Working Papers in Scandinavian Syntax

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**PARAMETERS OF BINDER AND OF BINDING CATEGORY
IN DANISH**

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Contents

1. Introduction.

This paper has a dual purpose: To account for the binding of reflexives and pronouns in Danish, and to argue that the choice of binder and the choice of binding category should be seen as two independent parameters of binding theory.

The binding category parameter corresponds to principles A and B of the binding theory in Chomsky (1981)(henceforth: LGB), whereas the binder parameter, which is more controversial, is related to what elsewhere (e.g. Manzini and Wexler (1984)) has been called the proper antecedent parameter. The interaction of the two parameters gives the possiblity of four distinct types of anaphors/pronominals, a situation which I will try to show obtains in Danish.

Section 2 will give a brief summary of the premises of the analysis: the binding theory according to LGB, control theory, and word order in Danish. In section 3 the initial assumption that Danish is no different from Englsh w.r.t. binding will be rejected, and section 4 will discuss Danish sig and sig selv, including both reflexive and optionally reflexive verbs and constructions. Section 5 treats ham/hende and ham selv/ hende selv, and the overlap between sig and ham/hende; and an overview of the analysis is given in section 6.

In the second half of the paper, attention will be paid to areas which either provide support for or present problems for the analysis. Section 7 will deal with two areas where each of the two parameters can be seen at work without interference from the other: possessives and first and second person pronouns. In section 8 an anaysis for the so-called 'accessibility' facts in English (more or less consistent with the LGB analysis) will be shown to cover similar phenomena in Danish. Section 9 is on NPs as binding categories, with the emphasis on 'subjectless' NPs, as NPs with overt (genitive) subjects are relatively uncontroversial. The conclusion comes in section 10, where more general parameters are set up, and implications of the whole analysis for learnability are considered, both with reference to the suggestions of Manzini and Wexler (1984). The appendix contains translations more idiomatic than the word-for-word ones supplied with each Danish example.

Let me conclude this introduction with a remark of a more

practical kind. As stated above, I will not be concerned with traces or reciprocals, but only with reflexives and pronouns, representing four types of potentially bound elements: anaphors or pronominals with respect to the binder parameter (b for binder), and anaphors or pronominals with respect to the binding category parameter (d for domain in which an element should (not) be bound). These are set out in (1), with English glosses and type labels:

(1)	Danish	English gloss	Type	
a.	ham/	him/	b-pronominal	d-pronominal
	hende	her		
b.	ham selv/	himself/	b-pronominal	d-anaphor
	hende selv	herself		
c.	sig	REFL	b-anaphor	d-pronominal
d.	sig selv	REFL self	b-anaphor	d-anaphor

'REFL' has been chosen to stress that English has no reflexive which is neutral with respect to gender and number.

2. Premises.

2.1 Binding Theory.

I will be referring to the binding theory as put forth in LGB:188, with the revisions suggested on pp. 211 and 220:

(100) Y is a binding category for X iff Y is the minimal category containing X and a subject of X.[1]

(101) (A) An anaphor is bound in its binding category.
 (B) A pronominal is free in its binding category.

The term SUBJECT refers to the AGR element (which is taken to be a complex set of features such as gender, person and number, contained by the INFL of a finite clause) if present, and to the structural subject if AGR is not present (i.e. in constituents with a subject but no AGR, viz. non-finite clauses and certain NPs).

A consequence of referring to the twice revised binding theory is that I will not be concerned with whether the binding category of a given element contains the governor of this element (hence no references to 'governing category'). This issue is only relevant when discussing the distribution of PRO, and I am not convinced that the facts about PRO should fall out from binding theory. Besides, the main topic of this paper is the distribution of phonetically realised anaphors/pronominals.

2.2 Control Theory.

First, however, a few more words about PRO, to explain why superficially similar examples below differ with respect to the presence of PRO. PRO is the empty (i.e. inaudible) pronominal (and/or anaphoric) NP, which only occurs as the subject of certain infinitivals, and it makes possible various generalisations, such as 'all clauses have subjects' (LGB:25). This is also the case in the area we are concerned with here, as rules necessary to account for e.g. binding of anaphors in tensed clauses (anaphors are bound by a subject in a certain domain (to be revised later)) will now also cover untensed clauses:

(2)   Det er svært [$_{S'}$ PRO$_i$ at klippe sig selv$_i$]

        "It is difficult [PRO to cut ____]"

Also PRO is necessary for the theory of thematic roles (theta-
theory). The theta-criterion requires that each argument should
be assigned one and only one theta-role, and that each theta-role
should be assigned to one and only one argument. Thus in the
bracketed S' in (2) there are two theta-roles, AGENT (cutter) and
THEME (the one who is cut, or 'cuttee'[2]). The 'cuttee' is <u>sig
selv</u>, and the 'cutter' then has to be an inaudible argument (i.e.
PRO), as there are no more phonetically realised arguments in
(2).

     Theta-theory is essential when determining whether or not a
given sentence contains PRO. Consider

(3)   a. Peter bad Søren$_i$ om [$_{S'}$ PRO$_i$ at gå]
      b. *Peter bad   [$_{S'}$ Søren om at gå]
         "Peter asked Søren for to leave"

(4)   a. *Peter hørte Søren$_i$ [$_{S'}$ PRO$_i$ gå]
      b. Peter hørte   [$_{S'}$ Søren gå]
         "Peter heard Søren leave"

The reason why Søren and PRO both are there in (3), but not in
(4), is that in (3) two theta-roles are connected with the person
Søren, namely that of 'askee' (THEME of <u>ask</u>) and that of 'leaver'
(AGENT of <u>leave</u>), whereas in (4) only one theta-role is connected
with Søren, 'leaver', as there is no 'hearee', no THEME of <u>hear</u>
(or if there is, it is the entire embedded S', and not Søren)[3].
     The link between PRO and its antecedent is called control.
According to the function of its antecedent, PRO may be object-
controlled, as in (3), or subject-controlled, as in

(5)   Peter$_i$ lovede Søren [$_{S'}$ PRO$_i$ at gå]
        "Peter promised Søren [PRO to leave]"

or it may not be controlled at all, i.e. have some sort of
general reference, as in (2). (For one formulation of the rules
of control, see Manzini (1983)).

2.3 Word Order in Danish.

     As regards the basic word order in Danish, I shall follow the
analysis suggested by a.o. Holmberg (1983), Platzack (1982,
forthcoming) and Sørensen (1983). The analysis of e.g. a single
object constructions will thus be[4]

(6)
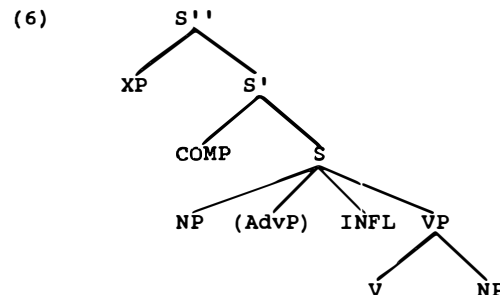
     All examples given will be subordinate clauses, to avoid the
complications of verb second type main clause movements, as
discussed in the papers cited above.

3. Basic Differences from English.

In traditional grammatical descriptions of Danish, it is
implicitly assumed that the difference between sig and sig selv
is syntactically irrelevant, as examples randomly use one or the
other, without mentioning any difference between the two (e.g.
Mikkelsen (1911:258ff.), Diderichsen (1946:56)). With this in
mind one might expect that both sig and sig selv behave as
anaphors in accordance with the LGB rules, and that the
difference between the two would be determined somewhere else,
e.g. pragmatically. This would seem to be borne out by the all
too frequently cited example:

(7) a. at [$_S$ Peter$_i$ AGR vaskede sig$_i$]
     b.   sig selv$_i$
     c.   *ham$_i$
     d.   *ham selv$_i$
        "that [Peter AGR washed _____]"

It is my contention that (7) is atypical, and that the
following examples are the core cases, illustrating that the
situation is rather more complicated syntactically than suggested
by (7):

(8) a. at Peter$_i$ AGR hørte [$_S$ Anne$_j$ omtale sig$_i$]
     b.   *sig$_j$
     c.   *sig selv$_i$
     d.   sig selv$_j$
        "that Peter AGR heard [Anne mention _____]"

Also in simple sentences the variation is far from free:

(9) a. at [$_S$ Peter$_i$ altid AGR har beundret *sig$_i$]
     b.   sig selv$_i$
        "that [Peter always AGR has admired _____]"

Examples like (8) and (9) led to the analysis to be put forth on
the following pages.

Another difference between Danish and English is whether the
binder can be any c-commanding NP or it must be the subject of a
category containing the potentially bound element. English allows
the former, Danish requires the latter. Thus Danish potentially
bound elements must not only be bound/free in a certain domain,
but they must also be bound by/free from binding by a certain
kind of binder, viz. a subject. E.g. sig selv in (9) must not only
be bound in the bracketed S, but it must also be bound by a
subject.

A result of the analysis will be (as stated in section 1) that
Danish contains two parameters with respect to which elements may
be classified as either anaphoric or pronominal. Being an anaphor
with respect to a certain parameter may be defined as being an
element which must be bound in accordance with the specifications
of the parameter. Similarly, being a pronominal may be defined as
being an element which must not be bound, also with respect to a
given parameter.

The analysis will be founded on a subgrouping of verbs and
prepositional constructions into one of three classes on the
basis of their complementation: non-reflexive, reflexive, and
optionally reflexive constructions (as reflected in the
subsections of section 4).

4. sig and sig selv.

4.1 In General.

Leaving aside (7) and the so-called reflexive constructions for a while, I will here suggest rules accounting for both the similarities and the differences between sig and sig selv.

Both of them must be bound by a subject which is inside the c-command domain of the lowest AGR c-commanding sig/sig selv. This domain will be called the AGR domain, and being bound by a subject in the AGR domain is the same as being bound by a subject in the lowest tensed clause, as AGR only is found in (and c-commands all of) a finite clause.

The difference between sig and sig selv is that sig must not be bound from inside its SUBJECT domain (i.e. from inside the c-command domain of the lowest SUBJECT c-commanding sig, which corresponds to either the lowest clause irrespective of finiteness or to certain NPs, cf. section 9), whereas sig selv must be bound from inside its SUBJECT domain.

As regards their status as anaphors, both sig and sig selv are anaphors with respect to the binder-parameter (both must be bound by a specific type of binder), whereas only sig selv is an anaphor with respect to the binding category parameter (sig selv must, but sig must not be bound in a specific domain or binding category). sig is thus a b-anaphor (b for binder) but a d-pronominal (d for domain), whereas sig selv is both a b-anaphor and a d-anaphor.[5]

By way of illustration of how the above rules work, consider first (10), which is similar to (9):

(10) a. at [$_S$ Peter$_i$ AGR fortalte Michael$_j$ om sig selv$_i$]
      b.   *sig selv$_j$
      c.   *sig$_i$
      d.   *sig$_j$
          "that [Peter AGR told Michael about _____]"

This is a case where the SUBJECT is the AGR. sig is therefore ruled out altogether in (10), as it must be bound by a subject in its AGR domain (= the S), being a b-anaphor, but it must be free in its SUBJECT domain (= the S as well), being a d-pronominal,

and these two requirements can clearly not be met at the same time.

