THE UNIVERSITY OF HULL

MUTATION AND THE SYNTACTIC STRUCTURE

OF

MODERN COLLOQUIAL WELSH

being a Thesis submitted for the Degree of

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by

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SUMMARY

Summary of Thesis submitted for PhD degree

by

Margaret Olwen Tallerman

on

Mutation and the Syntactic Structure of Modern Colloquial Welsh

In this dissertation I discuss the phenomenon of initial
consonantal mutation in modern Welsh, and explore the syntactic
structure of this language: I will concentrate on the syntax of
Colloquial rather than Literary Welsh. It transpires that
mutation phenomena can frequently be cited as evidence for or
against certain syntactic analyses. In chapter 1 I present a
critical survey of previous treatments of mutation, and show that
mutation in Welsh conforms to a modified version of the Trigger
Constraint proposed by Lieber and by Zwicky. It is argued that
adjacency of the mutation trigger is the criterial property in
Welsh. Chapter 2 presents a comprehensive description of the
productive environments for mutation in modern Welsh. In chapter
3 I give a short account of Government and Binding theory, the
framework used for several recent analyses of Celtic languages. I
also discuss proposals that have been made concerning the
underlying word order of Welsh, a surface VSO language. Although
I reject SVO underlying order, I conclude that there is
nonetheless a VP constituent in Welsh. Chapters 4 and 5 concern
the role of NPs as triggers for Soft Mutation: both overt and

empty category NPs are considered. In chapter 5, which centres on wh-traces, it is shown that the variable appears in a wider variety of construction types in Welsh than had previously been suggested. A pre-head relativization site for extractions from VP and NP is posited. Chapter 6 develops the theme of the role of wh-traces in unbounded dependencies, and it is argued that all relative clauses in Welsh are formed by wh-movement. The final chapter, chapter 7, looks at the wider variety of relative clause types found in Colloquial Welsh, and presents an analysis of the patterns of mutation and pronoun retention in the light of the NP Accessibility Hierarchy.

CENEDL HEB IAITH, CENEDL HEB GALON.

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INTRODUCTION

Broadly speaking, modern Welsh can be divided into two varieties:
Literary Welsh (LW), _Cymraeg llenyddol_, and Colloquial Welsh (CW),
Cymraeg llafar. Despite the name, the literary variety is not used
solely as a written form; it also functions as a formal spoken
language, for example in broadcasting, particularly the news, and in
forms of public speaking such as lecturing or preaching. Newspapers
are also written in LW. However, LW is a fossilized language system
inasmuch as it is not a native language, but rather, a learned form.

No doubt largely because of its association with the language of
the Welsh Bible, LW has come to be a highly prestigious variety. It
has a clear literary tradition, which CW does not; until recently CW
was not a written variety at all. Not surprisingly, the traditional
aims of education in Welsh came to mean literacy in LW, and given the
paucity of literature available in CW, this attitude has lingered on
into the twentieth century. LW still has the status of 'good' Welsh,
'proper' Welsh, at least for older speakers -- a characteristic which
often makes it hard to elicit natural language data from such
speakers. Fortunately, these attitudes seem to be dying out amongst
younger speakers, which is why in the present study a large proportion
of the informants used were school and university students.

Part of the usefulness of LW is that it functions as a standard
language in a situation where there is no natural standard colloquial
language. Although the various dialect areas are mutually
intelligible, Welsh-speaking communities tend to be isolated in small
pockets, surrounded by Anglophone areas, and although in England the
media have been promoting acceptance of regional varieties of English
increasingly since the war, this has not been the case in Wales. Even

the Welsh TV channel 4 (<u>Sianel Pedwar Cymru</u>), introduced in the
eighties, only broadcasts a minority of programmes in Welsh, and most
of these are children's programmes.

In English, the most salient differences between dialects are
phonological. Although phonology is an important area of contrast
between Welsh dialects too, there are far more morphological and
lexical contrasts than in the case of English. There is a broad
North/South divide in Welsh dialects, which is illustrated in the areas
of phonology, morphology and lexicon. For example, North Walian
dialects typically have /a/ as the reflex of the LW diphthong /ai/,
whereas South Walian dialects typically have /ɛ/. The plural morpheme
-<u>au</u> in <u>llyfrau</u> 'books', for example, produces these variants:

(1) i)   /ɬ?vrai/ LW

    ii)   /ɬəvra/ NW

    iii) /ɬəvrɛ/ SW

There is extensive variation in verbal morphology between Northern and
Southern varieties. Compare, for example, the following paradigms for
the synthetic past tense of <u>gwneud</u> 'do, make', adapted from Jones and
Thomas (1977):

(2) i)   <u>Northern Welsh</u>

          SING.   PLU.

    1 mi 'nês   mi 'neuthon

    2 mi 'nêst   mi 'neuthoch

    3 mi 'nâth   mi 'neuthan

<u>eu</u> = [ei] or [ə]

<u>th</u> = [θ] or [s]

ii)   <u>Southern Welsh</u>

     SING.   PLU.

1 fe netho   fe nethon

2 fe nethot   fe nethoch

3 fe nâth   fe nethon

(Jones and Thomas 1977:404)

It is also instructive at this point to compare both of these

paradigms with the corresponding LW:

(3)   SING.   PLU.

1 gwneuthum   gwnaethom

2 gwnaethost   gwnaethoch

3 gwnaeth   gwnaethant

<u>eu</u> = [əi], <u>ae</u> = [ai]

    Lexical contrasts surface between Northern and Southern dialects

even in items of everyday vocabulary:

(4) i)   'milk'   : llefrith NW

                   llaeth SW

  ii) 'woman'   : dynes   NW

                   menyw   SW

 iii) 'grandmother' : nain   NW

                   mam-gu SW

  iv) 'that' (as a complementizer in embedded topicalizations)

                 : mai   NW

                   taw   SW

On the whole, North Walian dialects are more conservative, in that

they tend to be closer to LW in phonology, morphology and lexicon.

    I have mentioned that there is no natural standard form of CW.

There is, however, an artificial standard colloquial language, known

as <u>Cymraeg Byw</u> 'Living Welsh'. This is an amalgam of different

dialects which was developed specifically to teach a standardized

colloquial form as a second language, for use for example in parts of

Wales where Welsh is not the mother tongue. In the 'Teach yourself'

series, the old edition by Bowen and Rhys Jones (1960), which was

based solely on LW, has been replaced by the book entitled 'Living

Welsh' (Rhys Jones 1977). In this thesis I often cite examples from

this work, and also use data from several modern pedagogical grammars

from the National Language Unit of Wales (Uned Iaith Genedlaethol

Cymru, U.I.G.C.). Although these books cannot be taken to be

descriptions of any particular dialect, each of the examples cited can

be found in one or more dialects, and as such are extremely useful.

Another work which is also invaluable as a source of CW data is Jones

and Thomas (1977), a transformational treatment of the syntax of

(Northern) CW.

It is useful at this stage to review the major areas of

differentiation between LW and CW. Concentrating just on the areas of

morphology and syntax, the differences are legion. In verbal

morphology, for example, LW is characterized by the use of a synthetic

present tense, as in (5). This inflectional paradigm is found in CW,

but it is used to express future tense. The present tense in CW is

the analytic or periphrastic form shown in (6):

(5)   Darllenith hi lyfr.

         reads-3s   she book

         'She reads a book.' (LW)

         'She will read a book.' (CW)

(6)   Mae   hi'n   darllen llyfr.

         is-3s she-prt read   book

         'She's reading a book.'   (CW)

In general, dialects of CW prefer the periphrastic verb forms rather

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than the inflectional paradigms. The periphrastic construction involves an inflected auxiliary verb in initial position, and a non-finite main verb (cf. chapter 3.3, 3.4). North Walian dialects use a periphrastic past tense construction, as an alternative to the synthetic past tense, which has the verb ddaru (lit. 'happened') in initial position. This is a verb which is semantically empty, existing purely as an 'auxiliary carrier', to use the term of Jones and Thomas (1977). It also has a defective paradigm, since it occurs with no inflection other than 3s past tense:

(7)   Mi   ddaru   Mair ganu neithiwr.

         prt happened   sing last night

         'Mair sang last night.'

(Jones and Thomas 1977:81)

Gwneud 'do' can also occur in this construction, but with any of the three tense inflections found in CW: past, future and conditional:

(8) i)   Mi   wnaeth Mair ganu neithiwr.

         prt did-3s   sing last night

         'Mair sang last night.'

  ii)   Mi   wneith   Mair ganu heno.

         prt will-do-3s   sing tonight

         'Mair will sing tonight.'

(Jones and Thomas 1977:81)

  iii)   Mi   wnai   Mair ganu heno   petai hi'n   iawn.

         prt would-do-3s   sing tonight if   she-prt well

         'Mair would sing tonight if she were well.'

These analytic constructions, with a non-finite form of canu 'sing', are all indicative of CW: LW would use an inflected main verb in each case.

