent stem a CO-TERM, Co-T, and the resulting construction a COMPLEX TERM (HEAD), T*, N2.

This analysis would give the two parallel structures in 61a-b.⁴⁰

- (61) a. *læsning af aviser*
 (N_ACTION x_i ; -ning_{V-N} (ACTION f_i ; læs-v))_{T-N}
 (x_1)_{nO} (x_2)_{nA}
- b. *avis-læsning*
 (x_i ; (Inc N_ACTIVITY x_i ; -ning_{V-N} (ACTIVITY f_i ; læs-v))_{Host-T:N1} :
 (f_i ; \mp REF.SG x_1 ; avis_N)_{Co-T:nO})_{T* N2}
 (x_2)_{nSa}

39. If nominalization is a marked choice for the expression of a V2, the verbal domain being unmarked, this restriction is understandable: marked values are often only further specified by unmarked choices, Brøndal's so-called COMPENSATION PRINCIPLE.

40. Notice that nouns are assigned the same kind of semantico-syntactic roles as are verbs, distinguished, however, by the subscripted prefix n.

The incorporated noun specifies the intension of the host—and thereby narrows down its extension (applicability). The incorporated noun is a NUCLEAR RESTRICTOR (Nucleon layer) of the host (Pole layer), generated by a morphological process. Evidently, there is a parallel to the clausal complex predicate P^* with its 'polar' host predicate and nucleonic copredicate. As within the verbal domain, the nominal domain evinces an alternation between a non-incorporated object (nO, objective genitive) belonging to the Core of the term phrase and an incorporated nucleonic CO-TERM (nÖ).

As mentioned above, I take the second analysis, i.e. the nominalization of a V which is then input to incorporation, rather than a nominalization of a V2, to be the correct one, especially because there are many cases of N2 which do not correspond to V2s—and vice versa.

In passing, it should be noted that Danish does not have (systematic) classifier incorporation (cf. Mithun 1984; Rosen 1989), either within the nominal domain or within the verbal domain, as in 62b-b'.

- (62) a. *dyre-mishandling* **af nogle heste* (nominal domain)
 animal-maltreatment **of some horses*
 *'*animal maltreatment of some horses'*
- b. **dyre-mishandle* **nogle heste* (verbal domain)
 animal-maltreat some horses
 *'*animal maltreat some horses'*
- b'. *-mishandle* *dyr* (**nogle heste*) (verbal domain)
 INC:maltreat animals (some horses)
 *'*maltreat animals (*some horses)'*

Above, we have seen a conversion from the verbal predicate domain to the nominal term domain, but BACKFORMATIONS from nominal compounding to incorporation into verb stems in finite forms also exist. Take the nominal compound *læge-undersøgelse* '(lit.) doctor examination, i.e. medical examination'. It may be found in backformations like the following in 63a.

- (63) a. *Han* *-lod* *sig* *læge-undersøge* (**af en specialist*).
 he INC:let self doctor:INC:check (by a specialist)
 (< *læge-undersøgelse* 'doctor examination')
 'He had himself examined by a doctor.'

- b. *Han -lod sig +undersøge af en (special)læge.*
 he INC:let self check by a (specialist) doctor
 'He had himself examined by a medical specialist.'
 (passive from *Han lod en (special)læge undersøge sig*, 'He had a (specialist) doctor examine himself.')

63 shows an example of an Agent Incorporation. It is unclear whether it is a transitive A or a passive *chômeur* *Â* which is incorporated. If the latter is the case, a marked syntactic diathesis can be input to morphological word-formation, as in Figure 3 above. Note that this analysis would be preferable because of the elsewhere valid generalization that external arguments do not incorporate in Danish, either agentive As or receptive IOs, as previously mentioned, but further substantive arguments are called for.

Not only activity nominalizations may incorporate a constituent (by compounding) and additionally 'backform' a V2, also adjectival perfect participles are found with an incorporated first compound part, as in 64a, and in backformations, as in 64b.

- (64) a. *hjerne-død* ... = *død* → (*hjerne*(*død*)) = *hjernerød* (or,
 brain-dead *hjernerød* → -d(*hjernerød*) = *hjernerød*)
 '(lit.) cerebral dead'
- b. *ville gå hen og hjerne-dø*
 would go (over) and brain:INC:die
 '(lit.) would end up brain-dying'
 (interviewee, Helle Jakobsen, TV2 News, 27.11.95)

This is a case of inalienably possessed/active zone intransitive S being incorporated ('X's brain will die'). I take it that the adjectival in 64a is either a normal compound from the adjective *død* 'dead' or a derivation of an innovative V2, as in 64b. 64a is a case of a COMPLEX SECONDARY RESTRICTOR/ATTRIBUTE, A*, with a HOST ATTRIBUTE (Host-A) *død* 'dead' and a CO-ATTRIBUTE, Co-A, *hjerne* 'brain'.

3.2. INCORPORATION INTO NOMINAL TERM HEADS—MENSURAL CLASSIFICATION. Nominal terms are what are now commonly termed DETERMINER PHRASES (DPs), owing to the possible presence in them of the 'functional head' DETERMINER. In standard Functional Grammar analysis, they consist

of an operator part (D) and a restrictor part (NP), each 'operating upon' a term variable, often of the first order kind, x_i , as in 65b.

- (65) a. *en fed loppe*
 a fat flea:SG
 'a fat flea'
- b. (en<INDEF,SG> x_i : loppe_N : fed_{Adj})
 operators VAR restrictors

Before venturing on an analysis of term incorporation, I shall first propose that a term be conceived of in parallel fashion to a clause, i.e. a LOCUTION coding an illocution. A clause is 'bi-polar'. 'Top-down' (interpersonally), it has a communicative superstructure, viz. $F(X)=E$, i.e. a force 'predicate' F and a propositional content X yielding a clausal denotation, E . 'Bottom-up' (ideationally), it has a representational substructure, viz. $f(x)=e$, i.e. a situation type predicate f and some participant arguments x yielding a predication denoting a second order entity, e . Mediating between the communicative and the representational structures is an interface, consisting of deictic, propositional operators making a proposition X out of a predicational event denotation, i.e. $p(e)=X$.⁴¹ Likewise, a term has a communicative superstructure (for example deixis), a representational substructure (restrictors), and an operator interface (quantification). This would give 65'b instead of 65b above.

- (65') b. (en<INDEF> SG x_i : loppe_N : fed_{Adj})
 communicative operators VAR restrictors

The singular operator is a morphological operator (cf. section 2.1.4 above). An example of explicit SYNTACTIC operators is the class of NUMERATORS—the cardinal numerals. They govern the morphological category of number. In

41. This analysis is reminiscent of the GB analysis of a clause into a CP (~ the communicative superstructure), a VP (~ representational substructure), and an IP (~ operator interface), as in i.

| | | | |
|----|----------|--------|----------------|
| i. | GB | FG | |
| | CP=C(IP) | E=F(X) | superstructure |
| | IP=I(VP) | X=p(e) | interface |
| | VP=V(NP) | e=f(x) | substructure |

conformity with the analysis proposed by Andersen (1997), the first, nominal restrictor is a DENOMINATOR, and the second, adjectival restrictor a DESCRIPTOR. The denominator is the representational head, whereas the syntactic numerators, as well as other quantifiers, perform the function of quantificational head. Between morphological number and the term variable are, first the nominal gender and INDIVIDUALITY (countability), and second, animacy. Gender (in Danish, common and neuter) concerns SORTAL CLASSIFICATION, corresponding to aktionsarts in verbs. Furthermore, in Danish, the individuality distinction MASS : COUNT : COLLECTIVE is lexicalized (Nedergaard Thomsen 1991: 155), in French not (cf. Herslund 1998)—compare 65''.

(65'') b. (en<INDEF> SG COUNT,COMMON x_i : loppe_N : (f_i : fed_{Adj}(x_i)))

Some count nouns denote CONTAINERS. They have valency for their contents—expressed by prepositional argument term phrases, as in 66a.

- (66) a. *en +sæk med (nogle) lopper* (i)
 a sack with (some) fleas:REF:INDEF (in it)
 'a sack with (some) fleas (in it)'
- b. *en -sæk lopper* (*en -sæk med lopper)
 a INC:sack fleas:NON-REF
 Host Co-T
 'a sack (containing) fleas'

As seen in 66b, the container term phrase may incorporate the contents term phrase. A reclassification is observed in this case, from concrete to abstract, or individual to measure. It is, therefore, common to label the incorporating head a 'mensural classifier' (cf. Dik 1989). Note, though, that it is not a syntactic operator (which would have ruled out an incorporation interpretation), in that it does not belong to a closed class (cf. Daugaard 1994).

Just as predicate incorporation is localized in the representational sphere, so too is term incorporation (cf. Herslund 1994). That is, the noun undergoing Unit Accentuation is the HOST of a COMPLEX TERM HEAD, or DENOMINATOR, T*, and this host incorporates a Co-TERM, Co-T. Again, I will say that the complex term head is NUCLEUS, the host is POLE, and the coterm NUCLEON. As with predicate incorporation, the coterm corresponds to a referential term argument in the Core of the projected phrase, as in 66a.