As for sig selv, being a b-anaphor it must be bound by a subject in the AGR domain, and being a d-anaphor it must be bound in its SUBJECT domain, both of which are met in (10a), but not in (10b), where it is bound by a non-subject.

Consider now the case where the AGR and the SUBJECT are not identical, i.e. where the element in question is embedded in a constituent with a SUBJECT but without an AGR, e.g. an infinitival clause. I shall here give an example with PRO, but one without PRO is equally possible, cf. (8) and section 2.2.

(11)   at [$_S$ Peter$_i$ AGR bad Anne$_j$ om
      a.   [$_S$ PRO$_j$ at ringe til sig$_i$]]
      b.   *sig$_j$
      c.   *sig selv$_i$
      d.   sig selv$_j$
          "that [Peter AGR asked Anne for [PRO to ring to _____]]"

Both of the potential binders, Peter and PRO, are subjects, and both are inside the AGR domain (= the higher S), so none of the possibilities in (11) are ruled out by the binder-parameter.

The domain-parameter, however, rules out both (11b) and (11c). (11b) is out because sig is bound inside its SUBJECT domain (= the lower S) which it should not be, being a d-pronominal; and (11c) is out for exactly the opposite reason, being a d-anaphor sig selv should be, but is not, bound in its SUBJECT domain.

The last example in this section will be a case where sig is impossible even though AGR and SUBJECT are not identical. The relevant difference between (11) and (12) is that in (11) PRO was controlled by the object of the higher S, whereas in (12) PRO is controlled by the subject of the higher S:[6]

(12)   at [$_S$ Peter$_i$ AGR lovede Anne$_j$
      a.   [$_S$ PRO$_i$ at ringe til *sig$_i$]]
      b.   *sig$_j$
      c.   sig selv$_i$
      d.   *sig selv$_j$
          "that [Peter AGR promised Anne [PRO to ring to _____]]"

The binder-parameter here rules out the index 'j', as this would entail binding by a non-subject, _Anne_, thus (12b) and (12d) are out.

The domain-parameter allows (12c), _sig selv_ is bound inside its SUBJECT domain (= the lower S) as it should be, but it rules out (12a). Even though _sig_ is coindexed wih _Peter_, which fulfills both requirements (it is a subject in the AGR domain, and it is outside the SUBJECT domain), binding by _Peter_ would entail binding by PRO, as PRO would be the lowest NP coindexed with and c-commanding _sig_, and this would mean binding from inside the SUBJECT domain.

4.2 Reflexive Constructions.

That _sig_ should only be possible when bound from outside an infinitival S (or certain NPs, cf. section 9) is a conclusion derivable from the preceding section. It is however also a statement most Danes would not accept, cf. the following example:

(13) a. at [$_S$ Peter$_i$ AGR sov over sig$_i$]
    b.   *sig selv$_i$
        "that [Peter AGR slept over _____]"

This type of example is traditionally called a reflexive construction. What is important here is that as opposed to _sig_ in (11a), _sig_ in (13a) does not "mean" anything, as it can not be replaced by another NP. With reference to (13) it is impossible to "sleep over" anything or anybody but oneself. Other examples of local _sig_, i.e. _sig_ bound by binders closer than on the other side of an infinitival S, are the following expressions:

(14) a. være doven af sig, "be lazy of _____" = be naturally lazy
    b. slå fra sig,   "hit from _____"   = defend oneself
    c. skynde sig,   "hurry _____"   = hurry
    d. komme sig,   "come _____"   = recover

(Further examples may be found in Thrane (1983:8) and Vikner (1984:38)).

This local _sig_ may be possible with both transitive and intransitive verbs. With an otherwise intransitive verb we get an

example like _sove over_ "oversleep" in (13), with a transitive verb the result is an example like the following, parallel to (7):

(15) a. at [$_S$ Peter$_i$ AGR barberede sig$_i$]
    b.   sig selv$_i$
    c.   Michael
        "that [Peter AGR shaved _____]"

Both cases can be handled with reference to the fact that local _sig_ does not mean anything, i.e. it does not get a theta-role[7] (this claim is not uncontroversial in the transitive cases, cf. the discussion in 4.3). The descriptive generalisation is then a) a position that would have _sig selv_ if a theta-role was assigned to it, requires _sig_ if no theta-role is assigned, and b) a position that would have a _sig_ if theta-assigned can not have any NP at all if not theta-assigned. The former can be seen by comparing (16b,d) to (13), the latter by comparing (16a,c) to (8) and (11):

(16)   at [$_S$ Peter $_i$ AGR overtalte Anne$_j$ til
    a.   [$_S$ PRO$_j$ at slå fra *sig$_i$]]
    b.   sig $_j$
    c.   *sig selv$_i$
    d.   *sig selv$_j$
        "that [Peter AGR persuaded Anne to [PRO hit from _____]]"

Here _sig_ can only be bound by PRO, the subject inside the SUBJECT domain, and _sig selv_ is ruled out in any event.

As for transitive verbs with a possible local _sig_, they may obey either set of rules above, as can be seen in

(17)   at [$_S$ Peter$_i$ AGR bad Michael$_j$ om
    a.   [$_S$ PRO$_j$ at barbere sig$_i$]]
    b.   sig$_j$
    c.   *sig selv$_i$
    d.   sig selv$_j$
        "that [Peter AGR asked Michael for [PRO to shave _____]]"

Taking the position of the bound element to be theta-assigned
allows only for (17a,d), cf. (11), and taking it not to be
theta-assigned accounts for (17b), cf. (16). (17c) is not allowed
under any account, and is therefore ruled out.

Summing up so far we have two basic types of constructions,
transitive and intransitive. Transitive will allow for any NP
complement, including sig selv and non-local sig. Intransitive
will not allow any NP complement, not even sig selv or non-local
sig. When locally bound (and non-theta-assigned) sig is included,
both of these main groups split into two, giving the following
four combinations:

(18)

	Intransitive		Transitive	
+ ___NP	−	−	+	+
+ ___sig selv	−	−	+	+
+ ___sig (non-local)	−	−	+	+
+ ___sig (local)	−	+	−	+
Examples	dø	skynde	elske	vaske
	"die"	"hurry"	"love"	"wash"
cf. e.g.		(16)	4.1	(17)

(The four combinations do not necessarily correspond to four
distinct classes of verbs/prepositional expressions, as this
perhaps suggests, somewhat misleadingly. Cf. the discussion
below).

The two important facts in this section are that local sig is
never theta-assigned, and that non-local sig, sig selv and any
other NP are either possible all three, or impossible all three.
Thus saying that all of these three types need a theta-role and
that local sig does not, at least partly accounts for why out of
the 16 combinatorial possibilities, only the four in (18) are
possible.

4.3 Problems with non-theta-assigned sig.

Local sig does not get a theta-role, as discussed above, and
as examplified in (13), where it can not be replaced by any other
NP. However, this lack of theta-role is postulated also in cases
where local sig may be replaced by other NPs, as in (17). It may

be argued that in a case like (17) it does not make much
difference anyway for the interpretation whether there is a
theta-assigned object or not, cf. English where he shaved and he
shaved himself mean (at least roughly) the same (the
"semi-reflexive verbs" of Quirk et al. (1985:358).

Therefore let us take a case where the two interpretations are
different, e.g.

(19) a. at [$_S$ Peter$_i$ brændte sig $_i$]
     b.   sig selv$_i$
     c.   Michael
        "that [Peter AGR burned _____]"

where (19b) implies that Peter burned himself intentionally,
an implication absent in (19a). This difference may be accounted
for along the lines suggested in Holmberg (1984:8-10), (19b) has
two theta-roles: Peter is AGENT, sig selv is THEME, whereas (19a)
only has one: Peter is THEME, and the absence of agent accounts
for the absence of intention.[8,9]

5. ham/hende and ham selv/hende selv.

When we turn to the elements ham/hende and ham selv/hende selv with the findings of section 4 in mind, we find not only that they are all b-pronominals, but also that they vary with respect to the domain-parameter in a way parallel to sig and sig selv, as ham/hende are d-pronominals, but ham selv/hende selv are d-anaphors. The rules will be given below, but first the relevant examples will be considered.

One difference is that only ham selv/hende selv may be bound inside the SUBJECT domain:

(20) a. at [$_S$ Susan$_i$ AGR fortalte Anne$_j$ om *hende$_i$]
    b.   *hende$_j$
    c.   *hende selv$_i$
    d.   hende selv$_j$
      "that [Susan AGR told Anne about _____]"

where the SUBJECT domain is the bracketed S.

Another difference is that ham/hende may be bound by any NP outside the SUBJECT domain, whereas ham selv/hende selv may not be bound from outside the SUBJECT domain at all (in fact the latter must be bound inside the SUBJECT domain (by a non-subject), whereas the former do not have to be bound at all). This is shown below, where (21a) has subject binding and (22b) non-subject binding of hende:

(21)   at [$_S$ Susan$_i$ bad Anne$_j$ om
    a.   [$_S$ PRO$_j$ at ringe til hende$_i$]]
    b.   *hende$_j$
    c.   *hende selv$_i$
    d.   *hende selv$_j$
      "that [Susan AGR asked Anne for [PRO to ring to _____]]"

(22)   at [$_S$ Susan$_i$ AGR lovede Anne$_j$
    a.   [$_S$ PRO$_i$ at ringe til *hende$_i$]
    b.   hende$_j$
    c.   *hende selv$_i$
    d.   *hende selv$_j$
      "that [Susan AGR promised Anne [PRO to ring to _____]]"

Neither of hende and hende selv may be bound by the subject in the SUBJECT domain (21b,d,22a,c), but where hende selv can not be bound outside its SUBJECT domain (21c,22d), hende may be bound outside its SUBJECT domain by both a subject (21a) or a non-subject (22b).

With an eye to the rules proposed in section 4.1, the following is suggested for ham/hende and ham selv/hende selv. They differ from each other in a way parallel to sig and sig selv, i.e. ham/hende must not be bound inside their SUBJECT domain, whereas ham selv/hende selv must be bound in this domain. In other words, ham/hende are d-pronominals, and ham selv/hende selv are d-anaphors.

Taking them as one group they differ from sig and sig selv in that they must not be bound by a subject in the SUBJECT domain, that is to say they are b-pronominals.