The conditional inflection of CW, illustrated in (8iii), is derived from the LW imperfect tense paradigm. LW also has a pluperfect tense inflection, which CW does not, but this is also used as a conditional tense in some dialects. The distinction expressed by imperfect and pluperfect inflections in LW is, as usual, expressed by a periphrastic construction in CW, utilizing different aspect markers (cf. chapter 3.4):

(9) i) Roeddwn i'n   canu.

        was-1s I-PROG sing

        'I was singing.'

   ii) Roeddwn i wedi canu.

        was-1s I PERF sing

        'I had sung.'

LW also utilizes an inflectional paradigm for the so-called impersonal passive construction, illustrated in (10i). CW does not use this construction, usually, and passives are expressed periphrastically (cf. chapter 5.3) as in (10ii):

(10) i) Lladdwyd   dau fachgen mewn damwain ddoe.

        were-killed-3s two boy   in   accident yesterday

        'Two boys were killed in an accident yesterday.'

    ii) Mae   dau fachgen wedi (cael) eu ladd

        is-3s two boy   PERF get   3p kill

        mewn damwain ddoe

        in   accident yesterday

        'Two boys were killed in an accident yesterday.'

LW is characterized by the use of pre-verbal particles marking interrogatives and negatives, which do not appear in CW, although their mutation effects remain (cf. chapter 2). CW, on the other hand, has a medial negation marker _dim_. The two varieties are shown in

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(11):

(11) i) Ni welais eneth.

        NEG saw-1s girl

        'I did not see a girl.'   (LW)

    ii) Welais i ddim geneth.

        saw-1s I NEG girl

        'I didn't see a girl.'   (CW)

(11) also illustrates one of the most salient differences between the

two varieties of Welsh, the presence (11ii) or absence (11i) of

personal pronouns following inflected verbs (cf. chapter 4.4).

Complementizers in relative clauses and topicalizations also fail

to appear overtly in CW:

(12)   Mair (y) soniais i amdani.

        COMP spoke-1s I about-3fs

        'It's Mair that I was talking about.'

LW would typically retain the y complementizer.

However, CW does use pre-verbal particles which are on the whole

not present in LW: the particles mi and fe illustrated in (2) above.

One main area of distinction between LW and CW is in the mutation

system: differences between the two varieties in this regard are

discussed throughout the present study. The Celtic languages all

exhibit the phenomenon known as consonantal mutation; it is confined

in this language family to initial segments. Historically, the series

of alternations were conditioned or 'triggered' by purely phonetic

conditioning factors: the sound changes were a straightforward sandhi

phenomenon. In modern Welsh, however, the conditioning factors are

not phonological, but lexical, morphological and syntactic. Mutations

can therefore be seen as sets of morphophonemic sound changes,

phonological in realization but not in motivation.

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The canonical or citation forms of lexical items are traditionally known as the 'radical' forms. The mutations themselves fall into three categories in Welsh: Soft Mutation (SM), _treiglad meddal_; Aspirate Mutation (AM), _treiglad llaes_; and Nasal Mutation (NM), _treiglad trwynol_. I will normally refer to the mutations, both the processes and the actual alternations, by the terms SM, AM, and NM, rather than the alternatives lenition, frication and nasalization as used by some authors. In what follows I will be largely unconcerned with the phonological realization of mutation, which varies somewhat from dialect to dialect (cf. for example P.W. Thomas 1984). A description of the phonological rules involved is outside the scope of this study (cf. Awbery (1975) for one attempt). I concentrate instead on the environments for mutation and the syntactic structures which are relevant to mutation.

Typically, lexical items tend to cease to be mutation triggers in dialects of CW, so that environments which have a certain mutation in LW now retain the radical initial in the dialects. This happens particularly in the case of AM and NM, as we will see in chapter 2. But it will also be shown that lexical items which in LW trigger one of these two mutations have sometimes become SM triggers in the dialects. In general, though, the transition from LW to CW, as far as mutation is concerned, can be characterized by loss of lexical environments. However, there is another side to this coin. Besides the tendency to treat SM as the unmarked type of mutation in lexical environments, CW also displays new, generalized syntactic environments for SM. This phenomenon is discussed in later chapters, particularly chapter 5.

Throughout what follows, mutation is often discussed in terms of the evidence it offers for certain syntactic analyses. Sometimes, the

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constructions in question do not occur in LW, so that analyses which

do not consider data from CW have failed to make certain

generalizations. CW tends to be either tacitly or overtly considered

as a degraded form of LW, mainly I suspect because of the vast amount

of English loanwords found in CW, either substituting for or

supplementing native vocabulary items. I also suggest an influence on

CW from English syntax at several points in the following chapters,

for instance in word order and preposition stranding. Despite the

fact that it is losing ground in lexical environments, the mutation

system is not dead but is flourishing in CW. In what follows I

suggest that a major reason for the continuing use of the system

hinges on the important role played by mutation in facilitating

syntactic processing.

In this study I adopt the convention of underlining the mutated

segment(s) where this is relevant to a point about mutation being made

in the text. In such cases, I give the canonical form of the lexical

item(s) in parentheses following the Welsh example.

CHAPTER ONE

A CRITICAL SURVEY OF PREVIOUS TREATMENTS OF MUTATION IN WELSH

In this chapter I will examine the main treatments of Welsh consonantal mutation in the literature, showing the problems that have occurred with these previous accounts. We will see that modern treatments often perpetuate the inaccuracies and inadequacies of the traditional grammars, so obscuring rather than revealing generalizations about mutation.

1.1 TRADITIONAL SOLUTIONS

By the term 'traditional' I mean both traditional pedagogical grammars, and also various modern, descriptive and atheoretical accounts of mutation. Accounts which begin from a standpoint of transformational grammar or generative phonology are examined in later sections. In this section we will pave the way for a later, more explicit treatment of certain environments for mutation by considering a few statements of mutation which have been particularly unhelpful.

Traditional pedagogical grammars have not changed radically in their treatment of mutation since, for example, Anwyl (1901). In the same tradition are Bowen and Rhys Jones (1960) and Williams (1980), which is itself an English translation, with some modification, of Williams (1959). Even publications which aim to treat Colloquial Welsh rather than Literary Welsh frequently repeat the traditional statements of the mutation environments; amongst these are U.I.G.C. (1976, 1978). Rhys Jones (1977) is,

however, a notable exception in his description of _Cymraeg Byw_
'Living Welsh'.

Interestingly, Jones and Thomas (1977), a standard theory
transformational account of Welsh syntax, do not treat mutation at
all.

The problematic statements of mutation invariably concern SM,
since, as we will see in chapter 2, the environments for both NM
and AM are far more straightforward. The problems arise in
dealing with SM because, unlike NM and AM, not all the mutation
triggers are single morphemes or specified lexical items.

First of all let us consider the traditional explanation for
the SM in examples like (1):

(1)   Gwelais i _gi_.   (ci)

        saw-1s   I dog

        'I saw a dog.'

In this, and in all subsequent examples, the radical
(lexical) form of the mutatee is placed in parentheses following
the Welsh; here, then, _ci_ has undergone SM: _gi_. Pedagogical
grammars such as Bowen and Rhys Jones (1960), M.D. Jones (1976)
and Williams (1980) all have the same explanation for the
occurrence of SM in (1): the direct object of a finite verb form
undergoes SM. This is contrasted with examples such as (2), which
shows that the subject of inflected verbs, on the other hand, does
not undergo SM:

(2)   Diflannodd   ci/*_gi_

        disappeared-3s dog

        'A dog disappeared.'

It is often claimed that the SM or lenition in (1) is a mark of
the accusative case, and that this contrasts with the object of a

non-finite verb which must not undergo SM; this is considered

instead to be in the genitive case:

(3)   Roeddwn i'n   gweld ci/*gi.

        was-1s I prt see   dog

        'I saw a dog.'

There is, however, no evidence for the postulation of such a case

distinction other than the occurrence of SM in (1) but not in (2)

or (3). The argument about case-marking is therefore circular,

since there are no independent grounds for considering the NP in

(1) to have accusative case, but not the NP in (3).

    Given the traditional statement of 'SM of direct object', it

is not easy to unify the occurrence of mutation in (1) with that

in (4):

(4)   Medraf i weld y   castell.   (gweld)

        can-1s I see   the castle

        'I can see the castle.'

In this instance, it is not an NP which undergoes SM, but a

non-finite verb. It is hard to see how a verb can be considered

to be case-marked, or in what sense the non-finite verb is the

object of the inflected verb. The traditional statements

therefore fail to make any generalization across examples such as

(1) and (4), whereas in fact, as I will show, both of these

examples illustrate SM triggered by the same factor.

    A second problem for the traditional statement is that for at

least some idiolects, only the first direct object in a conjoined

string of NPs will undergo SM (cf. Watkins 1975:476):

(5)   Gwelodd ef gi, cath a   bachgen.   (ci)

        saw-3s he dog cat and boy

        'He saw a dog, a cat and a boy.'

If SM is an exponent of accusative case, such a result is entirely

unexpected, as it seems to indicate that the first NP in the

string is in one case, but subsequent NPs in a different case, or

even no case at all. However, as we will see, a statement can be

made which predicts the mutation pattern in (5) and unifies the

treatment of this example with the SM in (1) and (4). This is

discussed in chapter 4.1.2.