In accordance with the above discussion, 66 may be analyzed as 66'.

- (66') a. (en_{Det}<INDEF> SG REF,CONCR,COUNT,INAN,COMMON x_i: sæk_N)_T:Cont'er
(PL REF,COUNT,ANIM,COMMON x_j: loppe_N)_T:Cont'ed
- b. (en_{Det}<INDEF> PL REF ANIM x_k:
((Inc SG REF,MEASURE,INAN x_i: sæk_N)_{Host-T}:Mens_Class'er :
(f_i: (=REF PL REF,COUNT,ANIM,COMMON x_j: loppe_N))_{Co-T})_{N2})_T*

As already claimed, the non-incorporating head term in 66a is concrete (CONCR, unmarked) whereas the incorporating term head in 66b is a measure (marked). So, just as *-læse avis* 'read_newspaper' is a kind of *læse* 'reading' activity, not an action, so *en -sæk lopper* 'a sack_fleas' is a specified *sæk* 'sack' measure, which a *loppesæk* 'sack for (putting) fleas (in it)' is not. This is due to the APPREHENSION reclassification from concrete 'sack entity' in 66a to 'sack measure' in 66b. The difference transpires in the following sentences, 67-68.

- (67) a. *Det er som at -slippe en -sæk lopper løs.* (anim. spec. quantity)
it is like to INC:let a INC:sack fleas:NON-REF loose
'It is like letting loose a sack of fleas.'
- b. **Det er som at -slippe en sæk løs.* (inanimate concrete)
it is like to INC:let a sack loose
'(*It is like letting a sack loose).'
- (68) a. *%Der lå en -sæk lopper på bordet.* (anim. spec.quantity)
there lay a INC:sack fleas:NON-REF on table:the
'(There was lying a sack of fleas on the table).'
- b. *Der lå en +sæk med lopper på bordet.* (inanimate concrete)
there lay a sack with fleas on table:the
'There was lying a sack with fleas in it on the table.'

It seems evident that the complex term head, T*, inherits the animacy and number value from the dependent CO-TERM. The dynamic V2 *-slippe løs* 'let loose' requires an animate noun (as in 67a), and the locational verb *ligge* (in the relevant meaning) an inanimate noun (as in 68b).

Above, we have seen examples of count nouns being incorporated into

mensural nouns. Also mass and collective nouns may incorporate, as in 69-70.

- (69) a. *et -stykke ost* (mass)
 a INC:slice cheese:NON-REF:SG
 ‘a slice of cheese’
- b. *et +stykke af den milde ost* (count,singular)
 a slice of the mild cheese
 ‘a slice of the mild cheese’
- (70) a. *et -stykke kvæg* (collective,singular)
 a INC:piece cattle:NON-REF:SG
 ‘a head of cattle’
- b. *et -par bukser* (collective,plural)
 a INC:pair trousers:NON-REF
 ‘a pair of trousers’

The host term may itself be a T*, as in 71.

- (71) a. *en -(sæk-fuld) lopper* (**en +sæk -fuld af lopper*)
 a INC:sack-INC:full fleas:NON-REF
 (Host=T* Co-T)_{T*}
 ‘(lit.) a sack_full fleas’
- b. *en +sæk +fuld af/med lopper*
 a sack full of/with fleas:INDEF
 ‘a sack, full of fleas’

In the exposition of verbal incorporation I introduced a distinction between analytic versus synthetic incorporation, understood as a word-formation process. The question now arises whether this distinction is also applicable, and if so to what degree, in the domain of nominal incorporation. In Danish, there are examples like the following, 72-73.

- (72) a. *en -masse mennesker*
 a INC:mass people:NON-REF:PL
 ‘a lot of (/many) people’
- b. *en menneske-masse*
 a people:NON-REF:SG:INC:mass
 ‘a crowd of people’
- c. *en +masse af mennesker*
 a (mass) of people:INDEF:PL
 ‘a crowd of people’
- (73) a. *en +masse af mennesker*
 a lot (many) of people:INDEF:PL
 ‘a lot of (/many) people’
- b. *Ø +masser af mennesker*
 - lots:INDEF of people:INDEF:PL
 ‘lots of people’
- b'. * *-masser mennesker*

It seems that 72a and 72b are distinct insofar as the former expresses a plural concept, the latter a singular one. Compare 72', with the V2 *-vrимle rundt* ‘(lit.) swarm_around’ which requires a plural subject.

- (72') a. *Der -vrимlede en -masse mennesker rundt.*
 there INC:swarmed a INC:mass people:NON-REF:PL around
 ‘(lit.) A lot of people were swarming_around.’
- b*. **Der -vrимlede en menneske-masse rundt.*
 there INC:swarmed a people:NON-REF:INC:mass around
 ‘(lit.) *A crowd of people was swarming_around.’

The disponding construction in 72'a is more grammaticalized (desemantized) than the compounding construction in 72'b because the dispond HOST-TERM (head) is a ‘semi-quantifier’, the compound head a concrete entity.

A construction which superficially resembles an incorporation construction, by showing Unit Accentuation, is the FUNCTIONAL CLASSIFICATION CONSTRUCTION where an unaccented function (role/social status) indicating common noun specifies the proper name of an individual, as in 74.

- (74) a. *-professor* *Herslund*
 INC:professor:NON-REF *Herslund:REF*
 ‘professor_Herslund’
- a’. **HHK’s* *-professor* *Herslund*
HHK’s UA:professor:NON-REF:*DEF *Herslund:REF*
 ‘the Copenhagen Business School’s professor_Herslund’
- b. *HHK’s* *+professor* *i fransk,* *-Michael* *Herslund*
HHK’s professor:DEF *of French* INC:Michael *Herslund:REF*
 ‘the professor of French at the Copenhagen Business School, M.H.’

In this type of construction, as against the Incorporation Construction, the unaccented word is non-referential, its opposite number referential, in effect a switch of the referentiality values in comparison with incorporation. That the status-indicating word must be non-referential can be seen by comparing 74a with 74a’: if the status word is specified by a genitival dependent (and possibly also further specified), as in 74a’, the status word has to be referential—and then also accented, as in 74b. In that case the construction must be cast as APPositionAL.

Notice, that in Danish even naming involves incorporation = given names incorporate surnames, as in the last part of 74b, *-Michael Herslund*. The construction thus means (at least structurally), ‘the *Michael* (given name) specified with respect to family as belonging to the *Herslund* family’. However, the surname seems to be referential.

If the analysis of status indicators above is correct, as I believe it is, the status indicators are functionally CLASSIFIERS (they are non-referential). They are to be classified not as operators (they are not grammatical, in that they have an f-reference), and not as term heads (they do not have an x-reference), but as non-referential SATELLITES. I take this construction to be a GRAMMATICALIZATION from a term head, x, to a satellite with f-reference. If this is correct, it is different from the grammaticalization of incorporation (compare the grammaticalization of modal main verbs to modal auxiliary verbs).⁴²

42. As seen in ii below.

i. a. *Han* *+kan* *sin tysk.* (Transitive Etymon)
 he ÷INC:can his German
 ‘He has mastered German.’

In the Romance languages, e.g. Spanish (Varela 1989), there are groups of common nouns manifested by nominalized, formerly productive incorporative verb phrases, as in 75-77.

- These common nouns denote first order entities, x , as in 75-76, or nominal, basic second order entities, e , as in 77. Therefore, they have grammatical gender in their lexical representations, namely masculine. Example 76, for

- b. *Han* *-kan* *tsyk.* (Noun Incorporation)
 he INC:can German
 ‘He speaks German.’
- ii. *Han* *-kan* *svømme.* (Modal Auxiliary)
 he AUX:can swim
 ‘He can swim.’

instance, can be represented as in 76', distinguishing between function and technique.

| | |
|---|-----------|
| (76') (MASC x_j : ((f_k : (Inc f_j : salva- v_1) : (f_j : (\neg REF, PL x_i : vida $_N$))) $_{V2}$ (3.SG x_j) $_{Ag/Inst}$) $_N$) | |
| Function | Technique |

Functionally they are masculine nouns, technically they are analytic verbal incorporations, V2, manifesting a former compound word function. The ENDOCENTRIC V2 has been grammaticalized into an EXOCENTRIC compound noun: a life-jacket is not a kind of rescuing activity, but an entity used in rescuing. Notice that the analytic word boundaries have been reduced to synthetic morpheme boundaries (there is no orthographic space between the V1 and the incorporated noun). This group of nouns are more or less idiomatic. For instance, the word *salvavidas* in European Spanish means 'life-jacket' or 'life-belt' whereas in Chilean Spanish it means 'life-guard'.

What has been analyzed as a V2 under technique in 76' above at best represents the (etymological, metagrammatical) competence structure of the form, at worst it is only diachronically correct. At the PERFORMANCE level, the forms are lexical units, produced and comprehended as ready-made compounds.