If the rules given above are compared to the ones of 4.1, it will appear that where the rules for d-anaphors and d-pronominals are complementary, the rules for b-anaphors and b-pronominals overlap in the following fashion: B-anaphors must be bound by a subject somewhere in the AGR domain (= the lowest tensed clause), whereas b-pronominals only have to be free from binding by the subject in the SUBJECT domain. This means that there is an overlap in one particular configuration, i.e. when the binder is a subject in the AGR domain but is outside the SUBJECT domain (cf. (11) and (21)):

(23)   at [$_S$ Susan$_i$ AGR overtalte Anne$_j$ til
    a.   [$_S$ PRO$_j$ at høre på sig$_i$]]
    b.   *sig selv$_i$
    c.   ~~ham$_i$~~   *hende$_i$*
    d.   ~~*ham selv$_i$~~ *hende selv$_i$*
      "that [Susan AGR persuaded Anne to
      [PRO to listen to _____]]"

Both d-anaphors are ruled out (23b,d) as this is binding from outside the SUBJECT domain (= the lower S). Both sig and hende are allowed here as they are d-pronominals, and sig is furthermore allowed as it is bound by a subject inside its AGR domain, and hende is allowed as it is not bound by a subject in

its SUBJECT domain.

Hellan (1983:17) note what seems to be exactly the same situation in Norwegian. Rather than allowing b-anaphors and b-pronominals to have different requirements as to the elements by which they may be bound (which in Hellan's terms would be to allow the coreference domain of the predication anaphor to differ from the non-coreference domain of the predication pronominal), Hellan concludes that the complementary distribution between ham/hende and sig is a "strong tendency more than an absolute principle "(1983:27), and thus considers and example like (23) to be exceptional, where this paper finds it unexceptional.[10]

I shall end this section by a slight digression. Sometimes ham selv/hende selv may appear to be bound from outside the SUBJECT domain, as in

(24)   Komponisten$_i$ sagde at [$_S$ orkestret$_j$ kun måtte spille
            symfonien med ham selv$_i$ som dirrigent]
        "Composer-the said that [orchestra-the only could play
            symphony-the with _____ as conductor]"

This may be dealt with in two ways. One is to assume that ham selv in (24) is an example of the b-pronominal d-anaphor. Then this would be a counter-example to the rules suggested above, as it is bound from outside its SUBJECT domain (= the bracketed S).

The alternative is to assume that ham selv is not a b-pronominal d-anaphor, but the b-pronominal d-pronominal ham followed by a different kind of constituent, selv. This analysis I think is supported by three facts: a) selv may occur on its own in Danish (cf. Risager (1973)), b) selv has a different and more emphatic kind of stress in (24) than in the other kind of examples considered so far (cf. Hellan (1983:15)),[11] and c) selv may be deleted in (24) with the result that ham receives the more emphatic stress.

6. Overview of the Analysis.

The binding rules for Danish may now be summarised as below, using rules suggested above, or taking over rules unchanged from LGB (25E,F,G):

(25) A. Binder-pronominals (- sig)
        A b-pronominal is not bound by a subject inside its SUBJECT domain (i.e. inside the c-command domain of its lowest c-commanding SUBJECT).

     B. Binder-anaphors (+ sig)
        A b-anaphor is bound by a subject inside its AGR domain (i.e. inside the c-command domain of its lowest c-commanding AGR).

     C. Domain-pronominals (- selv)
        A d-pronominal is not bound in its SUBJECT domain (i.e. in the c-command domain of its lowest c-commanding SUBJECT).

     D. Domain-anaphors (+ selv)
        A d-anaphor is bound in its SUBJECT domain (i.e. in the c-command domain of its lowest c-commanding SUBJECT). (In section 8 this rule will be revised to 'accessible SUBJECT' domain).

     E. Names.
        A name is not bound by anything anywhere.

     F. Binding Definition.
        X binds Y iff X is the lowest NP c-commanding Y and coindexed with Y.

     G. SUBJECT Definition.
        The SUBJECT is AGR in tensed clauses, and the subject elsewhere ("the most prominent nominal element", LGB:209).

The interaction of rules (25A-D) may be illustrated as in the following diagram:

(26)

	A b-pronominals	B d-anaphors
	Not bound by	Bound by
	a subject in the	a subject in
	SUBJECT domain	the AGR domain
C d-pronominals	ham	sig
Not bound in	hende	"REFL"
SUBJECT domain	"him"	
	"her"	
D d-anaphors	ham selv	sig selv
Bound in	hende selv	"REFL self"
SUBJECT domain	"him self"	
	"her self"	

When considering the effects of the above, it will appear that five different types of configurations may be distinguished, according to whether the anaphor/pronominal is

(27) I   not bound at all

     II bound outside its SUBJECT domain by a subject

     III bound outside its SUBJECT domain by a non-subject

     IV bound inside its SUBJECT domain by a subject

     V   bound inside its SUBJECT domain by a non-subject

The effects of the rules given above may now be illustrated in a schema, where each of the vertical columns refer to a position of binder from (27), and each of the horizontal lines to an anaphor/pronominal from (26). (28) thus shows which rules from (26) rule out which anaphors/pronominals in which configurations from (27):

(28)

Elements	Rules (26)	Configurations (27)				
		I	II	III	IV	V
ham	A,C	+	+	+	A,C	C
ham selv	A,D	D	D	D	A	+
sig	B,C	B	+	B	C	B,C
sig selv	B,D	B,D	D	B,D	+	B

Let me briefly explain (28): If we take e.g. column IV, it says that binding by a subject from inside the SUBJECT domain is:

ruled out for the element under A and C, ham, as both A and C rule it out.

ruled out for the element under A and D, ham selv, as A rules it out.

ruled out for the element under B and C, sig, as C rules it out.

not ruled out for the element under B and D, sig selv, as neither rule it out.

I shall conclude this section by giving three examples with the full range of possibilities (all and only grammatical indices are given):

(In (29)-(31), the index "o" corresponds to configuration (27I), "i" to (27II), "j" to (27III), "k" to (27IV), and "m" to (27V).)

(29)   at [$_S$ Anne$_i$ AGR hørte

   a.   [$_S$ Susan$_k$ snakke med Tina$_m$ om sig$_i$]]

   b.   sig selv$_k$

   c.   hende$_{i/o}$

   d.   hende selv$_m$

        "that [Anne AGR heard [Susan talk to Tina about _____]]"

According to (25G) Susan is the lowest SUBJECT, therefore the SUBJECT domain is the lower S. The AGR domain is the higher S.

sig must be bound by a subject inside the higher S (25B), but outside the lower S (25C), therefore "i".[12] sig selv must be bound by a subject (25B) inside the lower S (25D), therefore "k". hende can not be bound inside the lower S at all (25A,D), but anything else goes, therefore "i" and "o" ("o" is the obviative use of the pronominal, where it referes to something outside the

entire example). Finally, hende selv must be bound in the lower S (25D), but not by the subject of the lower S (25A), therefore "m".

Consider now the variation of (29) where we have a subject controlled PRO:

(30)   at [$_S$ Anne$_k$ AGR lovede Susan$_j$

    a.   [$_S$ PRO$_k$ at snakke med Tina$_m$ om *sig]]

    b.   sig selv$_k$

    c.   hende $_{j/o}$

    d.   hende selv$_m$

      "that [Anne AGR promised Susan

      [PRO to talk to Tina about _____]]"

Here PRO is the lowest SUBJECT, and again the lower S is the SUBJECT domain. sig can not be bound at all, as the only possible binder outside the lower S is coindexed with PRO, and thus would bring about binding from within the SUBJECT domain (cf. (13)). As for the other three anaphors/pronominals, see the comments on (29).

Consider finally an example without the anaphor pronominal being embedded in an infinitival S:

(31) a. at [$_S$ Anne$_k$ AGR snakkede med Tina$_m$ om *sig]

    b.   sig selv$_k$

    c.   hende$_o$

    d.   hende selv$_m$

      "that [Anne AGR talked to Tina about _____]]"

Here the AGR is the SUBJECT, making the (tensed) S both the AGR domain and the SUBJECT domain. sig, as in (30), can not be bound both by a subject in the AGR domain (25B) and from outside the SUBJECT domain (25C), this time because the two domains are identical, therefore it is ruled out. sig selv must be bound by a subject inside the SUBJECT domain, hence "k". hende must not be bound in its SUBJECT domain, this leaves only "o". hende selv must be bound in its SUBJECT domain but by a non-subject, hence "m".

7. Evidence Supporting the Analysis.

In this section examples will be considered from two areas, possessives and first/second person, which both shed additional light on binding in Danish, as they each lack one of the two oppositions b-anaphor/b-pronominal and d-anaphor/d-pronominal, offering a view of how each of these two parameters work when there is not interference from the other one.

7.1 Possessives.

The situation with respect to the third person singular[13] possessives may be straightforwardly accounted for by assuming that only the binder-parameter is operative here. In accordance with this there are only two types of elements:

b-pronominal, hans ("his") and hendes ("her"), which must not be bound by a subject in their SUBJECT domain (26A), and which therefore are allowed only in those configurations below where there is no binding at all (33), where the binder is outside the SUBJECT domain (34-35), or where the binder, though inside the SUBJECT domain, is not a subject (37).

b-anaphor, sin ("REFL's"), which must be bound by a subject in the AGR domain (26B), and which therefore is allowed in the two cases where the binder is a subject, either inside the SUBJECT domain (36) or outside this but still inside the AGR domain (34).

As in (28), a schema may illustrate in which configurations from (27) which possessives are ruled out by which rules of (26):

(32)

Elements	Rules (26)	Configurations (27)				
		I	II	III	IV	V
hans	A	+	+	+	A	+
sin	B	B	+	B	+	B

The relevant examples follow below, (33) exampflying configuration (27I), (34) (27II), etc.

(33) a. at [$_S$ Peter$_i$ AGR læste *sin$_o$ artikel]

    b.   hans$_o$

      "that [Peter AGR read _____ article]"

(34)   at [$_S$ Michael$_i$ AGR hørte

    a.   [$_S$ Peter$_j$ kritisere sin$_i$ artikel]]

    b.   hans$_i$

    "that [Michael AGR heard

     [Peter criticise _____ article]]"

(35)   at [$_S$ Michael$_i$ AGR lovede Peter$_j$

    a.   [$_S$ PRO$_i$ at læse *sin$_j$ artikel]]

    b.   hans$_j$

    "that [Michael AGR promised Peter

     [PRO to read _____ article]]"

(36) a. at [$_S$ Michael$_i$ AGR gav Peter$_j$ sin$_i$ frakke]

    b.   *hans$_i$

    "that [Peter AGR gave Michael _____ coat]"

(37) a. at [$_S$ Michael AGR gav Peter$_j$ *sin$_j$ frakke]

    b.   hans$_j$

    "that [Michael AGR gave Peter _____ coat]"

All examples bear out the prediction following from the rules of (25) with the stipulation added that possessives are neutral with respect to d-anaphors versus d-pronominals.

7.2 First and Second Persons.

Here we find the exact opposite of the situation in 7.1, as the judgments concerning first and second persons may be accounted for by assuming that only the binding category-parameter is operative here. In other words, the distinction between subject and non-subject as binder is neutralised. Again only two types are found:

d-pronominal, _mig_ ("me"), which must not be bound inside its SUBJECT domain (26C).

d-anaphor, _mig selv_ ("me self"), which must be bound inside its SUBJECT domain (26D).