We also need to make it clear that 'SM of direct object' has

to operate on the leftmost item in the string, if it has a mutable

initial. So, not only are nouns affected, as in (1), but any

category that can have a mutable initial consonant: so in (6i),

the adjective has undergone SM, and in (6ii), the determiner:

(6) i)   Gwelais i brif ddinas.   (prif)

         saw-1s I chief city

         'I saw a capital city.'

   ii)   Gwelais i ddigon o lyfrau.   (digon)

         saw-1s I enough of books

         'I saw enough books.'

Apart from the problem that the traditional statement of 'SM

of direct object' is imprecise or unrevealing, it also appears to

have exceptions. Firstly, consider imperatives. Affirmative

imperatives are not problematic since SM occurs on the object, as

(7i) shows. However, in (7ii), unexpectedly the non-finite verb

does not undergo SM:

(7) i)   Prynwch gar newydd.   (car)

         buy-IMP car new

         'Buy a new car.'

ii)   Peidiwch   prynu/*brynu car newydd.

       refrain-IMP buy   car new

       'Don't buy a new car.'

This construction will be discussed in more detail in chapter 4,

where an explanation is offered for these data. However, it is

worth noting here some preliminary facts about the verb peidio

which may shed some light on the lack of SM in the negative

imperative in (7ii). Peidio (lit. to refrain, to cease) is a

defective verb in modern colloquial Welsh, having only two

inflected forms: paid (2s) and peidiwch (2p). Therefore, although

it has the superficial appearance of an ordinary inflected verb,

it actually should be seen as a fossilized negative particle. If

this assumption is correct, there is no reason to expect SM in

(7ii), since the mutable verb prynu is not preceded by an

inflected verb after all.

The second exception to the traditional statement of 'SM of

direct object' involves the impersonal passive construction of LW,

illustrated in (8):

(8) i)   Gellir gweld/*weld yr Wyddfa o'n   stryd ni

          is-able see   Snowdon from-1p street us

          'Snowdon can be seen from our street.'

   ii)   Codwyd   tai/*dai

          were-built houses

          'Houses were built.'

This very formal literary construction is an agentless passive,

and the item following the inflected verb, whether a noun or

verbal object, does not undergo SM. In active sentences, at least

in LW, a subject pronoun is superficially optional, as in (9):

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(9)   Codson   (nhw) dai.   (tai)

        built-3p they   houses

        'They built houses.'

However, in the impersonal passive, there is no possibility of a

subject pronoun intervening between the verb and its object; an

agent phrase, if there is one, is found in a gan 'by' phrase after

the object:

(10)   Codwyd   tai   gan y   cyngor.

        were-built houses by the council

        'Houses were built by the council.'

The lack of an intervening subject is not treated as a significant

fact by the traditional grammars, so that the non-appearance of SM

in (8) has to be treated as irregular. In fact, as we will see,

it is entirely expected if the role of the subject NP in

triggering SM is taken into account.

    We now turn to an environment for SM which has received

particularly vague treatment in the traditional grammars. This is

usually termed 'SM after a parenthesis.' It is generally

ill-defined: for example, Vinay and Thomas (1947:14) consider a

parenthesis to be "an intervening word between the verb and the

rest of the sentence." Bowen and Rhys Jones make the following

statement:

(11) "When the subject or object following the verb is separated

from it by an intervening word or phrase, the initial consonant of

the subject or object is softened."

(Bowen and Rhys Jones 1960:167)

Some examples are shown in (12):

(12) i)   Y   mae yno   goed yn tyfu.   (coed)

     prt is   there trees prt grow

     'Trees are growing there.'

   ii) Gwelais i [PP ar [NP y   bryn]] gastell.   (castell)

        saw-1s I   on   the hill   castle

        'I saw on a hill a castle.'

  iii) Mae [PP gennyf [NP fi]] lyfyr.   (llyfr)

        is   with-1s   me   book

        'I have a book.'

The majority of examples of a parenthesis turn out to be PPs, as

in (12ii, iii); (12iii) has an inflected form of the preposition

gan 'with', plus the prepositional object. Most of the remaining

'intervening words' are traditionally analyzed as adverbs, eg. yma

'here', yna, yno 'there'. However, this obscures the true

function of these items, which in fact behave exactly like NPs,

for example in filling the subject slot in (12i).

     A second test for NP-hood is that just like 'there' in

English, yna appears to undergo subject raising (NP-movement).

Compare the following:

(13) i)   Mi gynhaliwyd cyfarfod neithiwr.

          prt was-held-3s meeting last night

          'A meeting was held last night.'

   ii) Mi gynhaliwyd yna   gyfarfod neithiwr.   (cyfarfod)

        prt was-held-3s there meeting last night

        'There was held a meeting last night.'

(Jones and Thomas 1977:53)

Jones and Thomas handle the SM in (13ii) by a

construction-specific rule (1977:57) which accompanies their

postulated (non-structure-preserving) yna-insertion

transformation. However, since yna can be shown to be an NP, this specific mutation rule can be dispensed with, as I show directly.

In the present framework, then, yna, yma, yno will be analyzed as NPs. It can now be seen that there is a generalization to be made across all the 'intervening words' in (12); in each case, the mutatee is immediately preceded by an NP. This is an important observation, as we will see, and crucial to a unified treatment of this environment for SM. These facts have, however, been obscured by traditional grammatical statements of mutation.

I will end this section by bringing together some of the observations that have been made along the way, and will show that there is a generalization that traditional grammars have failed to make.

The two environments discussed so far, 'SM of direct object' and 'SM after a parenthesis' are in fact not disparate environments, but can be unified by the simple observation that an NP triggers SM whenever it immediately precedes a mutable item. [1] We now have a useful way of distinguishing between objects of inflected verbs, which undergo SM, and objects of non-finite verbs, which do not. The salient examples are repeated here; in (14i) and (ii), the mutatee is immediately preceded by an NP in each case:

(14) i) Gwelais [NP i] gi.   (ci)

         saw-1s   I   dog

         'I saw a dog.'

     ii) Medraf [NP i] weld y   castell.   (gweld)

         can-1s   I   see the castle

         'I can see the castle.'

iii) Roeddwn i'n   gweld ci.

      was-1s I prt see   dog

      'I saw a dog.'

On the other hand, the object of the non-finite verb gweld does

not follow an NP in the example in (14iii), and consequently

retains its radical initial: ci rather than *gi.

   As we would expect in a surface VSO language, subjects of

verbs are not typically in an environment following an NP either,

as (15i) shows, and will therefore not normally undergo SM. A

subject does, however, lenite if it follows a 'parenthetical' NP

as in (15ii):

(15) i) Diflannodd   ci

         disappeared-3s dog

         'A dog disappeared.'

    ii) Cyrhaeddodd [NP acw]   ddyn.   (dyn)

         arrived-3s   yonder man

         'A man arrived at our house.'

Finally, the lack of SM on the object of impersonal passive verbs

is now predicted by the present analysis, since there is no

subject NP available to trigger SM. In the present analysis then,

these inflected verbs do not have to be treated as exceptions,

since it is now clear that it is not the verb which is responsible

for triggering SM.

   Having seen some of the problems which are prevalent in

traditional grammars, we now turn to some recent specific

treatments of mutation.

1.2   OFTEDAL (1962)

Oftedal's paper provides a rather limited analysis of mutation in the Celtic languages in general, and is, as it stands, problematic. Despite the criticisms which must be made, however, Oftedal did have one crucial insight which, as we will see, has proved to be very useful in later treatments of mutation, including the present analysis.

This insight concerns the distinction between what Oftedal terms 'Projected' mutations and 'Incorporated' mutations. Most, but not all instances of mutation throughout the Celtic languages are a product of the contact between a triggering element and a mutable category. The important point is that the trigger immediately precedes the mutatee: this is what Oftedal means by a 'projected' mutation. For example, in (16i) the 3fs determiner ei triggers AM on the following noun, and in (16ii) the morpheme rhag 'pre' triggers SM on the verb it is prefixed to:

(16) i) ei   thad   (tad)

         'her father'

    ii) rhagfynegi   (rhag+mynegi)

         'foretell'   pre- tell

Any mutations which do not have an immediately preceding trigger will be considered as 'incorporated'. Such mutations are, according to Oftedal's rather unhelpful definition "part of the form in which they are manifested and not of any preceding morpheme" (1962:97), but they are also considered to be "morphemes or allomorphs in their own right" (1962:98).

An interesting objection to Oftedal's presentaton of the projected versus incorporated distinction is raised by Cram (1975)

in a discussion of Scottish Gaelic. In this language, the preterite verb undergoes lenition, and since the verb is sentence-initial, there is apparently no immediately preceding morpheme to trigger the mutation. Therefore, this instance of lenition would be considered as incorporated under Oftedal's system. However, also under Oftedal's system, as Cram points out, the lenition would be seen as a morpheme in its own right. If this morpheme then precedes the verb, this environment qualifies as a projected mutation under Oftedal's definition.

Oftedal probably intended projected mutation to refer only to single morphemes and lexical items as possible triggers, in which case Cram's example would not 'count' as a projected mutation. However, a similar type of problem arises in Welsh, where the existence of a triggering item is also in doubt. This exemplifies the subdivision of incorporated mutation which Oftedal terms 'free'. 'Free' mutation apparently lacks any trigger, as in for example the Gaelic case. As an instance of free mutation in Welsh, Oftedal cites the negative construction of CW, as in (17):

(17)   Welais i mono   fo.   (gwelais)

        saw-1s I NEG-of him

        'I didn't see him.'