Spanish and Danish also have endocentric incorporations where a noun as host-term incorporates for example an adjectival restrictor, as in 78a-b, or a clausal restrictor, as in 78c.

| | | | |
|---------|-------------------------------|---------------------------|------------------------------|
| (78) a. | <i>dentadura</i> | <i>postiza</i> | (Adjectival Restrictor Inc.) |
| | (denture) | artificial limb (denture) | |
| | 'denture' | | |
| b. | <i>rød-vin</i> | | (Adjectival Restrictor Inc.) |
| | red-INC:wine | | |
| | 'red wine' | | |
| c. | <i>(-gør-det+selv)-marked</i> | | (Clausal Restrictor Incorp.) |
| | do-it-yourself-INC:marked | | |

5. INCORPORATION—PRODUCTIVITY AND STORAGE

5.1. INCORPORATION AS A GRAMMATICAL, PRODUCTIVE CONSTRUCTIONAL LEXEME. Examples are found in Danish that do not fit into any of the systematic distributions of incorporation (like Object Incorporation, Predica-

tive Incorporation, etc.), but nevertheless show the same common content that all other incorporation constructions possess, viz. that of INSTITUTIONALIZATION, and the same expressional features, viz. unaccented verb and Co-P placement of modifier, as in 79.

- (79) a. (når du) -føder første gang, ... (authentic)
 when you INC:give:birth first time
 (cf. *førstegangs-fødende* 'first-time-birth-giving')
 'when you are a first-time birth giver'
- a'. når du +føder (for) første gang
 when you give:birth for the first time
 'when you give birth for the first time'
- b. -sende onsdag; -sende mandag aften (DR-TV)
 INC:transmit Wednesday; do. Monday evening
 'to have Wednesday transmissions: Monday evening transmissions'
- b'. +sendte udsendelsen onsdag/mandag aften
 transmitted the program last Wednesday/Monday evening
 'transmitted the program last Wednesday/Monday evening'

The incorporation in 79a is 'intensional', contains a descriptive predication, while the predication contained in 79a' is 'extensional'. Example 79a is habitual, 79b semelfactive. The above incorporating constructions are EXTENSIONS from the the norm-sanctioned construction, in that they do not conform to the restrictions on what can normally be incorporated. Nevertheless, they do obey the general semantics of an incorporation construction, viz. that of institutionalization, in this case a PROPOSED one. In the norm-governed, systematic, conventional, instances of incorporation, 'intensional' Manner is a productive parameter for a copredicate, whereas Frequency, as in 79a, and Time, as in 79b, are not, because prototypically they LOCALIZE the state of affairs, in no way specifying its constitutive PARTICIPATUM further. But as seen above, frequency and time may be recategorized as intensional specifiers, and are thus prone to incorporation.

The above state of affairs seems to indicate that incorporation is a GRAMMATICAL CONSTRUCTION (e.g. Kay 1997), or a Pikean TAGMEME (cf. also Bloomfield 1933), or a SYMBOLIC UNIT (Langacker 1997). That is, if one abstracts away the instantiating contentive material of a concrete incorporation (i.e. the contentive lexemes of the syntagm) one arrives at a schemat-

ic/grammatical complex constructive conventional sign (symbol). The productivity of this sign—its RULE-LIKE behavior—depends on the ‘openness’ of its constitutive slots (which are to be instantiated by the contentive lexical material).⁴³

In Danish an incorporation TAGMEME would be as in Table 4.




| SIGNATUM | | SIGNANS |
|---|---|--|
| P* |  | ‘produce Host and Co-P as tight to each other as possible’ (see section 6) |
| (conceptual unity, institutionalization) | | |
| | | TAXEMES OF SELECTION |
| Host |  | TAXEME OF MODULATION: accent reduction (relative signans: deaccented vs. fully accented) |
| | | |
| Co-P |  | TAXEME OF ORDER: Co-P position (relative signans: Co-P position vs. argument or head placement) |
| (intensional specifier) | | |

TABLE 4. Incorporation as a symbolic tagmeme/constructional scheme.

Being a constructional schematic symbolic sign, incorporation is a grammatical lexeme and as such is listed in the lexicon—it has to be known and thus belongs to the norms of usage.⁴⁴ By being grammatical it is also pro-

43. Already Bloomfield (1933) recognized some sort of construction grammar, operating as he did with ‘tagmemes’ whose contents were ‘episemes’ superimposed on the instantiating contentive ‘sememes’. The constitutive symbolizing codings were termed ‘taxemes’. I shall retain some of this terminology. On productivity, cf. Jakobson, cited in Andersen (1997).

44. Perhaps in a subsection, say CONSTRUCTION? Notice that Construction Grammar (Kay 1997) assigns to simple lexemes the status of grammatical constructions, so that language is in a real sense LEXICO-GRAMMAR. In my description, there are morphological grammatical constructions activated in word formation, and syntactic grammatical constructions activated in phrase and sentence formation, but the two syntagmatic components are not impermeable. Notice that the three lexico-grammatical components, lexicon, morphology, and syntax are logically ordered: word-formation presupposes lexemes, sentence formation presupposes words (and thereby also lexemes). However,

ductive, and thus belongs to the system. It is accessed in word formation where it is lexically/contentively instantiated.

5.2. PRODUCTIVITY AND STORAGE OF THE INSTANTIATED INCORPORATIONS.

We have just given a general description of incorporation as RULE, as a constructional scheme—i.e. as a lexically open, productive IDIOM (Kay 1997), belonging to the system of Danish. Nevertheless, it is also characteristic of Danish Incorporation that some of its instantiations are 'fixed expressions' and as such have to be learned by rote and are retrieved directly from the lexicon in performance. That is, given that constructional schemes are listed in the lexicon/construction, both the constructional scheme of Incorporation as well as its fixed instantiations are stored in the lexicon. But what about the rest of the instantiations of Incorporation—the productive, semantically compositional ones? Insofar as they are more or less fully productive, semantically compositional, they only belong in the Fund, the repository of morphology, as results of 'computation'.

The difference between the fixed and the productive instances of incorporation could be handled in Functional Grammar by different deployment of the PREDICATE VARIABLES (the *f*'s): The referent of a fixed expression is a 'ready-made' lexeme in the lexicon, whereas the referent of a productive formation is generated in the Fund (but may later become a lexicalized idiom, if the decomposition becomes opaque).

In the 'competence' mode, a fixed incorporation (being a lexically instantiated constructional lexeme), after being accessed from the lexicon, will be DE-CONSTRUCTED (or, 'literalized') in word formation according to its non-compositional subparts and end up in the Fund. In the 'performance' mode, on the other hand, a fixed incorporation, owing to the opacity of its non-compositional parts, may skip deconstruction in morphology and pass

output of sentence formation may be input to word-formation, as seen above. IDIOMATICON might be a better term than lexicon in a construction grammar-inspired model because of the diffuseness of the concept of lexeme/grammatical construction. Not only lexemes and grammatical morphemes in the traditional sense but also constructional templates (sometimes partly or totally instantiated) are covered by the term lexeme/grammatical construction. Common to all cases is that they are IDIOMATIC, to be known in order to be manipulable. A grammatical description should surely 'generate' all that is idiomatic, i.e. manners of speaking, in a language.

right through to syntax, as the Nucleus of a clause. The competence mode can be observed when the speaker intentionally puns on the literal meanings of the subparts of an idiomatic incorporation (permanent lexicalization), as in 80, which reproduces an advertisement for the sports equipment firm *Nike* in a Danish department store some years ago.

- (80) *Nike* *-holder* *stand* *på første* *sal.*
 Nike INC:keeps stand:NON-REF on first:DEF floor
 (paraphrase: 'Nike has its stand on the first floor.' *plus* 'Nobody can defeat the goddess of victory, Nike—her fortress is on the first floor.')

The incorporation *-holde stand* is a conventional incorporation, meaning something like 'stand one's ground (against challengers or attackers)'. Diachronically, it is an idiomatization from an expression meaning 'still be standing' ('keep (one's) standing condition'): it contains a lexeme *stand* 'undefeated condition in competition or battle', which etymologically is a metaphorical extension from a concrete, locational *stand* 'standing condition'. However, the advertiser not only activates *stand* 'undefeated condition', s/he also accesses the homonymous lexeme *stand* 'stand in a sale's exhibition' which is unifiable with the locational satellite *på første sal* 'on the first floor', thereby creating a blend, a hybrid between a conventional expression and an innovating expression *-holde stand* 'to have one's sale's exhibition (on a concrete location)'. The 'perlocutionary' intention behind 80 was presumably: 'We from the sports firm *Nike* (the goddess of victory, who can never be defeated) have our stand on the first floor; our products are the best; we sell more goods and earn more money than our competitors: we are undefeatable; therefore, join us and buy your goods from our stand on the first floor—and you'll be undefeatable!'.

A fully productive, lexically instantiated incorporation, on the other hand, is, in the 'competence' mode, assembled in word formation. However, it may be used frequently by speakers and thus end up as a ROUTINIZED COLLOCATION, in which case it is stored in the performance lexicon.