This gives a clear complementary distribution, with _mig_ only allowed when not locally bound, (39) - (41), and _mig selv_ only allowed when locally bound, (42) and (43). Again a schema may illustrate which rules rule out which elements in which configurations:

(38)

Elements	Rules (26)	Configurations (27)				
		I	II	III	IV	V
mig	C	+	+	+	C	C
mig selv	D	D	D	D	+	+

The relevant examples are given below, (39) showing (27I), (40) (27II), etc.

(39) a. at [$_S$ Anne$_i$ AGR fortalte mig$_o$ om valgresultatet]

    b.   *mig selv$_o$

    "That [Anne AGR told _____ about election-result-the]"

(40)   at [$_S$ jeg$_i$ AGR overtalte Susan$_j$ til

    a.   [$_S$ PRO$_j$ at skrive til mig$_i$]]

    b.   *mig selv$_i$

    "that [I AGR persuaded Susan to [PRO to write to _____]]"

(41)   at [$_S$ Tina$_i$ AGR lovede mig$_j$

    a.   [$_S$ PRO$_i$ at nævne mig$_j$]]

    b.   *mig selv$_j$

    "that [Tina AGR promised me [PRO to mention _____]]"

(42) a. at [$_S$ jeg$_i$ AGR overvurderede *mig$_i$]

    b.   mig selv$_i$

    "that [I AGR overestimated _____]]"

(43) a. at [$_S$ Susan$_i$ AGR fortalte mig$_j$ om *mig$_j$]

    b.   mig selv$_j$

    "that [Susan AGR told me about _____]"

The examples bear out the predictions of the rules of (25) with the added stipulation that first and second persons are neutral with respect to b-anaphor versus b-pronominal.

8. Accessibility of SUBJECT.

8.1 English Anaphors.

In LGB ((100), p. 220) binding category, the category within which an anaphor is bound and a pronominal free, is defined as

(44)   Y is a binding category for X iff Y is the minimal
         category containing X and a SUBJECT accessible to X.[14]

Accessibility is defined as in (45) (LGB:212, (74)):

(45)   X is accessible to Y iff Y is in the c-command domain of
         X and assignment to Y of the index of X would not violate
         (46).

(46) is called the i-within-i condition, and will here be given
     in the revised version (LGB:229, (iv) of note 63):

(46) $*[\ldots z_i \ldots [x_i \ldots y_i \ldots] \ldots z_i \ldots]$

Finally an independently motivated assumption has to be taken into account, that AGR is coindexed with the NP it governs (i.e. with the subject of its clause, with which its shares features, thus accounting for concord of number and person in e.g. English).

In other words, all this means that binding category is defined with reference to c-commanding SUBJECT, but not all c-commanding SUBJECTs will suffice for defining a binding category. If a potential coindexation between a c-commanding SUBJECT and Y would result in Y being coindexed with a category containing Y, then that c-commanding SUBJECT is inaccessible (according to (45)) and may not be used for determining the binding category of Y. X of (46) could never itself be a SUBJECT c-commanding Y anyway, as X clearly does not c-command Y in (46). The accessibility requirement is therefore only relevant when the X of (46) is already coindexed with a SUBJECT c-commanding Y, and this is where the assumption that AGR is coindexed with the NP it governs comes in, as its consequence is that if Y is contained within the subject of a clause, then the AGR of that clause is

not an accessible SUBJECT.

As an illustration consider

(47)   Peter$_i$ AGR$_i$ thought that [$_S$ [$_{NP_x}$ the pictures
             of himself$_i$] AGR$_x$ would never come out]

Here both AGRs are coindexed with their subject NPs. A potential coindexation between the anaphor and the lower AGR, i.e. "i"="x", would mean that the anaphor was coindexed with the NP containing it, thus violating (46). Following (45), this means that the lower AGR is not accessible to the anaphor, and this in turn according to (44) means that the embedded clause can not be the binding category for himself. The entire sentence is now the binding category as the higher AGR is accessible to the anaphor, accounting for how Peter may bind himself.

Another relevant and uncontroversial assumption which I will make along with LGB (p. 215) is that "pleonastic it and there are coindexed with the postverbal phrases associated with them", or in the terminology of Quirk et al. (1972:963) that the anticipatory subjects it and there are coindexed with their postponed subjects. As with the assumption of coindexation of AGR and its subject NP, supporting evidence for a close connection between anticipatory and postponed subjects can be found in the area of concord of number, as there as anticipatory subject agrees in number with the postponed subject:

(48) a. There was a man outside the door
     b. *There were a man outside the door
     c. *There was three men outside the door
     d. There were three men outside the door

With the assumption of coindexation between it and there and their postponed subjects, there are further examples of why c-commanding SUBJECT should be restricted to accessible SUBJECT. Consider

(49)   Anne$_i$ AGR$_i$ thought that [$_S$ there$_x$ AGR$_x$ were
             [$_{NP_x}$ some pictures of herself$_i$] in the newspaper]

where the lower AGR again is inaccessible to the anaphor, because
such a coindexation, i.e. "i"="x", would mean that the anaphor
was coindexed with its containing NP (violation of (46)), because
the lower AGR is coindexed with its subject <u>there</u>, which as
assumed above is coindexed with the bracketed NP. Consequently
not the lower S but the whole sentence is the binding category,
accounting for how <u>Anne</u> may bind <u>herself</u>.

Another example with <u>it</u> instead of <u>there</u> is

(50)   Susan$_i$ AGR$_i$ thought that [$_S$ it$_x$ AGR$_x$ was a shame that
         [$_{S_x}$ [$_{NP_y}$ a picture of herself$_i$] AGR$_y$ was lost]]

The lowest embedded clause is not a binding category here as its
AGR is inaccessible to the anaphor, a potential coindexation,
i.e. "y"="i", would mean that <u>herself</u> was coindexed with a
containing NP. The higher of the embedded clauses is not a
binding category either, as its AGR is also inaccessible to the
anaphor, a potential coindexation, i.e. "x"="i", would mean that
<u>herself</u> was coindexed with its containing clause. Again the whole
sentence must be the binding category, accounting for the
grammaticality of (50).

8.2 English Pronominals.

The LGB rules (44)-(46) as exemplified in the previous section
predict that the pronominal versions of (47), (49), and (50)
should be ungrammatical, as binding categories for pronominals
are also defined with reference to accessible SUBJECT. The entire
sentences (51)-(53) should therefore be the binding categories,
as only the highest AGRs are accessible (for details of the
argumentation, please refer to (47), (49), and (50)
respectively):

(51)   Peter$_i$ AGR$_i$ thought that [$_S$ [$_{NP_x}$ the pictures
              of him$_i$] AGR$_x$ would never come out]

(52)   Anne$_i$ AGR$_i$ thought that [$_S$ there$_x$ AGR$_x$ were
              [$_{NP_x}$ some pictures of her$_i$] in the newspaper]

(53)   Susan$_i$ AGR$_i$ thought that [$_S$ it$_x$ AGR$_x$ was a shame that
              [$_{S_x}$ [$_{NP_y}$ a picture of her$_i$] AGR$_y$ was lost]]

and consequently the pronominals <u>him</u> in (51) and <u>her</u> in (52) and
(53) are predicted to be free.

The problem is that (51)-(53) are grammatical with the
indexation shown, i.e. the pronominals do not have to be free in
a binding category determined by accessible SUBJECT, as was noted
originally by Huang (1983).

Rather than dismiss the relevance of a binding category for
pronominals I will argue that pronominals do have a binding
category within which they must not be bound, only it differs
from the binding category within which anaphors must be bound, as
it clearly does not require an accessible SUBJECT.

Two possibilities seem feasible: pronominal binding categories
should be determined by reference to either a c-commanding
SUBJECT or to a governor. Both these solutions will account for
(51)-(53), but they will clearly differ in predictions for other
configurations, e.g.

(54)   John$_i$ AGR saw [$_{NP}$ a picture of him$_i$]

This type of configuration will be discussed in section 9, where
arguments will be introduced in favour of the c-commanding
SUBJECT option.

8.3 Danish.

In the previous sections bindig category was found to be
determined by reference to a c-commanding SUBJECT in English,
with the crucial distinction that for anaphors the c-commanding
SUBJECT must also be accessible, a requirement which is not made
when determining the binding category for English pronominals.

In this section similar facts will be shown to exist in
Danish, viz. that the SUBJECT of (25D)(domain-anaphors), which is
the one that corresponds to the anaphor binding category in
English, must be accessible, whereas accessiblity is not required
in (25C), nor in (25A) or (25B).

The relevant examples in Danish will be given below, with all
four pronominal/anaphor options for each example.

(55)   at [$_S$ Peter$_i$ AGR$_i$ troede at [$_S$ [$_{NP_x}$ billederne af
  a.   *sig$_i$] aldrig AGR$_x$ ville blive til noget]]
  b.   *sig selv$_i$
  c.   ham$_i$
  d.   ham selv$_i$
     "That [Peter AGR thought that [[pictures-the of
     ⸻] never AGR would become to anything]]

The interesting case is (55d). This is allowed as it is not bound by a subject in the SUBJECT domain (the lower S), as required by (25A), but it is bound in the domain of its accessible SUBJECT (the higher S), as required by the revised version of (25D). Without this revision AGR$_x$ would have been the SUBJECT within the domain of which (25D) would have required binding, but as AGR$_x$ is not accessible (a potential coindexation would entail coindexation between ham selv and a containing category, NP$_x$, cf. (47)) it is within the domain of AGR$_i$ that ham selv is required to be bound, and this is fulfilled in (55d).

As for the other three cases in (55), they are not touched upon by this revision, sig and ham obviously, as they do not come under (25D), and sig selv because (25B) prevents it from exploiting the accessibility revision:

sig in (55a) and sig selv in (55b) are both ruled out because they are not bound by a subject in the AGR domain (the lower S, as there is no accessibility requirement to the AGR in (25B)), in fact there is no subject in the lower S that would be able to bind them, as the only subject there is NP$_x$, which can not be a binder as it does not c-command sig or sig selv.

ham in (55c) is grammatical, it is not bound by a subject in the SUBJECT domain, as required by (25A), and it is not bound in the SUBJECT domain, as required by (25C), the SUBJECT domain being the lower S and ham being bound from outside this domain.

When the other two examples parallel to the ones of section 8.1 are considered, the same findings apply: The only grammaticality judgment differing from what would have benn predicted by the unrevised version of (25) are those concerning ham selv/hende selv, and those are exactly the ones that are accounted for by revising (25D) to referring to accessible SUBJECT.