Certainly, in this case, there is no overt trigger, unlike the parallel example from LW in (18) which has the negative particle ni as a mutation trigger in pre-verbal position:

(18)   Ni welais   i ef.   (gwelais)

        NEG saw-1s I him

        'I didn't see him'

However, Willis (1986:17f) makes a useful point in connection with examples like (17): the literary particle ni has a prevocalic

variant _nid_, the vestiges of which are to be found as a _'d_

cliticized to vowel-initial forms of _bod_ 'to be':

(19)   'Does dim bara yma

         NEG-is no   bread here

         'There's no bread here.'

In view of this, Willis suggests positing an underlying /d/ as a

negative particle throughout the negative construction of CW; this

particle would then act as a (projected) mutation trigger and then

delete in cases like (17) where it does not surface directly. [2]

I will assume that this analysis is the correct one for such

examples as these. However, as Willis herself points out, where

other particles are involved this abstract solution seems harder

to justify. In the case of the interrogative marker _a_ and the

complementizer _a_, for example, we have particles which delete

entirely in CW, although their mutation effects remain. I will

continue to assume, however, that these particles are projected

mutation triggers; this has the effect of making Oftedal's

category of 'free' mutation largely redundant. The small

remaining set of mutations which resist reclassification in terms

of a triggering item will be discussed in chapter 2.

Oftedal's remaining category of incorporated mutation is

termed 'bound' mutation; this can certainly be dispensed with as

far as Welsh is concerned. This category covers instances of

mutation which ostensibly have a non-adjacent triggering factor,

which Oftedal terms 'retrospective'. Such a term would cover the

two traditional environments for mutation discussed in 1.1: SM of

direct object and SM after a parenthesis. However, we have

already seen that it is unsatisfactory to treat mutation of the

object, for example, as being triggered by the inflected verb.

Oftedal's uncritical acceptance of these traditional environments leads him to postulate unnecessary subcategories of mutation. A far more perspicuous treatment of both these types of mutation can be made if both are considered to be examples of projected mutation, triggered by an immediately preceding NP.

Of course, technically an NP is not available as a projected mutation trigger in Oftedal's analysis: only single morphemes such as prefixes or specific lexical items are considered true candidates. But if we widen the definition of projected mutation so that it will cover preceding phrasal categories as well, then we can make a useful generalization about the nature of (most) mutation in Welsh, and dispense with unhelpful subcategories of mutation suggested by Oftedal. This question is taken up again in section 1.6.1, in the discussion of Lieber (1983).

1.3 THE ABSTRACT PHONOLOGICAL SOLUTION

For Welsh, the major analysis in an abstract phonological framework is that of Knudsen (1973). Cram (1975) presents a similar analysis of nasalization in Scottish Gaelic, which as we will see could easily be extended to cover NM in Welsh. An analogous solution for modern Irish is also discussed (and rejected) by Kallen (1979). In this section I also discuss the much earlier work by Hamp (1951), on Celtic mutations in general, as his paper has a lot in common with the later generative works both in spirit and in execution.

Welsh, along with the other Celtic languages, presents a peculiar problem for the abstract phonologist because the mutation processes are no longer phonologically triggered. Mutations which

were once purely sandhi phenomena are now triggered by the contact

of various grammatical forms. However, it is possible, at least

in part, to construct an abstract phonological analysis of

mutation, although any such solution must necessarily concentrate

on AM and NM. There are two reasons for this. Firstly, in the

case of both NM and AM, all the environments for mutation fit

firmly into Oftedal's 'projected' category. This ensures that in

a rule of the form:

(20)   X --> Y / Z _

there is actually some form 'Z' which can be be said to <u>trigger</u>

the mutation. As we will see in chapter 2, the same cannot be

said of all the environments for SM. Secondly, and again unlike

SM, the mutation triggers for AM and NM constitute a small, closed

set. It is therefore possible to posit an abstract final segment

which is only attached to the triggering items, the 'Zs' in (20).

To consider the treatment of AM first, Knudsen (1973:143ff)

claims that the lexical items which trigger this mutation most

frequently all have a consonant-final alternant in a pre-vocalic

environment. For example <u>gyda</u> 'with' also has the form <u>gydag</u>:

(21) i)   gyda <u>th</u>ad y   bachgen   (tad)

          with father the boy

          'with the boy's father'

     ii) gydag ei dad

          'with his father'

Knudsen takes the consonant-final forms as the underlying

representations of the AM triggers. The AM rule is as follows:

(22) $\begin{bmatrix} -cont \\ -vce \end{bmatrix}$ --> [+cont] / C #_

(Knudsen 1973:145)

Crucially, there has to be a single # boundary following the

mutation triggers rather than the full word boundary ##. This

indicates that Knudsen considers the AM-triggering forms to have

the status of clitics only, and it will prevent any other

consonant-final forms from triggering rule (22). Knudsen's rules

require extrinsic ordering; following rule (22) he has a deletion

rule which deletes a consonant before a clitic boundary, so that

the correct vowel-final forms of the triggers are found on the

surface, as in (21i).

The foregoing analysis is not particularly abstract, in that

Knudsen has not had to postulate underlying segments which never

show up on the surface. There are, however, various problems with

this analysis which make it untenable. These fall into two

categories: firstly, there are consonant-final clitics which do

not trigger AM, and secondly, there are AM triggers which are not

consonant-final.

To take the first point, it is obviously essential to

Knudsen's analysis that the AM triggers are a clearly defined and

closed set of items. The environment of rule (22) specifies that

a consonant-final form followed by a clitic boundary acts as an AM

trigger. Unfortunately for Knudsen, not all the items meeting

this description do in fact trigger AM. For example, the definite

article _y_ has the variant _yr_ before vowels, and certainly in a

generative phonology of the Chomsky and Halle (1968) type, would

be separated from a following noun only by the single # boundary.

Willis (1986) also considers the article as a clitic in Welsh.

But _y_ does not trigger AM, it triggers SM of a feminine singular

noun only, so constituting a clear counterexample to Knudsen's

rule. Several of the AM triggers Knudsen mentions as having

consonant-final variants are prepositions, so presumably he

believes that prepositions in general should be followed by

the # boundary. But this has the unwanted effect of making any

consonant-final preposition into a potential AM trigger. This is

not the correct result: for example, the prepositions hyd 'until'

and tros 'over', even though they end with the same consonants as

some of the AM triggers, are actually SM-triggering forms. Other

prepositions with final consonants in fact retain the radical,

such as mewn 'in' or uwchben 'above', whilst yn 'in' triggers not

AM but NM.

The second problem is the converse; there are AM triggers

which do not fit rule (22) because they do not have

consonant-final forms. Knudsen is rather dismissive of these,

claiming that it is the alternating forms such as gyda/gydag or

na/nag 'than' which most often trigger AM. This is simply not the

case: the alternating forms are just those forms which are subject

to dialectal and idiolectal variation, frequently triggering

either no mutation or even SM, as is the case with the negative

particle ni (cf. chapter 2). The lexical item which is most

stable in triggering AM, the 3fs proclitic ei 'her', is mentioned

almost as an afterthought by Knudsen. It, and other recalcitrant

forms without a consonant-final alternant, have to be treated

separately. Actually, Knudsen lists them in the environment of

the AM rule itself, which clearly has the effect of preventing a

unified treatment of all the AM triggers.

There is no way to rescue Knudsen's analysis of AM. The

C / Ø alternation he sets up is unhelpful, as we have seen,

because it is both too general and unconstrained, and too

restrictive. Claiming that a final consonant acts as a diacritic

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for the AM rule makes no generalization at all. Knudsen could have chosen a more abstract analysis, involving the diacritic use of phonological features: perhaps an underlying final /ɟ/, for example, which never surfaces.

I propose, however, that there is in fact no generalization to be made. The forms which trigger AM have nothing in common in modern Welsh, and should therefore be listed in the lexicon, the proper repository for arbitrary information.

Turning now to NM, Knudsen's analysis is not an abstract one, but nonetheless he once again treats different triggers in two different ways. The most common triggers are yn 'in' and yn/fy 'my', and these are included in the environment of the NM rule itself:

(23)   [-cont] --> [+nasal] / yn 'my' # _

                                 yn 'in'

(Knudsen 1973:140)

On the other hand, the numerals which in some dialects trigger NM are simply placed in the lexicon with this mutation information. Quite correctly, Knudsen considers that triggering NM is an idiosyncratic feature of the numerals. What is surprising is that he does not realize that triggering either AM or NM is an idiosyncratic property of all the morphemes involved. Whilst (23) appears to be simply a nasal assimilation rule, other items, apparently also clitics, are nasal-final yet do not trigger NM: am 'about' and gan 'with', for example, trigger SM. Just as we saw in the case of AM, there are forms which ought to meet the specification yet do not trigger the expected mutation.

The converse problem also surfaces here: there are NM-triggering forms which do not have final nasals. This proves

problematic if we try to adapt Cram's (1975) analysis of

nasalization in Scottish Gaelic to fit the Welsh data. Cram

posits an underlying final /N/ for the nasalization triggers, and

suggests that they are followed by the formative boundary '+'.