Nonce formations, ad hoc lexicalizations like those seen in 79a-b, are EXTENSIONS from the 'normal' constructional scheme—instantiations which are not totally sanctioned by it. Being innovative, they are computed in the competence mode. They are proposed by the speaker to be accepted as con-

ventional expressions (institutionalizations), and may be adopted as such by the hearer, and over time by the speech community at large.

Mithun (1984) claims that ALL instantiated incorporations have lexical status, performing a so-called NAMING FUNCTION.⁴⁵ I would claim that this is only true for the PERFORMANCE dimension of language: they may be accessed directly from the performance lexicon in the 'performance' mode of processing. But in the 'competence' mode, they are productively built up from the incorporation constructional scheme (belonging to the lexicon) via lexical insertion, etc. Therefore, according to my understanding, the lexicalism-antilexicalism/syntacticism controversy between Mithun and Sadock of the mid-eighties of the 20th century is an instance of opposing, complementary points of view which are only wrong in the wrong context: Mithun was wrong concerning the competence dimension, but right concerning the performance dimension, whereas Sadock was wrong concerning the performance dimension, but right concerning the competence dimension. Incorporations in general are lexical (Mithun) in the performance dimension, but 'syntactical' (Sadock) in the competence dimension.

As hinted at above, the different MODES OF PROCESSING, the 'competence' mode and the 'performance' mode, are called upon in different contexts of use. In a routinized (automatic, inattentive) context, it is more efficient to

45. She states (op. cit.: 872): To a casual observer of languages like Mohawk, NI may appear to be a syntactic process simply because of its tremendous productivity; the number of NV combinations that occur seems unlimited. However, speakers are keenly aware of the lexical status of all such combinations. They know not only which constructions are possible, but also which of these actually exist—i.e. which are lexicalized. They immediately recognize those that are not. Speakers remember who uses a word not used by others, even when it is a perfectly transparent combination of two highly productive stems. A Mohawk speaker's lexicon can be enormous, because of the high productivity of word formation processes like NI; but it is well-defined.

Compare also FUNKNET 1998/Chafe, Oct. 10: Furthermore, in working with a couple of polysynthetic languages over many years, it has become quite clear to me that people learn huge numbers of those long words by rote, often relating them to the particular situations where they first heard them. To a large extent they do not CONSTRUCT them according to some system a linguist might suppose they use. They ARE able to come up with neologisms from time to time, but more by analogy, and by applying some specified patterns quite different from what linguists come up with.

retrieve exemplar incorporations as non-decomposable units directly from the performance lexicon. In a more creative (attended) context (as e.g. in advertising, as above), one has to be conscious of the component parts of an idiomatic incorporation, however opaque, in order to make creative use of them. In the competence lexicon the speaker's 'folk' etymological knowledge is stored, such that what is an indecomposable idiom in the performance lexicon is de-composable, de-constructible in the competence lexicon, thus making it possible for the speaker to use the opaque component parts in word formation and later in syntax (as in English *kick the bucket* where no literal bucket is thought of in the performance mode but is decomposed in the competence mode making such extensions as *kick the proverbial bucket* possible).⁴⁶

Returning now to the question of RULE EXTENSION, exemplified in 79a-b above, it seems plausible to speak here of ANALOGICAL EXTENSION. Danish incorporation thus testifies to the tripartition, storage (rote learning, of idiomatic incorporations), analogy (in constructional extensions), and rule/productivity (computation, of norm-conforming instances) (cf. FUNKNET 1998/Bates, Oct. 14; MacWhinney, Oct. 14).

6. MARKEDNESS, SEMIOTIC PROJECTION, AND WORD ORDER PROCESSING. Markedness is involved in incorporation (in Danish) in two dimensions. First, there is markedness 'concord' between the incorporated copredicate, which is marked on a given parameter,⁴⁷ and the host predicate to which the same pertains. Additionally, the constructional content '(more or less) institutionalized (activity)' is also marked with respect to the more composi-

46. Notice that the lexica adduced above are lexicological, they are the real, mental lexica of the natural language users. If one wants to write a dictionary of Danish incorporations, one therefore has to choose whether to make a lexicological lexicon—a statistical 'ideal', mentioning its sociolinguistic and other variations—or a lexicographic, normative community lexicon, which is not psychologically real, not stored in the mind/brain of any speaker. Choosing the first alternative, it would, of course, be most practical to write a 'competence' lexicon because of its non-redundancy, rather than a Mithunian performance lexicon.

47. Often an \ddot{O} (M) is in the plural (M), even though plurality cannot be used about a property (literally speaking), the denotation of an \ddot{O} (non-referential, M), as in i.

tional meaning of a non-incorporating action-denoting construction. This is in accordance with the SEMIOTIC PROJECTION PRINCIPLE of Andersen (1991), whereby EITHER marked OR unmarked members of paradigms are selected and combined into syntagms, so that syntagms, all else being equal, are ordered according to markedness. Second, an Incorporation Construction, in itself a marked construction, normally occurs in marked contexts (for this kind of markedness concord, compare Andersen 1972).⁴⁸

- i. a. *-Har De børn?* (property, M)
INC:have you children?
b. *Ja, jeg +har ét.* (relationship between two x's, U)
Yes, I have one.

-Have børn 'have_children' is an institutional/social property of an adult individual, whose values may range from 0 and up, but whose DEFAULT is set as greater than 1, i.e. plural. The plural indicates this default. Being a dog owner is cast in the singular in Danish, as in ii.

- ii. a. *-Har De hund?* (property, M)
INC:have you dog:SG?
b. *Ja, jeg +har to.* (relationship between two x's, U)
Yes, I have two.

This must indicate a default value of 1 or 0.

48. Koyukon Athapaskan also shows markedness concord (cf. Axelrod 1990). The rather complicated situation is as follows. Koyukon is SEMANTICALLY an active-stative language, active being marked, stative unmarked, and derivatively agentive arguments marked, patientive arguments unmarked. Thus, agentive (transitive and unergative) subjects are in general marked. But within these agentive subjects, +CONTROL subjects (e.g. human beings) are unmarked (more agentive), ÷CONTROL (less agentive/more patientive, e.g. natural forces like wind, water, etc.) are marked. Granted that incorporation is a marked option for subjects, we have incorporation (M) of ÷CONTROL subjects (M)—and the opposite (U) of +CONTROL (U) subjects, and thereby markedness concord. Patientive, fundamental arguments (transitive objects and unaccusative intransitive subjects) are in general unmarked, in this type of language. But only those patientive arguments which occur in a resultant state that is expected (expectable or implied; U) are unmarked. Those occurring in an unexpected, accidental (M) resultant state are marked. The expected Patients (U) incorporate (U), the unexpected (M) do not (M), in accordance with the principle of markedness concord, granted that incorporation is an unmarked option for fundamental arguments. However, there is some sort of trade off between the parameters of

It seems pertinent to study the context for incorporation constructions in terms of some verbal/sentential parameters of the TRANSITIVITY THEORY (cf. Hopper and Thompson 1980), viz. Affirmation (affirmative/negative) and Mode (realis/irrealis). Incorporation appears more congruent with the marked values of negative and irrealis (cf. Herslund, this volume; Korzen, this volume; Durst-Andersen, this volume), because of the 'non-referentiality' of the designated states of affairs. However, not only mode and affirmation are relevant in Danish, for also distinctions on the finite/non-finite parameter are involved in the choice between compounding and disponding, the tendency being for disponding (U) to go with finite (U) contexts, compounding (M) with non-finite (M) contexts, but the picture is intricate in the details.⁴⁹ Dis-

CONTROL and EXPECTEDNESS: taking a transitive verbal predicate meaning 'smbd. move (eyes) around', the normal situation is that the agentive subject is not controlling the movement of his/her eyes, they just move — s/he is the 'active zone'. Therefore, in this, normal case, incorporation (internal syntax) is employed. In the unexpected (M) situation, where the agent is 'deliberately moving with his eyes like beads' (M), the free construction is used. That is, the free, non-incorporating construction (M) presents the action in its individual parts, and it is described as being more careful and deliberate (+CONTROL), and the patient is acted upon in a non-typical manner, or occurs in a non-typical state (unexpected, accidental). The incorporation construction (U) describes the state of affairs as a unitary activity where the patient is acted upon in a typical manner or occurs in a typical state (expected, essential connection). Internal syntax (synthesis, incorporation) is unmarked, external syntax (analysis) marked for this language in its general type. Notice that agentive subjects are only compatible with incorporation the more patientive (non-controlling) they are. But in some cases, this is the normal, expected situation.

49. There is a diachronic background to this state of affairs. In an earlier stage of Danish, non-finite contexts were verb-final (synthetic word order)—and compounds are verb-final, whereas finite contexts were verb-second/verb-initial (analytic word order)—and disponds are verb-initial. In the following, present-day Danish example, a compounding (M) incorporation is used in a non-finite, participial (M) context—in accordance with markedness concord, against, however the norms of usage, which do not accept this particular expression.

i. ... *en lille underlig bylt, der ligger ude midt på en gade, lille og beskidt, helt flad og over-kørt* (Thaulov 1998)

'(...) a little, strange bundle which is lying in the middle of the road, little and dirty, totally flat and over:INC:run (= run over).'

pounding (U) occurs foremost in ordinary, everyday language (U), compounding (M) in more formal varieties of the language (M).⁵⁰ Thus, the connotative value of compounding is 'formal' (M), that of dispounding 'informal' (U).