(56)   at [$_S$ Anne$_i$ AGR$_i$ troede at [$_S$ der$_x$ AGR$_x$ var
  a.   [$_{NP_x}$nogle billeder af *sig$_i$] i avisen]]
  b.   *sig selv$_i$
  c.   hende$_i$
  d.   hende selv$_i$
     "that [Anne AGR thought that [there AGR were
     [some pictures of ⸻] in newspaper-the]]

(57)   at [$_S$ Susan $_i$ AGR$_i$ syntes at [$_S$ det$_x$ AGR$_x$ var en skam at
  a.   [$_{S_x}$ [$_{NP_y}$ et billede af *sig$_i$] AGR$_y$ var blevet væk]]
  b.   *sig selv$_i$
  c.   hende$_i$
  d.   hende selv$_i$
     "that [Susan AGR found that [it AGR was a shame that
     [[a picture of ⸻] had been lost]]"

(der corresponds to "there" and det to the expletive "it")

In (56) and (57) sig and sig selv are both out, as they are not bound by a subject in the AGR domain, and hende is grammatical, not being bound by anything in the SUBJECT domain.

hende selv would normally be expected to have to be bound by a non-subject in the SUBJECT domain (25 A and D), but by introducing accessibility the fact has been accounted for that in (55)-(57) ham selv/hende selv are grammatical even though they are bound by a subject outside the SUBJECT domain, as they are not bound by a subject in the SUBJECT domain (25A), and they are bound in their accessible SUBJECT domain (revised (25D)).

9. NP as Binding Category: Absent vs. "Invisible" SUBJECT.

9.1 English.

In the previous section it was argued that the definition of binding category (44) should be revised to

(58)   Y is a binding category for X iff Y is the minimal
       category containing X and a SUBJECT which,
   a.   if X is a pronominal, c-commands X.
   b.   if X is an anaphor, is accessible to X.

So far only S, which always contains a SUBJECT, has been considered as a binding category. There is, however, another possibility, viz. NP, which sometimes contains a SUBJECT.

Below I shall consider first NPs which contain a SUBJECT, and then NPs which do not, the latter presenting a problem for the binding of pronominals.

First, however, an NP with a SUBJECT:

(59) a. Peter$_i$ AGR saw [$_{NP}$ John's$_j$ five pictures of him$_i$]
   b.   *himself$_i$
   c.   *him$_j$
   d.   himself$_j$

John is the SUBJECT of the bracketed NP, making the latter a binding category, thus accounting straightforwardly for (59): The pronominal must not, and the anaphor must, be bound inside the bracketed NP.

NPs without overt lexical subjects are not necessarily subjectless, as discussed by Chomsky (1982:99). I shall base my analysis of the facts on factors to do with the assignment of theta-roles.

Subject position in NP may or may not be assigned a theta-role (presumably by N', though the question of where the theta-role is assigned from is not relevant here):

                                   +th
(60)   He saw [$_{NP}$ John's three cars]

                                   -th
(61)   He saw [$_{NP}$ three cars]

If the position is filled by an argument which is not theta-marked independently (e.g. through a trace), the NP will be ruled out if the subject position theta-assignment does not take place (cf. the theta-criterion, section 2.2, and LGB:334ff.)

                                   +th
(62)   He saw [$_{NP}$ John's three cars]

                                   -th
(63)   *He saw [$_{NP}$ John's three cars

If the position on the other hand is not filled by an overt argument, it does not need theta-assignment. It may still get it, in which case we shall consider the position to be filled by PRO:

                                   -th
(64)   He saw [$_{NP}$ three cars]

                                   +th
(65)   He saw [$_{NP}$ PRO three cars]

This analysis will allow us to account for the fact that both the anaphor and the pronominal are possible in

(66) a. Peter$_i$ saw [$_{NP}$ five pictures of him$_i$]
                                        himself$_i$

If we start with the anaphor, it is allowed in the case where there is no theta-role assigned to the subject of the NP, (67), as there will be no subject of the NP, making AGR the lowest c-commanding SUBJECT, making all of (67) the binding category:

$$-th$$
(67)   Peter$_i$ AGR saw [$_{NP}$ five pictures of himself$_i$]

Had there been theta-assignment, the NP would have contained a subject, PRO, which would also have been the lowest c-commanding SUBJECT, ruling out (68), as the anaphor is not bound in its binding category, which is the NP:

$$+th$$
(68)   *Peter$_i$ AGR saw [$_{NP}$ PRO five pictures of himself$_i$]

With respect to the pronominal, the opposite obtains. With no theta-assignment, it is bound in its binding category, as the lowest SUBJECT is the AGR ((69) is ruled out); but with theta-assignment the NP will have a subject, PRO, which is then the lowest SUBJECT, making the pronoun free in its binding category (allowing for (70)):

$$-th$$
(69)   *Peter$_i$ AGR saw [$_{NP}$ five pictures of him$_i$]

$$+th$$
(70)   Peter$_i$ AGR saw [$_{NP}$ PRO five pictures of him$_i$]

Thus both possibilities of (66) have a reading which may be accounted for in the grammar, viz. (67) and (70).

With the analysis proposed we can furthermore account for why only the anaphor and not the pronominal is possible in

(71) a. Peter$_i$ took [$_{NP}$ five pictures of *him$_i$]
                              himself$_i$

with the stipulation that if the NP bracketed in (71) has a PRO subject, this PRO will be controlled by the subject of S.[15] Therefore both options of (71) will be ruled out for the pronominal:

$$-th$$
(72)   *Peter$_i$ AGR took [$_{NP}$ five pictures of him$_i$]

parallel to (69), and

$$+th$$
(73)   *Peter$_i$ AGR took [$_{NP}$ PRO$_i$ five pictures of him$_i$]

where the pronominal will be bound inside the NP, again making it bound in its binding category.

For the anaphor the situation is also changed, now himself is allowed under both readings:[16]

$$+th$$
(74)   Peter$_i$ AGR took [$_{NP}$ PRO$_i$ five pictures of himself$_i$]

$$-th$$
(75)   Peter$_i$ AGR took [$_{NP}$ five pictures of himself$_i$]

as in both cases it is bound in its binding category, which is the NP in (74) and the S in (75).

Please note that the above analysis is an argument in favour of binding category for pronominals being defined with reference to SUBJECT rather than to governor. The latter would have made the bracketed NP in (72) the binding category (the lowest S/NP containing the pronominal and a governor), with the result that (72) would be predicted to be grammatical, the pronominal not being bound inside the NP. The SUBJECT approach on the other hand makes the S the binding category, as the NP does not contain a SUBJECT, making the pronominal bound in its binding category, thus accounting for the ungrammaticality of (72).

There are, however, a few problems with this approach. One is that the distinction (70) vs. (73) also obtains when there is lexical material in the specifier position, as long as there is no overt argument here. Another problem is that the PRO subject of NP is not able to bind an anaphor when it is not subject-controlled itself.

To start with the second problem. If we consider a version of (68) with the indexing changed

(76) a. Peter$_i$ AGR saw [$_{NP}$ PRO$_j$ five pictures of *himself$_j$]
    b.   *yourself$_j$
    c.   *oneself$_j$

the analysis given so far will not tell us why all three versions
of (76) are ungrammatical. It ought to be possible to have a
theta-role assigned to the specifier of NP position (cf. (65)),
which would lead us to assume the presence of PRO. This PRO, as
it does not appear in a subject control configuration (cf. (73)
and note 14), might be expected to have an interpretation with
arbitrary reference, along the lines of

(77) a. It is illegal [$_S$ PRO$_i$ to kill yourself$_i$]
    b.   oneself$_i$

so why is (76) impossible in the reading that for some X, Peter
saw X's picture of X? I will argue that the subject of NP
position of PRO in e.g. (76) is special in the sense that it
prevents PRO from being a potential binder.

The special properties of PRO in subject of NP position is
linked to the other problem mentioned above, that PRO may be
there as subject of NP even when there is lexical material in the
specifier position. Consider

(78)   Peter$_i$ saw the five pictures of him$_i$

(79)   *Peter$_i$ took the five pictures of him$_i$

which are completely parallel to (70) and (73) respectively,
except that they force us to assume that PRO and the determiner
are both there, simultaneously. That they must share one position
can be seen from the fact that they are both in complementary
distribution with an overt lexical argument as subject of NP, as
e.g. John's in (59).

What is needed here is something that will rule out binding by
PRO as NP-subject in (76) but not in (73), as this binding in the
latter is precisely how the ungrammaticality is accounted for.
One possibility would seem to be an appeal to accessibility and
the i-within-i condition. If there was some way of analysing this

PRO as an inaccessible SUBJECT, then then the facts would fall
out from parts of the theory that are independently motivated,
cf. sections 8.1 and 8.2, as anaphor binding requires an
accessible SUBJECT, whereas a c-commanding one will suffice for
ruling out binding of pronominals.

Assuming that articles share some sort of index with the
entire NP (the intuition is that an NP gets at least part of its
referential features from the article, cf. the difference "love"
vs. "a love"), and furthermore assuming that the place-sharing
between PRO and the article described above entails that they
also share an index, then PRO as NP subject will be coindexed
with the entire NP.[17] This means that binding of anaphors (but
not of pronominals) by this PRO will violate accessibility and
the i-within-i, (45)and (46) of section 8.1. Notice that an overt
lexical argument subject will not be coindexed with its
containing NP, as it is not sharing its position with an article,
thus this will not bring about circular readings like
[$_{NP_i}$ John's$_i$ cars].

Please note that we will now have to rule out all types of
binding by PRO as NP-subject, even when the PRO is subject
controlled as in (74). This should not be a problem however, as
the surface utterance that (74) would have given still has an
analysis that predicts its grammaticality, viz. (75).

9.2 Danish.

Rather than revise again the rules of binding, the previous
subsection argued that with a new analysis of the data concerning
the specifier of NP position when not filled by an overt
argument, the rules we have already laid down will be able to
account for these data.

In this subsection the same analysis of similar data in Danish
will be shown to provide us with the desired judgments of
grammaticality.

Before considering 'subjectless' NPs, I shal briefly consider
NPs with overt argumental subjects, but first of all it will be
convenient to restate the binding conditions in Danish, as
revised in section 8.3:

(80)

	A b-pronominals	B b-anaphors
	Not bound by	Bound by
	a subject in the	a subject in
	SUBJECT domain	the AGR domain
C d-pronominals	ham	sig
Not bound in	hende	"REFL"
SUBJECT domain	"him"	
	"her"	
D d-anaphors	ham selv	sig selv
Bound in	hende selv	"REFL self"
accessible SUBJECT	"him self"	
domain	"her self"	

As in English, the situation when the NP has an overt argument
as a subject is relatively straightforward:

(81) a. at [$_S$ Peter$_i$ AGR så [$_{NP}$ Johns$_j$ fem billeder af sig$_i$]]

    b.   *sig selv$_i$

    c.   ham$_i$

    d.   *ham selv$_i$

    e.   *sig$_j$

    f.   sig selv$_j$

    g.   *ham$_j$

    h.   *ham selv$_j$

    "that [Peter AGR saw [John's five pictures of _____]]"

John is the SUBJECT of the bracketed NP, making it a binding
category. Binding from outside the binding category by a subject
inside the AGR domain is allowed for both sig and ham, but not
for the other two. Binding inside the binding category is ruled
out for sig and ham, and when the binder is a subject, as is
John, it is also ruled out for ham selv, leaving only sig selv as
a possibility for binding by John.