Cram's first rule assimilates /N/ to the point of articulation of

a following stop, and the second rule deletes the stop as (24)

shows:

(24) i) /ʔN + buːh/ --> [ə muːh] 'their shop'

  ii) /əN + guel/ --> [ə ŋuel] 'their coal'

(Cram 1975:367)

A similar solution could be suggested for forms like yn in Welsh,

except that instead of Cram's stop deletion rule, we would need a

rule of nasal assimilation of stops after a preceding nasal. For

example:

(25)   ym Mangor 'in Bangor'

        /əN + baŋgor /

        [əm maŋgor]

However, this not unnatural solution cannot be directly applied to

all the numerals which can trigger NM, as three of them, saith

'seven', wyth 'eight',and naw 'nine' are not nasal-final. We

could only have a consistent treatment of all the NM-triggering

forms if we resorted to the very abstract position of giving the

problematic numerals an underlying final nasal. Once again,

however, this diacritic use of phonological features would create

a spurious generalization about the triggering morphemes. I

therefore conclude that the lexicon is the proper place to capture

the idiosyncratic information that certain forms trigger NM.

    We end this section with a brief discussion of Hamp (1951).

Hamp sets up a class of morphophonemic operators to represent the

types of mutation in each of the Celtic languages; Welsh, for

example, has /L/ for lenition (SM), /N/ for nasalization (NM), and

/S/ for spirantization (AM). Each lexical item triggering a

mutation will contain the appropriate morphophoneme as an abstract

final segment. For example, in Hamp's morphophonemic notation, dy

dad 'your father' is stated as follows:

(26)   dyL tad

This shows that the morpheme dy triggers lenition (SM), and tad is

shown with its radical initial segment. Separate statements will

specify what changes the radical segments undergo under the

influence of the various morphophonemes.

As purely morphological features, Hamp's morphophonemes are

simply notational devices, with no predictive power. This is not

necessarily a criticism, since I maintain that triggering mutation

is a lexical property of each morpheme, at least in modern Welsh.

As this section makes clear, mutation in modern Welsh does not

have phonological conditioning factors.

One particular point of Hamp's is pertinent to the present

discussion of Welsh. Oftedal (1962:96) criticizes Hamp for

treating mutation as if all instances were 'projected' mutation,

triggered by contact with an immediately preceding item. As we

have already seen, more instances than Oftedal himself maintained

should in fact be treated as projected mutation. That aside,

however, the criticism of Hamp is not entirely justified, as he

does cite at least one instance of mutation not triggered by a

lexical item. In Old Irish, Hamp suggests, there are relative

particles consisting solely of a morphophoneme (1951:238). This

is an interesting observation because it is parallel to the

situation in Modern Welsh. The complementizer a and the

interrogative marker a, which occur in LW, do not appear in CW,

but their mutation effects remain. For example, (27i) is found in

CW as (27ii), which could be represented in Hamp's notation as

(27iii), with the SM morphophoneme /L/ as a prefix to the mutatee:

(27) i) y   dyn a   ddaeth i fewn   (daeth)

          the man COMP came-3s   in

          'the man who came in'

     ii) y dyn ddaeth i fewn   (daeth)

             (= (i))

     iii) y dyn L-daeth i fewn

I return to the interesting question of non-surfacing mutation

triggers in section 1.6.1.

1.4   THE TRANSFORMATIONAL APPROACH

1.4.1 Awbery (1975;1976)

    In this section I will discuss two analyses by Awbery

(1975;1976) and in 1.4.2 consider the partial adoption of Awbery's

solution by Willis (1986).

    Awbery (1975) fragments the environments for mutation in

Welsh by dividing them into four categories: lexical, categorial,

structural and transformational. In fact, these four categories

do not reflect true distinctions in the environments for mutation,

as we will see. McBrearty (1979), working on modern Irish, notes

that for this language:

(28) "...only the first two types of triggering are found, lexical

and categorial. To put this another way, triggering may be read

off syntactic surface structure directly."

(McBrearty 1979:39).

This section shows that the same is true of Welsh, and that the
structural and transformational categories can be dispensed with.

By lexical environments, Awbery means the straightforward,
typical case of mutation triggered by a lexical item: for example,
as we have seen, certain prepositions trigger a particular
mutation, such as i̱ 'to' triggering SM. Categorial environments
for mutation cover those few instances where the mutation trigger
is not a specific morpheme, but rather, a set of morphosyntactic
features. For example, an adjective following a feminine singular
noun will undergo SM, but not an adjective following a masculine
noun or a plural noun of either gender:

(29) i) y   ddynes dda   (da)

         the woman   good

         'the good woman'

    ii) y   dyn da/*dda

         the man good

         'the good man'

   iii) y   dynesau da/*dda

         the women   good

         'the good women'

In fact, this distinction is maintained in the present work;
cf. chapter 2.4.1 and 2.4.2. However, there is also a
generalization to be made across lexical and categorial
environments, which Awbery actually mentions: "the triggering and
mutated items are always in a close syntactic relation" (Awbery
1975:20). This statement can be tightened up, and made more
specific, as follows: the generalization is that in each case, the
mutation trigger immediately precedes the mutatee.

Exactly what Awbery means by a structural environment is not clear. She claims that it "relate[s] to the role of the mutated word in the sentence" (1975:21), and gives two rather disparate examples. The first example is the traditional (and inaccurate, cf. 1.1 above) environment 'SM of direct object'. Since this is actually triggered by the preceding subject NP, as we saw, it meets the definition for a categorial environment in Awbery's analysis. The remaining example concerns SM of vocative expressions. This rather marginal mutation occurs in set expressions and appears to have a limited productivity. The sort of phrases it appears in have traditionally been considered as 'vocatives', eg.:

(30)   Dewch   i mewn, bawb.   (pawb)

         come-IMP in   everyone

         'Come in, everyone.'

There rarely appears to be an overt mutation trigger, so that vocatives resist reanalysis in terms of an immediately preceding morpheme. [3]   However, Awbery may also have had doubts about the validity of 'structural' environments, since in the later work, Awbery (1976:9), SM of direct object has become a transformational rule, and vocative expressions are not discussed at all.

There are two types of objection to the transformational environments for mutation presented in Awbery (1975;1976). The first problem is that Awbery's transformational rules often make spurious generalizations. A clear example of this is the rule of Prepositional Object Mutation (Awbery 1976:28) which states that a preposition will trigger mutation of a following NP. Now, such a rule cannot possibly make any generalizations, since some prepositions trigger SM (am 'about', at 'to'), others AM (gyda 'with', tua 'towards') or NM (yn 'in'), and others still retain

the radical initial (ger 'near', nes 'until'). Since this

information is not predictable but idiosyncratic, it should

clearly be handled by the lexicon and not the transformational

component.

The second objection I have to the transformational solution

is the converse problem: frequently, there is a generalization to

be made, but the transformational approach misses it. For

example, (Awbery 1975;1976) proposes at least three separate

transformations to handle what is in the present analysis a single

environment for SM. The first transformation is the familiar 'SM

of direct object' (Awbery 1976:22). This handles the mutation in

such examples as (31):

(31)   Gwelais i fachgen tal.   (bachgen)

         saw-1s I boy   tall

         'I saw a tall boy.'

Secondly, Awbery suggests a rule of Mutation of Embedded Verb

(1976:36). This covers such examples as (32):

(32)   Darfu   iddi   ddarllen llyfrau.   (darllen)

         happened to-3fs read   books

         'She happened to read books.'

(Awbery 1976:36)

Thirdly, Awbery (1975:21) suggests that the SM in (33ii) is

transformationally triggered by the PP-preposing rule which

relates these two examples:

(33) i) Mae llyfr gan Wyn

         is book with

         'Wyn has a book.'

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ii) Mae [PP gan Wyn] _lyfr_.   (llyfr)

    is   with   book

    'Wyn has a book.'

These sentences are stylistic variants, and according to Awbery it

is the reordering transformation itself which triggers the SM. A

possible fourth transformation is the related case discussed, but

not formalized, by Awbery (1976) which handles mutation of a

'postposed subject' in such examples as (34):

(34)   Mae'n   hoff gan Wyn _lyfrau_.   (llyfrau)

        is-prt. fond by   books

        'Wyn likes books.'

(Awbery 1976:178)

Here, the 'postposed' subject NP _lyfrau_ has undergone SM.

     All these disparate transformational rules completely fail to

capture the generalization which we have already noted several

times in this chapter: an NP triggers SM of the following item.

In (31) the subject NP _i_ 'I' is the trigger. In (33ii) and (34)

we have an NP (within a PP) as the trigger: [PP gan [NP Wyn]].

The case in (32) is discussed fully in chapter 4, where we will

see that such instances contain an empty category NP which also

triggers SM.

     Because Awbery misses the true generalization, she has to

devise an elaborate account of the lack of SM in such examples as

(35), an impersonal passive construction:

(35)   Rhybuddiwyd plant   Ifor gan y   dyn.

        were-warned children   by the man

        'Ifor's children were warned by the man.'

Here, the object NP _plant Ifor_ 'Ifor's children' does not undergo

SM, which is unexpected in an analysis where inflected verbs

trigger SM of their direct object.