With respect to WORD ORDER PROCESSING, Danish incorporations are easier to process than their non-incorporating counterparts, because the distance between the host predicate and the copredicate is kept as small as possible, and is smaller than the distance between a normal head predicate and its complement (see Nedergaard Thomsen, this volume). Thus, incorporations are better behaved than normal VPs with respect to the word order processing principle of EARLY IMMEDIATE CONSTITUENTS (cf. Hawkins 1994). This tendency toward continuity may be regarded as an expression device, on a par with Unit Accentuation and the copredicate placement of the incorporated constituent.

7. DISCOURSE-PRAGMATICS OF INCORPORATION. As alluded to in the previous section, one would expect there to be a general correlation between the occurrence of incorporation and background clauses, because incorporation constructions are (with some exceptions, discussed below) low in transitivity (see the GROUNDING HYPOTHESIS under the Transitivity Theory). Thus, an investigation should be undertaken of the textual distribution of incorporation. As a preliminary to the investigation, it should be remembered that the main function of incorporation is that of naming (institu-

50. The more formal varieties of the language include not only scientific usage, as in i, but also popularizing genres, as in ii, and political speech, as in iii.

- i. *at system-tilskrive et sprog*
to system-INC:assign a language
'to assign a given language to a given (abstract, underlying) system'
(said by a Danish linguist in a formal lecture)
- ii. *Lang var 29 år, da hun spillefilm-debuterede med (...).*
Lang was 29 years when she feature:film-INC:début:V:ed with
'Lang was 29 years old when she made her début with the feature film (...).'
(from a film pamphlet *Australske filmdage*; N.B. classifier Incorporation)
- iii. *afgift-belægge*
tax-INC:make:subject:to
'make subject to taxes' (political parlance)

tionalized, complex) activities, so that wherever such a name is needed, an incorporation construction will be used, as in 81 from a children's book (Jorn 1949).

(81) Context: A lion wants to eat a (specific) elephant, tries but fails, the elephant being stronger than the lion.

a. (Elephant to lion:)

Er du så færdig med at -spise elefanter?

Are you then finished INC:eating elephant:NON-REF:PL

'Haven't you stopped eating elephants?' (N.B. There is only one elephant present.)

b. (Elephant to lion:)

Nå vil du -æde mer elefant?

Well, will you INC:eat more elephant:NON-REF:SG

'Well, do you want once more to try to eat an elephant?'

The above incorporations name an activity which never results in a state where the elephant is actually eaten, i.e. they do not denote telic actions. However, translocational incorporations are predicted to occur in foreground clauses, in that these incorporations are telic and thereby denote actions.

8. TOWARD A TYPOLOGY OF INCORPORATION. In this, prefinal section I shall outline a proposal for a taxonomy of incorporation. As mentioned in the introduction, incorporation is a subtype of complex word formation, i.e. a 'morphological' process. Incorporative words are functionally COMPOSITE, not derivational (compare inderivation as opposed to incorporation). That is, both the host and its incorporated co-constituent are 'categorematic' (belonging to a contentive category—'inderivatives' are more or less 'syn-categorematic').

The first classification will involve MORPHOSYNTACTIC CATEGORIZATION. Assuming, provisionally, the following morphosyntactic categories, V, N, P, Adj, Adv, D, and Other (e.g. interjections), the following classificatory grid, Table 5A, is proposed, where at least the incorporated constituent may be a phrasal projection.

| Co-Host | V | N | P | ADJ | Adv | D | OTHER | INCORPORATION |
|---------|------|------|----|------|--------|------------------|--------|---------------|
| V | VV | VN | VP | VAdj | VAdv | VD ⁵¹ | VOther | V2 |
| N | NV | NN | | NAdj | (NAdv) | | | N2 |
| P | (PN) | | | | | | | P2 |
| Adj | | AdjN | | | | | | Adj2 |
| Adv | | | | | | | | Adv2 |
| D | | | | | | | | D2 |
| Other | | | | | | | | Other2 |

TABLE 5A. Categorical taxonomy of (endo-centric) incorporation.

Notice that the incorporation constructions given in the table are only endo-centric ones, i.e. those where the host categorizes the whole construction, e.g. *-læse avis* 'read_newspaper': V1 + N = V2. However, in section 4, we saw that there are also exocentric incorporations, i.e. incorporations where neither the host nor its co-constituent categorizes the whole construction (e.g. Spanish *paraguas* 'umbrella; lit. (it) stops_rain'). A complication, then, is the parameter of HEADEDNESS.

As mentioned above, incorporation is a sub-type of 'morphological' composition. Notice, in this connection, the difference between composition proper, as in 82a, and 'co-formation' (Danish *samdannelse*, here nominalization of a V2, the type '(NAdv)' in the above table), as in 82b.

- (82) a. *-læse højt* (Incorporation = Composition proper)
 INC:read aloud:ADV
 'read aloud'
- b. *(højt-læs)ning* (Incorporation = Co-formation)
 aloud:ADV:INC:reading
 'activity of reading aloud'

As also mentioned above, inderivation is not a case of incorporation, incor-

51. Non-referentially used DPs as in i.

i. *%Hun -tog bus-sen.*
 she INC:took bus-the
 'She went by bus.'

poration being a subtype of ‘morphological’ composition (involving two stems, host and a dependent co-constituent), whereas *inderivation* involves a dependent host *inderivative* and a head co-constituent. That is, incorporation and *inderivation* are mirror ranked. However, it should be discussed whether hosts may ever be grammatical (without being *inderivatives* and thereby dependent). For instance, grammatical copular verbs could be taken as instances of incorporative hosts (they are evidently sentential heads; nevertheless, they are syncategorematic), or as instances of *inderivative* hosts (they are not dependent, but they are syncategorematic), or, the third option, subscribed to here, they are instances of grammatical superordinate hosts, thus neither incorporation nor *inderivation*. Notice that their Unit Accentuation is obligatory, contrary to normal cases of incorporation.

A further issue is the possible CATEGORIAL RESTRICTIONS placed on the incorporated co-constituents: should pronominal terms and referential DPs be excluded as, for example, co-predicates? This does not seem to be the case (cf. Mohanan 1995; Mohanan in Alsina et al. 1997, eds.). However, the lowest categories on the (Silversteinian) ANIMACY HIERARCHY (cf. Comrie 1989) are nevertheless more prone to incorporation than the higher ones. Furthermore, incorporation is supposed to be more applicable to the lower categories on scales of referentiality (individuation) and autonomous existence (cf. Herslund this volume; Korzen, this volume). Other ideational restrictions on copredicates should also be investigated. Common restrictions are that only body-part terms incorporate.

With respect to the co-constituent it should be investigated to which degree it is TOTALLY INCORPORATED (in terms of technique), or whether STRANDING of phrasal material is allowed (cf. Langg rd, this volume; Spencer 1995). The degree of PROJECTION of the co-constituent should also be investigated. For instance, to which degree is attributive modification allowed of an incorporated noun phrase?

As regards the categorial taxonomy in Table 5A it should be investigated whether there are universal hierarchies of occurrence of incorporation—consider a possible upper part as in 83.

(83) VAdv > VN > ...

That is, if a language has noun incorporation (i.e. into verbs), it also has adverbial incorporation, but not vice versa (cf. Modern Greek, Rivero 1992).

Morphosyntactic category, in its Functional Grammar interpretation, is a functional notion (relevant both to lexicon, morphology, and syntax). On the level of functional morphology, as emphasized throughout this paper, the TECHNIQUES manifesting the composite words should be investigated. As amply demonstrated, Danish has both analytic and synthetic incorporation. It should be investigated typologically how widespread the technique analysis is with respect to incorporation. It is found in the Scandinavian languages. How and when did it arise?

Not only is morphosyntactic category a relevant factor in a taxonomy of incorporation, also GRAMMATICAL RELATION is pertinent, i.e. the role of the host and the VIRTUAL role of the co-constituent in the syntagmatic structure of the incorporation. The host is thus often a verbal predicate, and the co-constituent is often a virtual satellite or argument term. But even PREDICATES are incorporated into predicates, and not only plain predicates (denoting an *f*) but also projections thereof (i.e. predication *e*, propositions *X*, and clauses *E*).⁵² Owing to these considerations, the following taxonomical grid is proposed, see Table 5B.