    Now for the "subjectless" NPs. With the assumption that
because theta-role assignment to the subject of NP position is
optional, any subject of NP position that is not filled by an
overt argument may or may not contain PRO (cf. (60)-(65)ff.), we

will first consider the configuration where if PRO is present it
will have arbitrary reference:[18]

(82) a. at [$_S$ Peter$_i$ AGR så [$_{NP}$ fem billeder af sig$_i$] i avisen]

    b.   sig selv$_i$

    c.   ham$_i$

    d.   *ham selv$_i$

    "that [Peter AGR saw [five pictures of _____]
    newspaper-the]"

Each of these four options have two analyses, one containing a
PRO as the subject of the NP, and one where the NP has no
subject. For (82a-c) I will show that at least one of the two
options will provide an account for the grammaticality, whereas
for (82d), neither option will be grammatical, ruling it out.
    In (82a) the two analyses are

                     -th

(83)   *at [$_S$ Peter$_i$ AGR så [$_{NP}$ fem billeder af sig$_i$]
    i avisen

                     +th

(84)   at [$_S$ Peter$_i$ AGR så [$_{NP}$ PRO$_j$ fem billeder af sig$_i$]
    i avisen

where the binding categories are the entire S in (83) and the NP
in (84). sig cannot be bound in its binding category, ruling out
(83), but it may be bound from outside (as long as the binder is
a subject in the AGR domain), allowing (84).

    With respect to (82c) the situation is exactly parallel,
except that ham may be bound by anything outside the binding
category:

                     -th

(85)   *at [$_S$ Peter$_i$ AGR så [$_{NP}$ fem billeder af ham$_i$]
    i avisen

<div style="margin-top:1em"></div>

                              +th
(86)   at [$_S$ Peter$_i$ AGR så [$_{NP}$ PRO$_j$ fem billeder af ham$_i$]
              i avisen

For (82b), it is the other of the two analyses that holds

                              -th
(87)   at [$_S$ Peter$_i$ AGR så [$_{NP}$ fem billeder af sig selv$_i$]
              i avisen

                              +th
(88)   *at [$_S$ Peter$_i$ AGR så [$_{NP}$ PRO$_j$ fem billeder af sig selv$_i$]
               i avisen

Only (87), without PRO, is grammatical, as only in this is sig
selv bound in its binding category.

    Concerning (82d), neither of the analyses will be grammatical

                              -th
(89)   *at [$_S$ Peter$_i$ AGR så [$_{NP}$ fem billeder af ham selv$_i$]
                i avisen

                              +th
(90)   *at [$_S$ Peter$_i$ AGR så [$_{NP}$ PRO$_j$ fem billeder af ham selv$_i$]
                i avisen

as in neither case is ham selv bound in its accessible SUBJECT
domain and not bound by the subject.

    Consider now the other type of configuration, where if there
is a PRO, it is subject controlled:

(91) a. at [$_S$ Peter$_i$ AGR tog [$_{NP}$ fem billeder af *sig$_i$]]
     b.   sig selv$_i$
     c.   *ham$_i$
     d.   *ham selv$_i$

First the analysis of (91) without PRO:

                              -th

---

(92) a. at [$_S$ Peter$_i$ AGR tog [$_{NP}$ fem billeder af *sig$_i$]]
     b.   sig selv$_i$
     c.   *ham$_i$
     d.   *ham selv$_i$

Fairly straightforwardly, this is a case of binding by a subject
in the SUBJECT domain (the lowest SUBJECT being AGR in the
absence of any subject of NP), and therefore only sig selv is
allowed.

    If we assume the presence of PRO, it must then be controlled
by Peter:

                              +th
(93) a. at [$_S$ Peter$_i$ AGR tog [$_{NP}$ PRO$_i$ fem billeder af *sig$_i$]]
     b.   *sig selv$_i$
     c.   *ham$_i$
     d.   *ham selv$_i$

(93a,c,d) are ruled out again straightforwardly, as binding by a
subject in the SUBJECT domain is not allowed. However, as found
in the discussion in connection with (76), which also holds for
Danish, there are reasons to believe that binding by PRO in this
position is impossible anyway, which would then rule out all of
(93).

10. Parameters of Binding Theory.

10.1 The Parameters.

The binding facts of Danish (and English) may be accounted for by means of various parameters, as suggested above. Concluding this paper I will try to formulate the parameters in a way more or less compatible with Manzini and Wexler (1984), and thus compatible with at least one account of similar facts of Italian, Icelandic, Russian, and Japanese.

Before giving the parameters, the following definition should be laid down:

(94) a. Anaphors are bound in their binding category or
            bound by a proper binder.
     b. Pronominals are not bound in their binding category or
            not bound by a proper binder.

One parameter is the one concerned with binding category:

(95)   X is a binding category for Y iff
            X is the minimal category that contains Y, and
        a. anything else
        b. a SUBJECT
        c. an INFL
        d. an AGR
        etc.

Here the same value, (b), is chosen by the various types of elements discussed: English pronominals and anaphors and Danish domain-pronominals and domain-anaphors.

Another parameter is directly associated with (95), viz. a parameter of accessibility:

(96)   The element subject to parametric variation in the
        definition of binding category must
        a. c-command the anaphor/pronominal.
        b. be accessible to the anaphor/pronominal.

"Accessible" is defined in (45). Here the value (a) is selected by English pronominals and Danish domain-pronominals, and (b) by English anaphors and Danish domain-anaphors.

The other main parameter is concerned with which elements may qualify as a binder:

(97)   X is a proper binder for Y, iff
            X is a subject and X and Y are both contained in a
            category that also contains
        a. anything else
        b. an INFL
        c. an AGR
        etc.

Here the value (a) is selected by Danish binder-pronominals, and the value (c) by Danish binder-anaphors.

To account for English with respect to (97), which simply does not seem to apply, one might suggest the existence of a different kind of parameters, meta-parameters. For each parameter, e.g. (95) or (97), there is a meta-parameter, which is binary, and the two settings of which determine whether or not the parameter in question applies at all. Thus the setting of the binder meta-parameter (which is what corresponds to Manzini and Wexler's (1984) proper antecedent parameter) with respect to English (and Danish first and second persons), should be such that the binder parameter does not apply at all. With respect to sig, sig selv, ham, and ham selv and also the Danish possessives, the binder meta-parameter settings should be the opposite, allowing the binder parameter to apply.

Similarly the binding category meta-parameter should be one for Danish possessives, and the opposite for the other of the above mentioned types of anaphors/pronominals, as the binding category parameter only applies to the latter.

An alternative to the device of meta-parameters could be to assume the existence of parametrical settings of the two basic parameters ((95) and (97)) such that a selection of such a setting would cause a 'deactivation' of the parameter in question.

This might work in the following way:

With respect to the binding category parameter (95), suppose that a parametrical setting was such that the minimal category containing it and an anaphor/pronominal would never cointain any binder. Then anaphors would never be allowed, and pronominals would never be ruled out, as neither could ever be bound inside such a 'small' category. Thus binding category pronominals would now be free to be bound or not bound according to other requirements of the grammar. Such a setting could be "nothing", i.e. w.r.t. (95), X is the minimal category that contains Y and nothing else.

With respect to the binder parameter (97), things are more complicated, as even a setting like "nothing" would not deactivate the parameter, as w.r.t. (97) X and Y would still be contained in the same category (by the definition) and X would be a possible binder.

Deactivation of (97) will require that a possible setting of the parameter is something that will never be contained by a category containing X and Y, so that such a containing category would not exist, so that no proper binder would exist. Then anaphors would never be allowed, and pronominals never be ruled out, as neither could be bound. Thus binder pronominals would now be free to be bound or not bound according to other requirements of the grammar. Such a setting could be "no value", so that the requirements of the parameter would be impossible to fulfill. As opposed to "nothing", which would only work as a setting deactivating the binding category parameter (95), "no value" will work as a deactivating setting for both parameters, (95) and (97).

From this point of view, what was earlier described as 'neutralisation of a distinction' or 'a meta-parametrical setting such that the parameter in question does not apply' is now a setting of the basic parameter such that no anaphors are possible with respect to that parameter. This means that what before was a type of element neutral w.r.t. anaphor vs. pronominal will now be pronominal without any corresponding anaphor. This would fit in well with e.g. the historical derivation of English <u>him</u> and <u>himself</u>, which were derived from what would correspond to b-pronominals in Danish (i.e. <u>ham</u> and <u>ham selv</u>).

10.2 Learnability.

As one of the main objectives of the theory of government and binding is (to make it possible) to account for first language acquisition, it is a relevant undertaking to consider proposals within this theory from the point of view of what claims they make concerning learnability.

The theory assumes that human beings are innately endowed with a set of linguistic principles (UG, for Universal Grammar) which enable them to acquire a language. UG is thus seen as containing a number of variables and parameters which are not yet fixed in the initial pre-linguistic stage, but will be fixed by the linguistic experience of the child. This means that the more we are able to account for as part of UG, the better we can explain the rapidity of first language acquisition (compared to e.g. second language acquisition), because so much less will have to be determined by direct linguistic experience.

With the generally accepted assumption that the child only has positive counterevidence at his/her disposal reduction of the part played by direct experience seems even more desirable. (when the child has set up a grammar, there are two possible kinds of counter-evidence: sentences predicted to be ungrammatical which turn out to be grammatical, and sentences predicted to to be grammatical which turn out to be ungrammatical. The assumption is that only the former plays a part in first language acquisition, as the child, even if sometimes corrected by other speakers, does not receive reliable and constant information of the latter kind).

I will assume that the general principles and parameters of 10.1 are all part of UG, and all that will have to be learnt by the child is a) which lexical elements or even part of elements are associated with which parameters, and b) how the parameters are set.

From another look at the overview of the analysis (here repeated with reference to the parameters of 10.1)

(98)	Binder- pronominals (97a)	Binder- anaphors (97c)	(First person)
Domain-pronominals (95b, 96a)	ham hende	sig	mig
Domain-anaphors (95b, 96b)	ham selv hende selv	sig selv	mig selv
(Possessives)	hans hendes	sin	min

it will be clear that elements containing selv will have to be learnt as domain-anaphors, and elements without selv as domain-pronominals. Similarly elements containing sig are binder-anaphors, whereas elements with a form of ham/hende will have to be learnt as binder-pronominals.

With the knowledge of which anaphors/pronominals come under which parameters, the child is able to choose parametrical settings from very little evidence, if we presume along with Manzini and Wexler (1984) that the child starts with the 'minimal' settings.