Awbery derives (35) from an underlying structure in which y
dyn is in the position of subject NP, and is then postposed into a
PP node, the gan-phrase, by a structure-building transformation
(Awbery 1976:154). This leaves behind an empty NP node in subject
position, which is required by Awbery to handle verbal agreement.
However, this empty node must be completely deleted before the
rule of SM of direct object applies, so that the latter rule will
be blocked. This accounts for the non-appearance of SM on the NP
plant Ifor.

Surprisingly, through this derivation Awbery has arrived at
exactly the conclusion that it's because there is no subject NP that
the object NP fails to undergo SM. Unfortunately, she fails to
see that there must be a generalization here. In other words, she
does not conclude that it is the subject NP itself which, when
present, is the triggering factor for SM.

1.4.2 Willis (1986)

I turn now to Willis (1986), who divides the environments for
mutation into two classes, following roughly the distinction of
Oftedal (1962) between projected and non-projected (incorporated)
mutation. She considers, correctly, that projected mutation,
which requires an overt trigger, is the unmarked case: all
instances of AM and NM fall into this category, and the majority
of instances of SM. The remaining cases, which Willis (1986:31)
terms 'marked lenition', are handled transformationally. In fact,
she adopts some of Awbery's transformational rules, and thereby
repeats some of the problems already noted.

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Like Awbery, Willis regards 'SM of direct object' as a transformational rule. This is an inevitable conclusion. Willis fails to recognize the crucial role of the subject NP in triggering SM, so that this type of mutation appears not to have the criterial property of a projected mutation, an overt triggering item. She therefore is forced to claim that direct objects undergo SM in a specific structural environment, which she states informally as follows:

(36) "The first element in a NP in a sequence Verb X NP [undergoes SM]"

(Willis 1986:6).

For example, this statement covers the mutation in (31). Note that Willis does not specify what category should precede the mutatee in (36), but rather uses a variable, X. The crucial point, that this category is always an NP, is not made. In fact, Willis does remark on the indispensable role of a subject NP in the structural description of the 'SM of direct object' transformation, but like Awbery, she fails to draw the logical conclusion that the NP <u>triggers</u> the mutation.

Part of the problem with Willis's analysis stems from the failure to recognize the importance of empty category NPs (cf. chapter 4 below); she assumes that in pro-drop sentences there is simply no subject NP, for the category has been entirely deleted:

(37)   Gwelodd <u>g</u>i.   (ci)

        saw-3s dog

        'He/she saw a dog.'

She handles this with extrinsically ordered transformational rules: SM of direct object requires the presence of a subject NP and must therefore precede subject pronoun deletion. In fact, as

we discuss in chapter 4, the EC NP in (37) is as much a mutation trigger as an overt NP.

A particularly problematic aspect of Willis's analysis is the fact that she considers 'SM of direct object' to be a marked instance of lenition. This is a curious conclusion, since it displays all the properties usually associated with lack of markedness: it is textually frequent, totally productive, exceptionless, and occurs in all dialects. Compare this to the SM found in so-called vocative expressions disccussed in section 1.4.1 (cf.(30)), which really is marginal and clearly highly marked.

Willis arrives at the conclusion that direct object mutation is a marked phenomenon because it does not fit into what she considers as the default for SM: mutation within a phonological word. This covers instances such as the definite article y which triggers SM on a feminine singular noun:

(38)   y   ddynes   (dynes)

         the woman

Here, y is considered to be a clitic, so that this counts as an instance of intra-phonological-word mutation, and is by definition an unmarked case for Willis. Yet it must be specified that y does not trigger SM on masculine nouns, or feminine plural nouns. So the 'unmarked' case has a large class of exceptions, in contrast with what Willis considers to be the marked case of direct object mutation.

The same analysis is applied to the SM-triggering numerals such as saith 'seven', wyth 'eight', which appear to form a phonological word with the following noun, and so qualify as unmarked lenition in Willis's terms. Yet in fact this rule

applies idiosyncratically across dialects or idiolects, and so SM

is triggered in a highly restricted and unpredictable fashion.

A similar objection applies to Willis's treatment of N+Adj

and Adj+N sequences. Welsh displays a strong preference for

head-initial word order, so that adjectives typically follow the

noun:

(39) i) dynes dda   (da)

       woman good

       'a good woman'

  ii) dyn da

       man good

       'a good man'

However, some adjectives such as prif 'chief' typically precede

the noun and others have variable meaning in prenominal and

postnominal position:

(40) i) prif dref   (tref)

       'chief town'

  ii) mab unig

       son lonely

       'a lonely son'

  iii) unig fab   (mab)

       only son

       'an only son'

The mutation facts are as follows: in N+Adj word order, only

feminine singular nouns trigger SM on the adjective (dda in

(39i)). In Adj+N word order, all nouns undergo SM: hence dref in

(40i); and also compare N+Adj order with mab in (40ii) with Adj+N

order giving fab in (40iii).

Despite the fact that the N+Adj pattern is by far the most
prevalent and productive word order, Willis treats the Adj+N cases
as unmarked instances of lenition. In her analysis, a preceding
adjective is only separated from the noun by a morpheme boundary,
and so qualifies as a projected mutation: that is, within a
phonological word. On the other hand, in the N+Adj pattern there
is an intervening word boundary, so that mutation of the adjective
in (39i) has to be effected by a transformation.

The reasoning behind this analysis is as follows. Willis
(1986:45) claims that SM of an adjective in an N+Adj sequences
should not be treated as a projected (unmarked) mutation, because
it only applies to a subset of potential mutatees: i.e. when the
noun is feminine singular. She points out, reasonably, that the
majority of nouns (masculine nouns and all plural nouns) would
have to be marked to preserve the radical. The rationale here is
that it is undesirable to mark a majority of nouns as exceptions.
Whilst this is true, there are two flaws to the argument.

Firstly, it is only because lenition is considered by Willis
to be the unmarked case that the unlenited majority of adjectives
in an N+Adj sequence appear to be exceptions. If the radical is
considered to be the unmarked case, as I propose, then a subset of
nouns, those which have the features [+fem, +sing], are marked to
trigger SM: they are the exceptions.

Secondly, other instances of SM which are treated as unmarked
by Willis do only apply to a subset of potential mutatees. For
example, consider the case of SM following the definite article in
(38). Recall that the conditions for mutation here are identical
to those under which an adjective undergoes SM in an N+Adj
sequence: mutation occurs when the noun has the features [+fem,

+sing]. Clearly, again only a minority of forms are involved.
However, in this case, y+N sequences form a phonological word, and
so the mutation qualifies as an instance of projected and unmarked
SM, whereas N+Adj sequences are not phonological words, and the
mutation must therefore be handled transformationally in Willis
(1986).

There is indeed support for Willis's treatment of y+N
sequences and Adj+N sequences as phonological words; in the former
case, y behaves like a clitic, for example in not being able to
bear stress, and in the latter case, compounds are produced in
which the adjectives have idiosyncratic semantic properties.
However, I take issue with Willis's view that the SM which appears
in Adj+N sequences is unmarked, and I contend that the invariable
appearance of SM on the noun in such sequences should in fact be
taken as a sign of a marked construction, not an unmarked one. I
will take this point up again in chapter 2, where we will see that
the word order Modifier + Head is always marked in Welsh, and is
characterized by the appearance of SM on the head.

1.5   CONTEMPORARY PEDAGOGICAL SOLUTIONS

There are two relatively recent works which break away from
the traditional pedagogical framework: Jones and Thomas (1977) and
Rhys Jones (1977). Unfortunately one of these, Jones and Thomas
(1977), elects not to deal with mutation at all. This work is
really a syntax textbook, written in the framework of Standard
Theory transformational grammar.

The other work is of more interest from the standpoint of
mutation, not least because of the major differences between it

and the work it replaces, the 'Teach Yourself' book by Bowen and

Rhys Jones (1960). The surviving co-author of the earlier work

provides a far more valuable study of the colloquial language in

Rhys Jones (1977), and one in which mutation receives a very

different treatment.

Rhys Jones divides mutation into three categories: gender

mutation, contact mutation, and function or structure mutation.

Such a division is not always helpful, as we will see, but Rhys

Jones does point out that there is a great deal of overlap between

the categories, and no firm demarcation line (1977:326).

By gender mutation, Rhys Jones refers to the prominence of

the category of feminine singular noun. As we saw in section

1.4.2, SM is frequently found either on such a noun itself, or

triggered by the noun. But since the mutation is apparently

activated by a specific complex of morphosyntactic features rather

than a preceding lexical item, Rhys Jones considers that 'gender'

mutation should be treated as a separate category to contact

mutation.

Contact mutations form the majority of instances in Rhys

Jones (1977) as we would expect: these are the straightforward

cases of 'projected' mutation in Oftedal's (1962) terms. What I

would argue against is the differentiation made by Rhys Jones

between contact mutation and structural mutation. Structural

mutations are defined as follows:

(41) "[They] occur because of the particular function of a word or

phrase in the grammatical structure of a sentence."