52. Semantically, a verbal predicate may be said to incorporate not only another verbal predicate but also its semantic projections as predication (state of affairs, *e*), proposition, *X*, or clause, *E*, subsidiarily non-projections of the same levels, as in i-iv.

| | | | | Co-P | |
|------|---------------------------|------------|----------------|----------------|---------------|
| i. | Predicate (<i>f</i>): | <i>Han</i> | <i>-syntes</i> | <i>glad.</i> | |
| | | he | INC:seemed | glad | |
| ii. | Predication (<i>e</i>): | <i>Han</i> | <i>-føjte</i> | <i>sig</i> | <i>rask.</i> |
| | | he | INC:felt | REFLEX | healthy |
| iii. | Proposition (<i>X</i>): | <i>Hun</i> | <i>-fandt</i> | <i>dem</i> | <i>dumme.</i> |
| | | she | INC:found | them | stupid |
| iv. | Clause (<i>E</i>): | <i>Han</i> | <i>-sagde</i> | <i>godnat!</i> | |
| | | he | INC:said | good night | |

| Co- | PREDICATE | SAT | ARG TERM | RESTRICTOR | OPERATOR | OTHER ⁵³ |
|-------------|------------------------|-------|----------|------------|----------|---------------------|
| | PREDICATION | | | | | |
| | PROPOSITION | | | | | |
| | CLAUSE | | | | | |
| HOST | | | | | | |
| PRED | P*P (<i>f/e/X/E</i>) | P*Sat | P*T | P*R | (P*O) | |
| SAT | | | | | | |
| TERM | | | T*T | T*R | | |
| RESTRICTOR | | | R*T | | | |
| OPERATOR | | | (O*T) | | | |
| OTHER | | | | | | |

TABLE 5B. Relational taxonomy of incorporation.

With respect to incorporation into verbal PREDICATES, it should be investigated whether there are universal hierarchies of grammatical relations of the co-constituent (and which restrictions there may be on them with respect to semantic roles and pragmatic functions/information structure roles), as in 84.

(84) Adjunct_{Manner} > ... > So/O > IO_{Dir} > Sa/A, IO_{Rec}

For instance, what would be a manner restrictor in 'syntax' may be incorporated into the verbal predicate as nuclear specifier. It should be investigated what kinds of contentive modification is applicable to the host in a given language. In Danish an O, for example, is incorporated if it is non-referential, i.e. if it is used as a zero-order entity. In Russian (Durst-Andersen, this volume) a specific morphological case, namely the instrumental, may be used to convert a term into a specifier.⁵⁴

Ideally, a cross-classification of the categorial and the relational tax-

53. Includes functors: prepositional functors and conjunctive connectors.

54. Referentiality is an operator on term structures, 'non-referential' turning an *x* into an *f*. At least some instances of Case should also be conceived of as operators on term structure, as this use of the Russian instrumental. This implies that case is a morpheme category of its own, with a specific (grammatical) content, and thus not to be dealt with by Expression Rules, as standard Functional Grammar has it.

onomies should be undertaken, to see which categorial restrictions are placed on the instantiations of the incorporated grammatical functions for example.

The RECURSIVITY of incorporation as in 85a-b (where incorporated co-constituents are instantiated by incorporation constructions) should be investigated.

- (85) a. *Volds-dømt lærer -får 10-årig -smidt ud af skole.*
 violence_sentenced teacher INC:gets 10 year:ADJ INC:expelled from school
 'Violence sentenced teacher has 10 year old kid expelled from school.'
 (Newspaper headline)
- b. *limpia-para-brisas* (Spanish)
 cleans-(stops-wind:PL)
 '(= windscreen cleaner)'

MULTIPLE INCORPORATION, where one host may be combined with more than one incorporated co-constituent (as in Chukchi, cf. Spencer 1995), should also be explored. Another important topic of investigation is the DOUBLING of the incorporated co-constituent, outside of the incorporation construction, where the free part may be either semantically identical (LITTLE PRO in GB terms) or different (CLASSIFIER INCORPORATION: *De navn-gav ham Peter*. 'They named (lit. name-gave) him Peter.'—compare doubling in inderivation, *De -fisk-Ø-edede laks*. 'They fished salmon.'). Finally, MODIFIER STRANDING should be investigated, also with respect to whether the stranded material is grammatical elsewhere in the syntax, as in 86.

- (86) a. *videre-stilling af samtaler til anden telefon*
 further-INC:sending of calls to another telephone
 're-sending conversations to another telephone'
 (Tele Danmark pamphlet)
- b. *-stille dine samtaler videre til en hvilken som helst anden telefon*
 INC:send your calls (further) to whichever other phone
 'send your conversations further to whichever other telephone you like'
 (ibid.)
- c. *det finanslovs-forberedende arbejde for 1986*
 the finance:law's-INC:preparing work for 1986
 'the finance-law-preparing work for 1986' (*Finansloven for 1986*)

On the EXPRESSION side, the expression devices employed should be explored: PHONOLOGY versus TOPOLOGY (i.e. ordering). Within the former devices, phonology, the use of segmental versus suprasegmental factors (e.g. stress reduction or vowel harmony) should be classified. For instance, is it only one of the members of a complex predicate which is subject to phonological modification (as with Danish Unit Accentuation of the host—i.e. head marking phonology), or are both members influenced? As regards topology, ordering restrictions dependent on the morphosyntactic technique involved should be investigated. Some languages (e.g. Turkish) seem to show only ‘embryonic’ incorporation, where the sole distinctive factor is ordering restrictions on the incorporation constructions (e.g. copredicate right before its host). Danish has host before incorporated co-constituent in the disponding technique but incorporated co-constituent before host in the compounding technique. Dutch, on the other hand, may have incorporated co-constituents AFTER a verbal host in compounding incorporation, thereby allowing verbal inflections to come after the noun part, a kind of inflectional discontinuity (cf. Weggelaar 1986).⁵⁵ Danish is a language which has a specific slot in its fixed sentential word order template for CO-PREDICATES, but not for hosts (that is, dependent marking topology). Furthermore, Danish has a global signaling of complex predicates by way of minimizing the distance between the host and the copredicate in terms of number of words (cf. Nedergaard Thomsen, this volume).

Incorporation is a univerbation on the content side expressed by a univerbation on the expression side. As incorporation is an amalgamation of two elsewhere fully independent content units into one, so to speak, either one or both parts of an incorporation are prone to (some degree of) desemanticization. However, this desemanticization may lead to further gram-

55. A list of (non-productive, lexicalized) incorporations of body part terms, with host before co-predicate is in i.

i. *klapper-tanden*, *klap-wieken*, *knarse-tanden*, *knikke-benen*, *knikke-bollen*, *knip-ogen*, *kwispel-staarten*, *likke-haarden*, *pluk-haren*, *reik-halzen*, *schok-schouderen*, *schudde-bollen*, *schuim-bekken*, *staar-ogen*, *suize-bollen*, *stamp-voeten*, *traan-ogen*, *trek-benen*, *trekke-bekken*, *kort-oren*, *kort-staarten*, *kort-wieken*. (cf. Geerts et al. 1984; Van Durme, pers. comm.)

Danish has similar examples, though highly sporadic, as in ii.

ii. *skrab-sammen* (neuter noun, nominalized verbal root)
scrape-together (VI before co-predicate)

maticalization and loss of status as incorporation (compare the Danish composite tenses and grammatical copulae). In this connection, the morphosyntactic as well as the expressional complexity of the incorporated co-constituent should be investigated, and likewise the complexity of the host: in some languages an incorporated N may not include an adjectival restrictor of the head N. In Danish an incorporation construction does not seem to be able to perform the function as host in a further incorporation—compare *+op-arbejde atomaffald* 'process nuclear waste, lit. up_work', where the virtual host *+op-arbejde* 'lit. up_work' is an incorporation and the virtual copredicate is yet another compound.

Overarchingly, the possible correlations between incorporation on the one hand and the morphosyntactic types of languages on the other, the categorial-syntactic types and the relational-syntactic types—as well as the 'supertypes' (Durst-Andersen 1996)—should be investigated.

9. CONCLUSION. It has been demonstrated that incorporation is not identical to complex predicate formation but includes, besides complex predicate formation, complex term formation and other complex word formations, and that it involves the formation of complex names for especially unitary zero and first order entities.

ACKNOWLEDGMENTS. I gratefully acknowledge the financial support from the Danish Research Council for the Humanities (1992-1995) in connection with the present (and other) research concerning incorporation in Danish.