Determining which setting is smaller than another is only possible where the 'subset condition' applies (as with much of this section, this notion is due to Berwick (1982) and Manzini and Wexler (1984)), i.e. where all grammatical sentences accounted for under one setting either is a proper subset of or contains as a proper subset all grammatical sentences accounted for under a different setting of the same parameter. The parameters (95)-(97) all fulfill this condition, as any element subject to parametric variation of type (a) includes all elements of type (b), etc.

Consequently the child will initially assume settings of the type (a) for anaphors, but of type (d/b/c)(i.e. as far from (a) as possible) for pronominals. This is because the minimal setting for an anaphor is one that makes its coreference domain (binding category or domain of proper antecedent) as small as possible, as any data with a larger coreference domain will be positive

evidence for changing the setting. Similarly the minimal setting for a pronominal is one that makes its non-coreference domain as large as possible, as any data with a smaller non-coreference domain will be positive counter-evidence. Please note that positive evidence is only possible for larger coreference domains and smaller non-coreference domains than assumed, as the other the other two types of counter-evidence would be negative (cf. the discussion above).

The result of this is that unmarked anaphoric domains are (a) values, whereas unmarked pronominal domains have values as far from (a) as possible.

It seems to me that it is no coincidence that pronominal values are never further from (a) than the corresponding anaphoric value, even though this means that both values are never unmarked simultaneously. Presumably some kind of principle (which may be nicknamed the "no man's land"-principle) ensures this, as a pronominal setting further from (a) than its corresponding anaphoric one would entail that there would be some configuration in which neither anaphors nor pronominals were allowed. Such a no man's land would seem never to exist, whereas the opposite situation frequently occurs, an overlap between the two types, accounted for by the pronominal setting being closer to (a) than the anaphoric one.

This "no man's land"-principle does not necessarily pose a problem for learnability, even if the independence between different settings is slightly more limited than initially assumed. What may be assumed is that each time positive evidence occurs for the setting of an anaphor (or pronominal), this is also evidence for the corresponding pronominal (or anaphor), as the language learner will know that the anaphoric setting can be no closer to (a) than its associated pronominal setting.[19]

10.3 Conclusion.

In this paper I have tried to show that the theory of binding should contain at least two independent parameters: choice of binder, and choice of binding category. This would allow for the rather complex evidence from Danish, with two distinct reflexives, long distance binding, etc. to be accounted for in a rather straightforward way. Furthermore this could take place without any loss on the part of the accounts for languages with a less complex system, e.g. English, on the contrary, as contrastive facts would also follow from the approach suggested.

The purpose set by this paper is still far from attained, analyses along the lines suggested could be applied to other languages (especially ones which would seem to contain proper binder requirements or long distance binding, such as Icelandic, Dutch, Russian, etc.), and there are also still many aspects of binding in Danish in need of careful attention, such as empty categories, embeddings in coordinate structures, certain small clause phenomena,[20] and the facts concerning hinanden ("each other").

Notes.

1.   As for the question of accessibility of SUBJECT, see section 8 below.

2.   I am here following the practice of Marantz (1984), where "V-ee" means "who/what has been V-ed".

3.   This also accords with subcategorisation facts. Høre ("hear") subcategorises for one argument, whereas bede (om) ("ask (for)") does for two:

(i)   Peter hørte [NP en underlig lyd]
         "Peter heard [a strange sound]

(ii)   Peter bad [NP Søren] [PP om en is]
         "Peter asked [Søren] [for an ice cream]

4.   Provided that there was some way of allowing the subject NP to be c-commanded by INFL of its own S the whole analysis of this paper will lend itself to a binary branching approach (cf. Kayne (1984:129-133). This would be possible if A is taken to c-command B iff the first maximal projection dominating A dominates B (cf. (44) of Aoun and Sportiche (1983:224)) rather than iff the first branching node dominating A dominates B (cf. e.g. (8) of Aoun and Sportiche (1983:213)).

Please note that as this paper does not take a binary branching approach, either of the c-command definitions will do.

5.   To relate my terminology to that of other papers: My b-anaphor is like Hellan's (1983:24) "predication anaphor", and my d-anaphor is like Hellan's "connectedness anaphor". The similarity is here mainly in terms of the data they cover, not in the definition of the terms. With respect to Anderson (1982:15) the situation is almost the exact opposite, my b-anaphor is like Anderson's "reflexive", and my d-anaphor like Anderson's "anaphor", but the similarity here is more in terms of definitions than in the data they cover (as Icelandic, unlike Norwegian, is very different from Danish with respect to binding).

6.   This difference between object and subject control is usually taken to be related to a lexical feature of the matrix verb, cf. Manzini (1983:423).

7.   This is parallel to ideas in Everaert (1980), Holmberg (1984), and Pica (1985).

8.   This can be achieved by considering local sig as some sort of detransitivising element that somehow prevents the assignment of the theta-role that would otherwise have been assigned to the subject. In accordance with Burzio's generalisation (cf. e.g. Burzio (1981), Haegeman (1985)) this in turn prevents the deep structure object from getting object case, and it therefore has to move to subject position to be case-marked, taking along its object theta-role, in this case THEME, parallel to tha analysis of passive in LGB:124ff.

9.   The analysis of 4.3, which as stated above was suggested by Holmberg (1984), seems not to solve all problems, even if it is preferable to the alternative that would simply classify (19) as containing two distinct verbs, the reflexive verb brænde sig in (19a) and the transitive brænde in (19b, c).
     One of the problems is that in some cases local sig would

seem to prevent assignment of the object theta-role rather than of the subject one.
     In a case like

(i)   a. at [$_S$ Peter$_i$ AGR satte sig$_i$ ned]
      b.   sig selv$_i$
      c.   Michael
         "that [Peter AGR set _____ down]"

the difference in meaning is that where (ia) means straightforwardly "Peter sat down", (ib) means something like "Peter sat himself down" (pragmatically a bit odd, as if he had set himself down by means of e.g. a crane). This difference would seem to be accounted for by assuming the following theta-roles: in (ib) Peter is AGENT, sig selv is THEME (parallel to (ic)), whereas in (ia) Peter is AGENT, and there is no THEME as such. If (ia) is compared to (19a), they have in common that sig ensures that only one theta-role is assigned, but they differ in which one it is. This difference is supported by my intuition that (ia) which has an AGENT may be followed by a purpose clause (e.g. "in order to impress everyone in the room"), which is not possible for the AGENT-less (19a). Similarly (ia) but not (19a) may contain an adverbial like "deliberately" (med vilje).

10.   Although the free variation between ham/hende and sig in Danish infinitivals is rather like the situation with respect to subjunctive clauses in Icelandic, the account here is very different from that of Anderson (1982). His account of Icelandic refers to whether or not the tense of the subjunctive is 'dependent' on a tense in a matrix clause: if the tense assignment is independent then the subjunctive clause is a binding category, otherwise it is not. This clearly would not work for Danish, as infinitivals could never be claimed to be assigned tense (or agreement) in Danish.
      Even so, one of Anderson's arguments in favour of this optionality of tense dependency to do with opaque contexts in a logical sense ((21) of Anderson (1982:14))works exactly the same for Danish infinitivals. This could however also be taken

to show that these data should not be regarded as related to
the presence/absence of tense dependency:

(i)   a. Kun Peter$_i$ bad Susan$_j$ om [$_S$ PRO$_j$ elske ham$_i$]
       b.   sig$_i$
       "Only Peter asked Susan for [PRO to love _____]"

where the interpretations are

(ii)   a. Only one person asked Susan to love Peter,and that was
          Peter.
       b. Only one person asked Susan to love him, and that was
          Peter.

It should be mentioned that other and much stronger arguments
against Anderson's analysis are put forth by Rögnvaldsson
(1983:3-8).

11. Whether this emphatic kind of stress is possible with the
     other examples of ham selv/hende selv cited so far I am not
     sure, but the relevant point is that all examples, apart from
     (24), are definitely possible with a non-emphatic relatively
     small degree of stress on selv, and it is the binding
     characteristics of this weakly stressed version of the
     selv-forms that this paper is trying to account for.

12. sig in this example will probably be rejected by many
     Danish speakers. My view is that it is grammatical but
     (potentially) unacceptable, and that the unacceptability is
     somehow connected with the considerable distance between sig
     and its binder, and also the fact that the pronoun hende is
     available for the same interpretation.
        If the distance between sig and its binder is reduced (see
     e.g. (11) or (23)), or if the pronoun for independent reasons
     is not available, the acceptability of the construction
     increases considerably:

(i)   at [$_S$ Anne$_i$ AGR hørte [$_S$ Susan nævne sig$_i$]]
       "that [Anne AGR heard [Susan mention _____]]"

(ii)   Hvem$_i$ [$_S$ e$_i$ AGR hørte
       a.   [$_S$ Susan snakke med Tina om sig $_i$]]
       b.   *hende$_i$
       c.   *ham$_i$
       "Who [e AGR heard [Susan talk to Tina about _____]]"

13. This distinction is not valid for third person plural
     possessives, where deres ("their") is the only possibility in
     any configuration, much like the rest of the possessive
     paradigm, min ("my"), vores ("our"), din, jeres ("your", sing.
     and plural) where neither of the distinctions A/B or C/D of
     (26) apply.
        That there is no plural reflexive possessive is one of the
     few clearcut differences between Danish and both Norwegian and
     Swedish, with respect to binding.

14. As for the definition of SUBJECT and the consequences of
     referrring to the twice revised theory of binding, please refer
     to section 2.1.

15. The analysis of "take [$_{NP}$ _____ picture" as a subject
     control PRO configuration may also account for the difference
     in grammaticality between

(i)   Peter took John's picture on Wednesday

(ii)   *Peter took John's picture of Michael on Wednesday

(both with the "photograph" interpretation of take)
   Assuming control (at least in the cases in question here) to
be some kind of coindexation with a particular theta-position,
subject control entails that if an argument in the controllee
position is assigned its theta-role on the spot, then it must
be coindexed with the controller. Thus (iii) is noticeably
better than (ii):

(iii)   Peter$_i$ took his$_i$ picture of Michael on Wednesday

The difference between (i) and (ii) could be that in (i) John's is not assigned a theta-role directly, but rather inherits it from a coindexed trace following the N picture (similar to the idea in Fiva (1984:8) or the passivisation account of Anderson (1977) and Rizzi (1985:56)).

In conclusion: As above the position subject of NP may or may not be a theta-position: If it is, both (i) and (ii) are out, the coindexation with the matrix subject being impossible because names cannot be bound. If it is not a theta-position, (i) is OK, as John's gets its theta-role from a coindexed trace, but (ii) is out, the post-nominal theta-role being assigned to Michael, leaving John's without a theta-role.

16.   It will however be suggested below that (74) is ungrammatical.

17.   This was suggested to me by Liliane Haegeman.

18.   The judgments of (82a,c,d) and (91d), as well as (81a,d,h) are very subtle, influenced as they are by the following: that a straightforward and unambiguous option is also available (viz. sig selv), and that other factors come into play w.r.t. sig (cf. footnote 12), and w.r.t. ham selv (cf. the discussion of (24) in section 5). What is important here, rather than the absolute status of (82a,c) is their relative status, in other words, (82a,c) may not be too good, but they are definitely better than (91a,c).