(Rhys Jones 1977:326)

This rather nebulous concept covers not only instances of mutation

which have no apparent trigger, but also instances which have a

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clear triggering morpheme. For example, it does not seem

unreasonable to define SM of adverbs as 'structural', since there

is typically no overt trigger:

(42) i) D̲d̲wy flynedd yn ol, fe ddaethon nhw.   (dwy)

two years   ago   prt came-3p they

'Two years ago, they came.'

ii) Rydyn ni'n byw d̲d̲wy filltir o'r   dre.

are-1p we-prt live two miles   from-the town

'We live two miles from the town.'

(Rhys Jones 1977:336)

However, the examples in (43) which are defined as 'structural'

actually fit squarely into the 'contact' category:

(43) i) Mae Gareth yn f̲achgen tal.   (bachgen)

is   prt boy   tall

'Gareth is a tall boy.'

ii) Fe b̲rynes   i ddau lyfr.   (prynes)

prt bought-3s I two book

'I bought two books.'

(Rhys Jones 1977:334)

Both particles y̲n in (43i) and f̲e in (43ii) trigger SM

straightforwardly by contact, but since anyway there is invariably

a structural relationship between two forms in contact, I would

argue that it is not possible to separate the two notions of

'structural' and 'contact' mutation.

Attempting to distinguish between these categories also

misses a generalization. Rhys Jones considers SM triggered by a

pronoun to be a contact mutation, whereas SM triggered by a full

NP is classed as a structural mutation. Thus the two examples in

(44) are not considered to represent the same category of

mutation:

(44) i) Rhaid iddo   fo _fynd_.   (mynd)

         must to-3ms him go

         'He must go.'

     ii) Rhaid i'r   dyn _fynd_.   (mynd)

         must to-the man go

         'The man must go.'

This obscures the generalization we have noted throughout this

chapter, that any NP will trigger SM. Clearly, Rhys Jones

considers pronouns to be contact mutation triggers because they

form a closed set and can therefore be listed, whereas the set of

NPs is open and productive. However, as we have seen throughout,

restricting the class of contact or 'projected' mutation triggers

to specific lexical items is misleading. What is crucial is not

the status of the mutation trigger -- it can be a lexical item,

phrasal category or combination of morphosyntactic features -- but

the fact that it immediately precedes the mutatee.

   Although Rhys Jones misses this vital point, he is

responsible for first noting that a noun phrase triggers SM. The

existence of this environment for mutation appears to have been

overlooked by all traditional grammarians and linguists working on

Welsh up to Rhys Jones (1977), and indeed has often been ignored

by linguists writing since that work was published. [4]

   The aim of Rhys Jones (1977) is to describe the grammar of

the colloquial language, but since there is no standard colloquial

Welsh, he deals with the artificially created standard known as

Cymraeg Byw, 'Living Welsh'. This presents certain problems for a

description of mutation. For example, throughout CW certain

particles which are found in LW are deleted, although the mutation

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effects remain. This happens in relative clauses, negatives, and
interrogatives, for example in (45):

(45) i) Pwy ddaeth a'r   plant ?   (daeth)

        who came-3s with-the children

        'Who brought the children ?'

    ii) Beth weloch chi ?   (gweloch)

        what saw-2p you

        'What did you see ?'

   iii) Faint   daloch chi ?   (taloch)

        how much paid-2p you

        'How much did you pay ?'

(Rhys Jones 1977:328)

In LW each underlined mutation is triggered by the particle a, so
a generalization can be made that covers all three examples: a
triggers SM. Since a does not occur in CW, however, Rhys Jones
has to make three separate statements, so that the mutation is
triggered by contact with pwy, beth and faint respectively.
However, faint also occurs in environments where it is not
followed by SM (where a does not occur in LW) so Rhys Jones has to
state that there are exceptions to this environment, for example
before an adjective:

(46)   Faint   gwell/*well wyt   ti ?

        how much better   are-2s you

        'How much better off are you ?'

It seems to me that this approach is probably correct for CW;
a reanalysis has occurred in the spoken language, so that pwy
etc. are now seen as triggering the mutation formerly triggered by
a. It is simply unfortunate that the generalizations which can be
made are no longer as neat; for example, the fact that faint does

not trigger SM on adjectives, as in (46).

On the whole, then, mutation is treated more comprehensively and usefully by Rhys Jones than by traditional grammarians such as S.J. Williams (1980). He provides many useful points about mutation in CW, for example noting environments in which SM is making inroads at the expense of AM or NM. This occurs, for instance, with negative verbs which are /p,t/ or /k/-initial: in LW these undergo AM, but in CW increasingly they follow the pattern of the other mutable initial consonants and undergo SM (cf.Rhys Jones 1977:336). We return to this topic in chapter 2.

1.6   THE TRIGGER CONSTRAINT

1.6.1   The autosegmental approach

In this section I will discuss a paper by Lieber (1983) which handles consonantal mutation in the framework of autosegmental morphology. In this model traditional morphological analysis in terms of linear sequence of morphemes is replaced by the concept of autosegmental tiers. Each tier (which may be composed of morphemes or of other features) is independent, but is also linked to other tiers, frequently <u>across</u> conventional word boundaries. The autosegmental framework in phonology (originally developed by Goldsmith 1976) has been particularly useful in describing suprasegmental phenomena such as tone; in autosegmental morphology, phenomena such as consonantal mutation can hopefully be accounted for more perspicuously than in traditional morpheme-by-morpheme accounts.

Lieber adopts (without acknowledgement) Oftedal's (1962)

distinction between incorporated and projected mutation (cf.

section 1.2 above). As with Oftedal, projected mutation is

considered to be triggered by another morpheme, but unlike in

Oftedal's analysis, the triggering morpheme does not have to be a

lexical item. This is a useful departure as far as Welsh is

concerned, since as we have seen, the trigger may also be a

phrasal category (an NP triggers SM) or a bundle of

morphosyntactic features such as [+fem, +sing].

An autosegmental analysis of projected mutation is

illustrated by Lieber from Nuer, a Nilo-Saharan language, which

has final consonantal mutation:

(47) i) dëép 'rope'; -ìmi 'that'

    ii) dëéfimi

        rope-that

        'that rope'   (Lieber 1983:168)

In the citation form of 'rope' (47i) a floating autosegment

[-continuant] is linked to the final consonant of the noun's

'skeleton':

(48)   +anterior

                        -coronal   [-continuant]

    d   e   +labial   /
                                           /
    | | \ | /
                                       /
    | | \ | /
    c   v   v   c
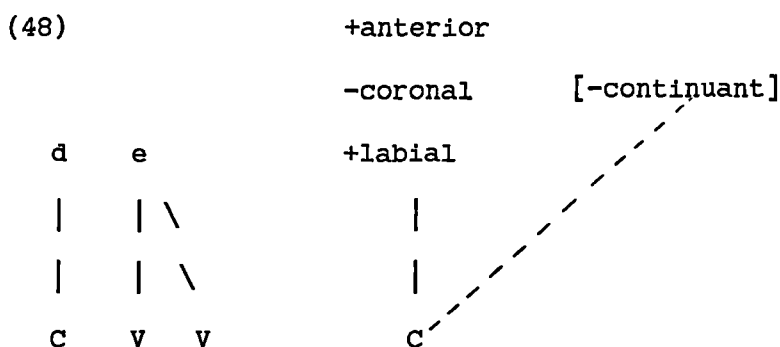
(Lieber 1983:168)

This specifies the radical final consonant, giving dëép. The

demonstrative suffix -imi is represented as having an initial

floating autosegment [+continuant] as part of the lexical entry,

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which by convention gets linked leftward onto the noun stem as in

(49), giving the mutated form as in (47ii).

(49)

$$
\begin{array}{ccccccccc}
 & & & \begin{bmatrix} +\text{ant} \\ -\text{cor} \\ +\text{lab} \end{bmatrix} & & [+\text{cont}] & i & m & i \\
 d & e & & & & & & & \\
 | & | \backslash & & | & & \diagup & | & | & | \\
 | & | \backslash & & | & \diagup & & | & | & | \\
 c & v & v & & c \diagup & & v & c & v
\end{array}
$$
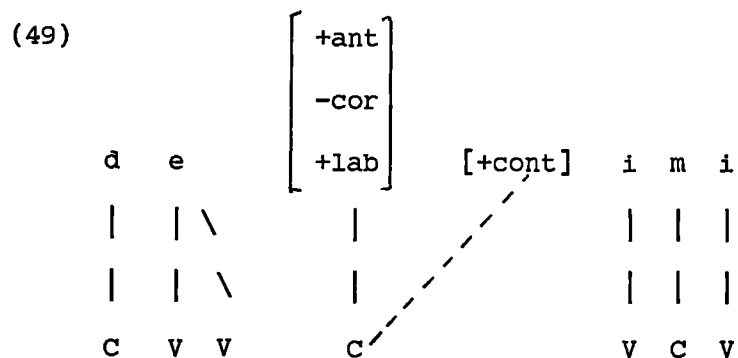
(Lieber 1983:169)

From this example in Nuer, Lieber suggests the following

definition of projected mutation:

(50) "In projected mutation the relevant [mutation] feature starts

out at the periphery of the trigger morpheme and is associated by

convention with the neighbouring morpheme."