REFERENCES

- ACKERMAN, FARRELL; AND GERT WEBELHUTH. 1998. *A theory of predicates*. Stanford: Center for the Study of Language and Information (CSLI) Publications.
- ALSINA, ALEX; JOAN BRESNAN; AND PETER SELLS. 1997 (eds.) *Complex predicates*. Stanford: Center for the Study of Language and Information (CSLI) Publications.
- ANDERSEN, HENNING. 1972. Diphthongization. *Language* 48.11-50.
- 1974. Markedness in vowel systems. In Heilmann, Luigi (ed.) *Proceedings of the eleventh International Congress of Linguists* (Bologna-Florence, Aug.-Sept. 1972), Vol. II, 891-897. Bologna: Società editrice il Mulino.
- 1980. Morphological change. Towards a typology. In Fisiak, Jacek (ed.) *Historical Morphology*, 1-50. The Hague: Mouton.
- 1991. On the projection of equivalence relations into syntagms. In Waugh, Linda R.; and Stephen Rudy (eds.) *New Vistas in Grammar: Invariance and variation*, 287-311. Amsterdam/Philadelphia: John Benjamins.
- 1997. Does the past have a future? Reflections on the Jakobson heritage. *Acta Linguistica Hafniensia* 29.149-177. (The Roman Jakobson Centennial Symposium, Copenhagen 10-12 October 1996. Per Aage Brandt et al., eds.)
- ANDERSON, JOHN M. 1997. *A notional theory of grammatical categories*. Cambridge: Cambridge University Press.
- AXELROD, MELISSA. 1990. Incorporation in Koyukon Athapaskan. *International Journal of American Linguistics* 56.179-195.
- BAKER, MARK C. 1988. *Incorporation. A theory of grammatical function changing*. Chicago: The University of Chicago Press.
- BARON, IRÈNE; AND MICHAEL HERSLUND. 1998. Support Verb Constructions as Predicate Formation. In Olbertz, Hella; et al. (eds.) *The structure of the Lexicon in Functional Grammar*, 99-116. Amsterdam/Philadelphia: John Benjamins.
- BLOOMFIELD, LEONARD. 1933. *Language*. New York: Henry Holt.
- BOLINGER, DWIGHT L. 1977. Transitivity and spatiality: The passive of prepositional verbs. In Makkai, Adam; et al. (eds.) *Linguistics at the cross-roads*. Padova: Liviana Editrice.
- BRØNDAL, VIGGO. 1928. *Ordklasserne. Parties orationis. Studier over de sproglige kategorier*. Copenhagen: Bianco Lunos Bogtrykkeri.
- 1932. *Morfologi og syntax. Nye bidrag til sprogets teori*. Copenhagen: Bianco Lunos Bogtrykkeri.
- COMRIE, BERNARD. 1989². *Language Universals and linguistic typology—Syntax and morphology*. London: Basil Blackwell.
- DAUGAARD, JAN. 1994. Mængdehelheder. In Baron, Irène (ed.) *NORDLEX-Projektet Sammen-satte substantiver i dansk*. *Lambda* 20:39-56.

- DIK, SIMON C. 1994. Verbal semantics in Functional Grammar. In Bache, Carl; et al. (eds.) *Tense, Aspect and Action. Empirical and theoretical contributions to language typology*, 23-42. Berlin/New York: Mouton de Gruyter.
- 1997. *The Theory of Functional Grammar*, Parts I-II. Berlin/New York: Mouton de Gruyter. (Kees Hengeveld, ed.)
- DIXON, R.M.W. 1972. *The Dyirbal language of North Queensland*. Cambridge: Cambridge University Press.
- 1994. *Ergativity*. Cambridge: Cambridge University Press.
- DURST-ANDERSEN, PER. 1992. *Mental Grammar. Russian aspect and related issues*. Columbus, Ohio: Slavica.
- 1996. Russian Case as Mood. *Journal of Slavic Linguistics* 4.177-273.
- DURST-ANDERSEN, PER; AND MICHAEL HERSLUND, 1996. The syntax of Danish verbs: Lexical and syntactic transitivity. In Harder, Peter; et al. (eds.) *Content, Expression, and Structure: Studies in Danish Functional Grammar*, 65-102. Amsterdam/Philadelphia: John Benjamins.
- FOLEY, WILLIAM; AND ROBERT D. VAN VALIN, JR. 1984. *Functional Syntax and Universal Grammar*. Cambridge: Cambridge University Press.
- FORTESCUE, MICHAEL. 1992. Aspect and superaspect in Koyukon: an application of the Functional Grammar model to a polysynthetic language. In Fortescue, Michael; et al. (eds.) *Layered structure and reference in a functional perspective*, 99-141. Amsterdam/Philadelphia: John Benjamins.
- FRELLESVIG, BJARKE. 1995. *A case study in diachronic phonology. The Japanese Onbin sound change*. Aarhus: Aarhus University Press.
- FROMKIN, VICTORIA A. 1987. The Lexicon: Evidence from acquired dyslexia. *Language* 63.1-22.
- FUNKNET. 1998. /Croft, William, Oct. 5: Storage parsimony vs. computing parsimony.
 /MacWhinney, Brian, Oct. 5: Storage.
 /Schulze, Wolfgang, Oct. 7: Storage parsimony vs. computing parsimony.
 /Chafe, Wallace, Oct. 10: Re: Storage parsimony vs. computing parsimony.
 /Barsalou, Larry, Oct. 11: Croft's question.
 /Kemmer, Suzanne, Oct. 12: Storage and computation.
 /Fullmer, Joseph, Oct. 13: Re: Storage and computation.
 /Tuggy, David, Oct. 13: Re: Storage and computation.
 /MacWhinney, Brian, Oct. 14: Rote vs rules.
 /Bates, Liz, Oct. 14: Storage versus computation.
 /Boyland, Joyce Tang, Oct. 14: Language as lists vs language as skill.
 /Haspelmath, Martin, Oct. 16: Storage/retrieval/computation.

- GEERTS, G.; ET AL. 1984. *Algemene Nederlandse Spraakkunst*. Groningen: Wolters-Noordhoff, Leuven: Wolters.
- GROOT, CASPER DE. 1996. Talk given at *ICFG 7*, Universidad de Córdoba, Spain.
- HARDER, PETER; LARS HELTOFT; AND OLE NEDERGAARD THOMSEN. 1996. Danish directional adverbs: Content syntax and complex predicates—a case for host and co-predicates. In Engberg-Pedersen, Elisabeth et al. (eds.) *Content, expression and structure. Studies in Danish Functional Grammar*, 159-198. Amsterdam/Philadelphia: John Benjamins.
- HENGVELD, KEES. 1998. Do we need predicate frames, paper presented at the Colloquium on the predicate in Functional Grammar. 4/7/1998, Free University, Amsterdam.
- HERSLUND, MICHAEL. 1995a. The Object relation and the notion of Incorporation. In Schøsler, Lene; et al. (eds.) *Studies in Valency I*, 1-18. Odense: Odense University Press.
- 1995b. The Applicative Derivation and the „Spray Paint“ Alternation in Danish. *University of Trondheim Working Papers in Linguistics* 25.43-59.
- 1998. Fransk som klassifikatorsprog. *Ny forskning i grammatik, Fællespublikation 5* (Sophienbergsymposiet 1997), 37-56. Odense: Odense Universitetsforlag.
- HERSLUND, MICHAEL; AND FINN SØRENSEN. 1994. A valency-based theory of grammatical relations. In Engberg-Pedersen, Elisabeth, et al. (eds.) *Function and expression in Functional Grammar*, 81-95. Berlin/New York: Mouton de Gruyter.
- HJELMSLEV, LOUIS. 1957. On Unit Accentuation. *BCLC 1941-1965*. 202-205.
- HOPPER, PAUL J.; AND SANDRA A. THOMPSON. 1980. Transitivity in grammar and discourse. *Language* 56.251-299.
- HUDSON, RICHARD A. 1984. *Word Grammar*. London: Basil Blackwell.
- JAKOBSON, ROMAN. 1957/71. Shifters, verbal categories, and the Russian verb. Cambridge, Mass. 1957. In *Selected Writings II. Word and Language*, 130-147. The Hague/Paris: Mouton.
- JESPERSEN, OTTO. 1897-99. *Fonetik. En systematisk fremstilling af læren om sproglyd*. Copenhagen: Det Schubotheske Forlag, 560-566.
- KAY, PAUL. 1997. *Words and the grammar of context*, 1-48, 123-131. Stanford: Center for the Study of Language and Information (CSLI) Publications.
- KORZEN, LØRN. this vol. Noun incorporation in Italian.
- KRISTOFFERSEN, LARS. 1992. Derivation and inflection in a Functional Grammar of West Greenlandic. In Fortescue, Michael; et al. (eds.) *Layered structure and reference in a functional perspective*. Amsterdam/Philadelphia: John Benjamins.
- LAMB, SYDNEY M. 1993. Idioms, lexemes, and syntax. In *Proceedings of the XVth International Congress of Linguists*, vol. 1, 347-350. Québec: Les Presses de l'Université Laval.
- 1999. *Pathways of the Brain. The neuro-cognitive basis of language*. Amsterdam/Philadelphia: John Benjamins.