19.   According to Rita Manzini (p.c.), the 'no man's land'-principle might be an evolutionary functional principle not part of UG rather than part of the definition of what is a possible natural language.

20.   With respect to small clauses, I suspect that they may count optionally as binding categories, i.e. that a small clause subject is optionally a SUBJECT.
     I base this suspicion on sentences like the following which

to my ear is completely ambiguous:

(i)   a. at [$_S$ Anne$_i$ AGR fandt Susan$_j$ i sin$_{i/j}$ seng]
       b.   hendes$_{i/j}$
          "that [Anne AGR found Susan in _____ bed]"

sin$_j$ and hendes$_i$ can be accounted for if Susan i sin/hendes seng is a small clause and thus a binding category, with Susan as subject/SUBJECT. sin$_i$ and hendes$_j$ can be accounted for under the opposite assumption, i.e. that the lowest SUBJECT is Anne. As both are possible, judging from the ambiguity of both (ia) and (ib), Susan is somehow optional as a SUBJECT.

For a discussion of similar facts in Faroese, see Barnes (1985:22-23).

Appendix: Translations of Danish Examples.

(2)   It is difficult to cut one's own hair

(3)   Peter asked Søren to leave

(4)   Peter heard Søren leave

(5)   Peter promised Søren to leave

(7) a. that Peter washed

   b. that Peter washed himself

(8) a. that Peter heard Anne talk about him

   b. that Peter heard Anne talk about herself

(9) b. that Peter always has admired himself

(10) a. that Peter told Michael about himself (Peter)

(11) a. that Peter asked Anne to call him

   d. that Peter asked Anne to call herself

(12) c. that Peter promised Anne to call himself

(13) a. that Peter overslept

(15) a. that Peter shaved.

   b. that Peter shaved himself.

   c. that Peter shaved Michael.

(16) b. that Peter persuaded Anne to defend herself

(17) a. that Peter asked Michael to shave him

   b. that Peter asked Michael to shave himself

   d. that Peter asked Michael to shave himself

(19) a. that Peter burned himself (by accident).

   b. that Peter burned himself (intentionally).

   c. that Peter burned Michael.

(20) d. that Susan told Anne about herself (Anne)

(21) a. that Susan asked Anne to call her

(22) b. that Susan promised Anne to call her

(23) a. that Susan persuaded Anne to listen to her

   c. that Susan persuaded Anne to listen to her

(24)   The composer said that the orchestra could only play the
        symphony when he conducted them himself

(29) a. that Anne heard Susan talk to Tina about her

   b. that Anne heard Susan talk to Tina about herself (Susan)

   c. that Anne heard Susan talk to Tina about her

   d. that Anne heard Susan talk to Tina about herself (Tina).

(30) b. that Anne promised Susan to talk to Tina about herself
        (Anne)

   c. that Anne promised Susan to talk to Tina about her

   d. that Anne promised Susan to talk to Tina about herself
        (Tina)

(31) b. that Anne talked to Tina about herself (Anne)

   c. that Anne talked to Tina about her (someone else)

   d. that Anne talked to Tina about herself (Tina)

(33) b. that Peter read his (someone else's) article

(34) a. that Michael heard Peter criticise his (Michael's)
        article

   b. that Michael heard Peter criticise his (Michael's)
        article

(35) b. that Michael promised Peter to read his (Peter's) article

(36) a. that Michael gave Peter his (Peter's) coat

(37) b. that Michael gave Peter his (Michael's) coat

(39) a. that Anne told me about the result of the election

(40) a. that I persuaded Susan to write to me

(41) a. that Tina promised me to mention me

(42) b. that I overestimated myself

(43) b. that Susan told me about myself

(55) c. that Peter thought that the pictures of him would never
        come out

   d. that Peter thought that the pictures of himself would
        never come out

(56) c. that Anne thought that there were some pictures of her in
        the newspaper

   d. that Anne thought that there were some pictures of
        herself in the newspaper

(57) c. that Susan thought that it was a shame that a picture of
        her had been lost

   d. that Susan thought that it was a shame that a picture of
        herself had been lost

(81) a. that Peter saw John's five pictures of him

   c. that Peter saw John's five pictures of him

   f. that Peter saw John's five pictures of himself

(82) a. that Peter saw five pictures of him (Peter) in the
        newspaper

(82) b. that Peter saw five pictures of himself in the
      newspaper

    c. that Peter saw five pictures of him (Peter) in the
      newspaper

(91) b. that Peter took five pictures of himself

Note 3

(i)   Peter heard a strange noise

(ii)   Peter asked Søren for an ice cream

Note 9

(i) a. that Peter sat down

    b. that Peter set himself down

    c. that Peter set Michael down

Note 10

(i) a. Only Peter asked Susan to love himself

    b. Only Peter asked Susan to love himself

Note 12

(i)   that Anne heard Susan mention her

(ii)   Who heard Susan talk to Tina about him/her?

Note 20

(i)   that Anne found Susan in her bed

References.

Anderson, Stephen (1977): "Comments on the Paper by Wasow" in Adrian Akmajian and Thomas Wasow (eds.): Formal Syntax, pp. 361-378. New York: Academic Press.

Anderson, Stephen (1982): "Types of Dependency in Anaphors: Icelandic (and Other) Reflexives" in Journal of Linguistic Research, vol. 2(2), pp. 1-22. Bloomington: Indiana University Linguistics Club.

Aoun, Joseph and Dominique Sportiche (1983): "On the Formal Theory of Government" in The Linguistic Review, vol. 2(3), pp. 211-236. Dordrecht: Foris.

Barnes, Michael (1985): "Reflexivization in Faroese: A Preliminary Survey". Unpublished paper. London: Dept. of Scandinavian Studies, University College London.

Berwick, Robert (1982): Locality Principles and the Acquisition of Syntactic Knowledge. Ph.D. dissertaion. Cambridge, Mass.: Dept. of Computer Science and Electrical Engineering, MIT.

Burzio, Luigi (1981): Intransitive Verbs and Intalian Auxiliaries. Ph.D. dissertation. Cambridge, Mass.: Dept. of Linguistics and Philosophy, MIT.

Chomsky, Noam (1981): Lectures on Government and Binding. Dordrecht: Foris.

Chomsky, Noam (1982): Some Concepts and Consequences of the Theory of Government and Binding. Cambridge, Mass.: MIT Press.

Diderichsen, Paul (1946): Elementær Dansk Grammatik. (= Elementary Danish Grammar). Third edition, eighth impression, 1984. Copenhagen: Gyldendal.

Everaert, Martin (1980): "Inherent Reflexive Verbs and the "Zich"/"Zichself"-distribution in Dutch" in Utrecht Working Papers in Linguistics, vol. 10, pp. 3-48. Utrecht: Dept. of General Linguistics, University of Utrecht.

Fiva, Toril (1984): "NP-internal Chains in Norwegian", Working Papers in Scandinavian Syntax, no. 14. Trondheim: Linguistics Dept., University of Trondheim.

Haegeman, Liliane (1985): "The Get-passive and Burzio's Generalization" in Lingua, vol. 66, pp. 53-77. Amsterdam: North-Holland.

Hellan, Lars (1983): "Anaphora in Norwegian and the Theory of
     Binding", Working Papers in Scandinavian Syntax, no. 5.
     Trondheim: Linguistics Dept., University of Trondheim.
Holmberg, Anders (1983): "The Finite Sentence in Swedish and
     English", Working Papers in Scandinavian Syntax, no. 3.
     Trondheim: Linguistics Dept., University of Trondheim.
Holmberg, Anders (1984): "On Certain Clitic-like Elements in
     Swedish", Working Papers in Scandinavian Syntax, no. 13.
     Trondheim: Linguistics Dept., University of Trondheim.
Huang, C.T. James (1983): "A Note on the Binding Theory" in
     Linguistic Inquiry, vol. 14, pp. 554-561. Cambridge, Mass.:
     MIT Press.
Kayne, Richard (1984): Connectedness and Binary Branching.
     Dordrecht: Foris.
Manzini, Rita (1983): "On Control and Control Theory" in
     Linguistic Inquiry, vol. 14(3), pp. 421-446. Cambridge,
     Mass.: MIT Press.
Manzini, Rita and Kenneth Wexler (1984): "Parameters, Binding
     Theory and Learnability". Unpublished paper. Irvine:
     University of California.
Mikkelsen, Kristian (1911): Dansk Ordföjningslære. (= Danish
     Syntax). Copenhagen: Lehman og Stage. Reissue 1975,
     Copenhagen: Hans Reitzel.
Marantz, Alec (1984): On the Nature of Grammatical Relations.
     Cambridge, Mass.: MIT Press.
Pica, Pierre (1985): "Subject, Tense, and Truth: Towards a
     Modular Approach to Binding" in Jacqueline Guéron,
     Jean-Yves Pollock, and Hans-Georg Obenauer (eds.): Levels
     of Grammatical Representation. Dordrecht: Foris.
Platzack, Christer (1982): Modern Grammatisk Teori. (= Modern
     Grammatical Theory). Lund: Liber.
Platzack, Christer (forthcoming): "COMP, INFL, and Germanic Word
     Order" in Kirsti Koch Christensen and Lars Hellan (eds.):
     Topics in Scandinavian Syntax. Dordrecht: Reidel.
Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan
     Svartvik (1985): A Comprehensive Grammar of the English
     Language. London: Longman.

Risager, Karen (1973): "Hvor kommer 'selv' fra?". (= Where does
     'selv' come from?). Unpublished paper. Copenhagen:
     Linguistics Dept., University of Copenhagen.
Rizzi, Luigi (1985): "Null Objects in Italian and the Theory of
     pro". Unpublished paper. Cambridge, Mass.: Dept. of
     Linguistics and Philosophy, MIT.
Rögnvaldsson, Eirikur (1983): "Some comments on Reflexivization
     in Icelandic". Unpublished paper. Reykjavik: Department of
     Humanities, University of Iceland.
Sørensen, Finn (1983): "La position du sujet en franais et en
     danois" in Michael Herslund, Ole Mørdrup, and Finn Sørensen
     (eds.): Analyses grammaticales du franais, pp. 38-49.
     Revue Romane, special issue no. 24. Copenhagen: Akademisk
     Forlag.
Thrane, Torben (1983): "On Some Assumptions and Principles of
     Contrastive Grammar Illustrated from the Area of
     Reflexivity in Danish and English" in Papers and Studies in
     Contrastive Linguistics, vol. 17, pp. 5-15. Poznan: Adam
     Mickiewicz University.
Vikner, Sten (1984): "Anaphors in Danish as Compared to English,
     Seen from the Point of View of the Government-Binding
     Theory". M.A. dissertation. London: Dept. of Phonetics and
     Linguistics, University College London.