- LEHMANN, CHRISTIAN. 1991. Relationality and the grammatical operation. In Seiler, Hansjacob; et al. (eds.) *Partizipation. Das sprachliche Erfassen von Sachverhalten*, 13-28. Tübingen: Gunter Narr.
- LEVIN, BETH; AND MALKA RAPPAPORT HOVAV. 1995. *Unaccusativity. At the Syntax-Lexical Semantics Interface*. Cambridge, Mass./London: The MIT Press.
- MITHUN, MARIANNE. 1984. The evolution of Noun Incorporation. *Language* 60. 847-894.
- 1986. On the nature of Noun Incorporation. *Language* 62.32-37.
- MOHANAN, TARA. 1995. Wordhood and lexicality: Noun Incorporation in Hindi. *Natural Language and Linguistic Theory* 13.75-134.
- NEDERGAARD THOMSEN, OLE. 1985. Noter om anvendelsen af figur/grund-begrebet samt markerethed indenfor syntaksen iflg. en funktionalistisk grammatikopfattelse. *APILKU* 5.297-324.
- 1990/91. An overview of the fundamentals of a Functional-Pragmatic theory of grammatical structure. *Copenhagen Working Papers in Linguistics* 1.1-53.
- 1991. Unit Accentuation as an Expression Device for Predicate Formation in Danish? *Acta Linguistica Hafniensia* 23.145-196.
- 1992. Unit Accentuation as an Expression Device for Predicate Formation. In Fortescue, Michael, et al. (eds.) *Layered structure and reference in a functional perspective*, 173-229. Amsterdam/Philadelphia: John Benjamins.
- 1996. Adjectives and hierarchical semantic structure in Danish. In Davidsen-Nielsen, Niels (ed.) *Sentence analysis, valency, and the concept of Adject*. *Copenhagen Studies in Language* 19.51-110.
- 1998a. Syntactic processing and word order in Danish. *Acta Linguistica Hafniensia* 30.129-166.
- 1998b. Retningsadverbialer og komplekse prädikater i dansk. In *Selskab for Nordisk Filologi: Årsberetning 1996-1997*, 128-138. Copenhagen: Selskab for Nordisk Filologi.
- NICHOLS, JOHANNA. 1986. Head-marking and dependent-marking grammar. *Language* 62.56-119.
- ROSEN, SARA THOMAS. 1989. Two types of Noun Incorporation: A lexical analysis. *Language* 65.294-317.
- RISCHEL, JØRGEN. 1983. On Unit Accentuation – and the distination between deep and surface prosody. *Folia Linguistica* 17.51-97.
- RIVERO, MARIA LUISA. 1992. Adverb incorporation and the syntax of adverbs in Modern Greek. *Linguistics and Philosophy* 15.289-331.
- SADOCK, JERROLD M. 1986. Some Notes on Noun Incorporation. *Language* 62.19-31.
- 1991. *Autolexical Syntax. A theory of parallel grammatical representations*, 78-110, 165-178. Chicago/London: The University of Chicago Press.

- SANDFORD-PEDERSEN, BOLETTE. 1997. Danish motion verbs: Syntactic alternations and the hypothesis of semantic determination. *Nordic Journal of Linguistics* 20.63-89.
- SASSE, HANS-JÜRGEN. 1987. The thetic – categorical distinction revisited. *Linguistics* 25.501-567.
- SCHNELLE, HELMUT. 1997. Linguistic structure, brain topography, and cerebral process. *Acta Linguistica Hafniensia* 29.271-303.
- SEARLE, JOHN R. 1983. *Intentionality*. Cambridge: Cambridge University Press.
- SPENCER, ANDREW. 1995. Incorporation in Chukchi. *Language* 71.439-489.
- SWEETSER, EVE. 1997. Mental spaces, roles and English change predicates. In Nuyts, Jan; and Eric Pederson (eds.) *Language and cognition*. —. Cambridge: Cambridge University Press.
- TALMY, LEONARD M. 1985. Lexicalization Patterns: Semantic structure in lexical forms. In Shopen, Timothy (ed.) *Language typology and linguistic description*, 57-149. Cambridge: Cambridge University Press.
- 1991. Paths to realization: A typology of event conflation. *Berkely Linguistics Society* 17.460-519.
- TENNY, CAROL; AND JAMES PUSTEJOVSKY 2000 (eds.) *Events as grammatical objects. The converging perspectives of lexical semantics and syntax*. Stanford: Center for the Study of Language and Information (CSLI) Publications.
- THRANE, TORBEN. 1983. On the universality of AUX. *Acta Linguistica Hafniensia* 18.154-200.
- VAN VALIN, JR., ROBERT D. 1993. A synopsis of Role and Reference Grammar. In Van Valin, Jr., Robert D. (ed.) *Advances in Role and Reference Grammar*, 1-164. Amsterdam/ Philadelphia: John Benjamins.
- VAN VALIN, JR., ROBERT D.; AND RANDY LAPOLLA. 1997. *Syntax: Structure, Meaning and Function*. Cambridge: Cambridge University Press.
- VARELA, SOLEDAD. 1989. Spanish endocentric compounds and the 'atom condition'. In Kirschner, Carl; and Janet De Cesaris (eds.) *Studies in Romance linguistics*, 397-411. Amsterdam/Philadelphia: John Benjamins.
- WEGGELAAR, C. 1986. Noun Incorporation in Dutch. *International Journal of American Linguistics* 52.301-305.

CITED EXAMPLES

DRTV1, DRTV2, and TV2 (Danish television channels)

JORN, ASGER. (ca.) 1949. *Troels Jorns bog om den sultne løve, den glade elefant, den lille mus, og Jens Pismyre, skrevet og tegnet af hans far Asger Jorn*. København: Borgen, 1995

THAULOV, PIA. 1998. *Sille og lille Sofus*. Rådet for større Færdselssikkerhed, København: Børnenes Trafikklub.









Travaux du Cercle linguistique de Copenhague.

Published by The Linguistic Circle of Copenhagen.

Distributed by C.A. Reitzels Boghandel A/S,

Nørregade 20. DK-1165 Copenhagen K. Denmark.

- Vol. V. *Recherches structurales* 1949. Interventions dans le debat glossernatique (1949). 2nd ed. 1970. 307 p.
- Vol. X,1. *H. J. Uldall: Outline of Glossernatics. Part I: General Theory* (1957). 2nd ed. 1967. 92 p.
- Vol. XI. *La structure classique de la civilisation occidentale moderne: Linguistique.* (=Acta Congressus Madvigiani vol. V:) 1957. 235 p.
- Vol. XII. *Louis Hjelmslev: Essais linguistiques* (1959). 2nd ed. 1970. 275p.
- Vol. XIII. *Jacob Louis Mey: La catégorie du nombre en finnois moderne.* 1960. 149 p.
- Vol. XIV. *Louis Hjelmslev: Essais linguistiques II.* 1973. 278 p.
- Vol. XV. *Louis Hjelmslev: Sprogssystem og sprogforandring.* 1972. 159 p.
- Vol. XVI. *Louis Hjelmslev: Résumé of a Theory of Language.* Edited and translated with an introduction by Francis J. Whitfield. 1975. 280 p.
- Vol. XVII. *Peter Harder & Christian Kock: The Theory of Presupposition Failure.* 1976. 72 p.
- Vol. XVIII. *Jens Elmegård Rasmussen: Anaptyxis, Geminatio, and Syncope in Eskimo.* 1979. 152 p.
- Vol. XIX. *Una Canger: Five Studies Inspired by Nahuatl Verbs in -oa.* 1980. 256 p.
- Vol. XX. *Typology and Gepeitics of Language. Proceedings of the Rask-Hjelmslev Symposium, held at the University of Copenhagen 3rd-5th September, 1980.* 210 p.
- Vol. XXI. *Knut Bergsland & Jørgen Rischel (eds.): Pioneers of Eskimo Grammar. – Hans Egede's and Albert Top's early manuscripts on Greenlandic.* 1986. 188 p.
- Vol. XXII. *Linguistique et Sémiotique. Actualité de Viggo Brøndal. Actes du colloque tenu à la société Royale des Sciences, à Copenhague les 16 et 17 octobre 1987. Rédigés par Per Aage Brandt.* 1989. 145 p.
- Vol. XXIII. *On Modality. Papers from Meetings and Discussions in the Linguistic Circle of Copenhagen. Michael Herslund (ed.).* 1989. 71 p.
- Vol. XXIV. *Louis Hjelmslevet la sémiotique contemporaine. Rédigé par Michael Rasmussen.* 1993. 193 p.
- Vol. XXV. *Louis Hjelmslev: Omkring sprogteoriens grundlæggelse.* 1993. 141 p.
- Vol. XXVI. *Rasmus Kristian Rask: Investigation of the Origin of the Old Norse or Icelandic Language. Translated by Niels Ege.* 1993.
- Vol. XXVII. *Eli Fischer-Jørgensen: Trends in Phonological Theory Until 1975. A Historical Introduction.* 2nd. ed. 1995. 475 p.
- Vol. XXVIII. *Michael Fortescue: Indoeuropean Reflections.* 1996. 78 p.
- Vol. XXIX. *Jørgen Staun: On the Locational Description of Consonants.* 1996. 137 p.
- Vol. XXX. *Søren Brandt: Modal Verbs in Danish.* 1999. 224 p.
- Vol. XXXI. *Nina Grønnum & Jørgen Rischel (eds.): To honour Eli Fischer-Jørgensen.* 2001. 297p.
- Vol. XXXII. *Ole Nedergaard Thomsen & Michael Herslund: Complex Predicates and Incorporation – a functional perspective.* 2002. 381 p.