(Lieber 1983:169)

Recall at this point the discussion in section 1.2 of the

objections to Oftedal's analysis made by Cram (1975). Cram

suggested that lenition of initial preterite verbs in Scottish

Gaelic could be regarded as projected mutation if it were

triggered by an underlying lenition feature. Superficially, since

the verb appears sentence-initially, there is no overt trigger, so

that this instance of mutation appears to meet the definition of

an incorporated mutation; this is defined thus by Lieber:

(51) "In incorporated mutation the mutation feature is provided by

an inflectional morpheme with which a specified slot in the stem

gets associated."

(Lieber 1983:169)

Now, if for 'underlying' in Cram's paper we substitute 'floating

autosegmental', we see that Cram's criticism is equally valid when

applied to Lieber's analysis. If each preterite verb in Gaelic is accompanied in its lexical entry by a preceding lenition feature, which gets associated rightwards onto the initial consonant of the verb, then these cases will qualify as projected mutation under Lieber's definition. It thus appears that an incorporated mutation can be made to look like a projected mutation, simply by positing a floating autosegmental feature as a mutation trigger.

On the positive side, however, the autosegmental approach does seem to handle especially well the conditions for projected mutation (in the intended sense of a concrete mutation trigger). This is important for Welsh, since the vast majority of instances of mutation are indisputably projected. The important point about projected mutation is that, in Lieber's terms, it is a 'strictly local' phenomenon: in Welsh, the trigger has to be an immediately preceding item. Lieber gives the following informal condition, which I will refer to as the Trigger Constraint, after Zwicky (1984):

(52) "If consonant mutation is triggered at all, it must be triggered at the periphery of a morpheme by a contiguous morpheme. Triggers cannot be separated from the initial or final consonant whose mutation they condition -- if they were, a violation of the usual autosegmental convention ruling out crossing of association lines would result."

(Lieber 1983:169)

Thus, as Lieber points out, autosegmental theory predicts rather neatly the established facts about triggered mutation, whereas a segmental approach fails to do so. The reason for this is that, in the segmental approach, a rule in which the mutation trigger is remote (several words away, or in Welsh, following the

mutatee) would be as highly valued as a rule which shows the

trigger to be strictly local. In a segmental analysis, there is

no theoretical reason for preferring the rule which makes the true

generalization. This contrast between the two theoretical

approaches turns out to have important implications: in chapter 4

we will see that analyses of Welsh which suggest an SVO base word

order are implausible, since this would entail contravening the

autosegmental constraint against crossing lines of association.

I turn now to some problems which arise with Lieber's

analysis of some data from Welsh. She discusses the instance of

SM which is traditionally labelled 'SM of direct object':

(53) i)   Gwelais _g_i.   (ci)

          saw-1s   dog

          'I saw a dog.'

     ii) Gwelodd y   dyn _g_i.   (ci)

          saw-3s   the man dog

          'The man saw the dog.'

As we have seen, the trigger is traditionally considered to be the

inflected verb; if this is so, however, then only (53i) but not

(53ii) can be considered as a projected mutation, since in the

latter case, the verb is not adjacent to the mutatee.

Lieber claims, however, that such examples are only apparent

counterexamples to the autosegmental prediction of strict

locality. Her proposed analysis involves the notion of Case

assignment in Government-Binding theory (cf. chapter 3). The

assumption is that in a 'flat' VSO structure as in (53), the

inflected verb cannot assign objective Case to _g_i. Since the Case

filter, which requires phonetically overt NPs to have Case, would

otherwise be violated by the Caseless NP _g_i, this NP must

therefore be receiving Case marking from another source. Lieber's

proposal for this source is a non-surfacing preposition, so that

for example the analysis of (53ii) is as in (54):

(54)   Gwelodd y dyn [PP P[+voice] ci]

The dummy preposition is a Case assigner, and has no content other

than the floating autosegmental feature of SM [+voice]. This

autosegment gets associated rightwards, which has the effect of

voicing the initial segment of ci to gi. It also appears in

(53i), which is analyzed as having the empty category pro

separating the inflected verb from its object, which would also

prevent Case assignment in Lieber's analysis.

According to Lieber, support for this analysis comes from the

fact that overt prepositions frequently trigger SM in Welsh.

Whilst this is true, it is trivially so. As we will see in

chapter 2, there are also prepositions which trigger AM and NM,

yet these mutation effects are not a possible alternative in (53),

as (55) shows:

(55) i)   *Gwelais $\left\{ \begin{array}{l} \text{chi} \\ \text{nghi} \end{array} \right\}$ (ci+AM)

                                (ci+NM)

          saw-1s   dog

    ii)   *Gwelodd y   dyn $\left\{ \begin{array}{l} \text{chi} \\ \text{nghi} \end{array} \right\}$

          saw-3s   the man   dog

Such examples do not occur, but are predicted by Lieber's analysis

to be equally likely: if a dummy preposition is inserted, why

should it only be an SM-triggering one rather than one triggering

AM or NM?

I suggest that a preferable account would be to adopt the

straightforward suggestion made throughout this chapter: that SM

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in such examples as (53) is triggered by an immediately preceding

NP. This solution requires no dummy preposition or entanglement

with Case assignment, and also obeys the autosegmental requirement

of strict locality of the mutation trigger, the Trigger Constraint

of (52).

1.6.2 Zwicky (1984)

The paper by Zwicky (1984) also seeks to describe the

phenomenon which is the topic of Lieber's analysis, the so-called

'SM of direct object'. Zwicky rightly objects to Lieber's use of

an inserted preposition with no phonological content, and proposes

a solution which will account for the mutation facts in a more

motivated way. [5]

Zwicky proposes a strong version of the Triggger Constraint

suggested by Lieber in (52); his version reads:

(56) Trigger Constraint

"The trigger determining a rule feature for a morphophonemic rule

must be adjacent to the affected word and c-command it."

(Zwicky 1984:389)

Clearly, this more restrictive version of the Trigger Constraint

is highly desirable if it can be shown to be consistent with the

data, since it makes a stronger claim about what is a possible

mutation trigger. However, the problem for Zwicky, as for Lieber,

is that the data in (53ii) is an apparent counterexample to the

Trigger Constraint, since the mutatee is not adjacent to the

supposed trigger, the inflected verb.

We have seen already that this 'problem' case is a chimera,

and that it vanishes as soon as we realize that an immediately

preceding NP is the mutation trigger. This simple solution is
also consistent with Zwicky's version of the Trigger Constraint in
(56).

This would be the end of the story, except that there is a
case in Welsh and also apparently a case in Breton, reported by
Stump (ms.), which is not consistent with the version of the
Trigger Constraint suggested by Zwicky. Before we examine these
problematic cases, in 1.6.3, we will first review Zwicky's
analysis of 'SM of direct object' in Welsh.

Zwicky presents two alternative solutions, both of which are
consistent with the Trigger Constraint. The first proposal is
that the observed nonadjacency of an inflected verb and its direct
object is only superficial, and that in fact a VP constituent
should be postulated. If, at some stage in the derivation, the
inflected verb and direct object do form a VP constituent, then SM
can be triggered by the verb without contravening the Trigger
Constraint. Zwicky suggests that the VP is a 'phantom category',
and proposes the Generalized Phrase Structure Grammar mechanism of
metarules to induce the surface word order V[+finite] SO from a
phantom VP with a finite verb.

Apart from any theoretical objections we might have to the
use of 'phantom categories', there are also more tangible problems
with Zwicky's first proposal. Zwicky assumes that a finite verb
assigns accusative case to its direct object, which is not
controversial in itself, except that he claims SM to be the
phonetic realization of accusative case. If this is true, the
noun gi in (57), as well as having SM, is marked as accusative:

(57)   Gwelodd y   dyn gi.   (ci)

         saw-3s the man dog

         'The man saw the dog.'

According to Zwicky, this suggestion receives support from the

form of pronouns found in various positions in CW. [6] His claim

is that the three forms of first person singular pronoun

correspond to different cases: mi as dative, i as nominative and

fi as accusative. For example, in (58) it is plausible that fi

has accusative case:

(58) i) Mi welodd Jac fi.

         prt saw-3s   me

         'Jac saw me.'

    ii) Mae hi'n   hyn   na   fi.

         is   she-prt older than me

         'She's older than me.'

(Zwicky 1984:392)

However, the sentence cited by Zwicky as an example of dative

case, (59i), very frequently appears with fi as well, in CW, as

(59ii) shows:

(59) i) Mae rhaid   i mi fynd.

         is   necessity to me go

         'I must go.'

    ii) Mae rhaid i fi fynd. (=i)

         'I must go.'

What is more, fi appears as the topicalized form of the pronoun in

CW even where it clearly functions as subject, a role which

according to Zwicky always takes the 'nominative' form i:

(60)   Fi sy'n   gweld Mair heno.

         I is-prt see   tonight

         'I'm seeing Mair tonight.'

(Jones and Thomas 1977:292)

It appears, then, that _fi_ is an unreliable indicator of accusative

case, since it regularly appears in environments which ought to be

dative (59ii) or nominative according to Zwicky's system.

A second problem is that amongst full NPs, it is not only

those able to receive accusative case which undergo SM. Alongside

(57), we have examples like (61):

(61)   Mae yna   _dd_ynes yn y   gegin.   (dynes)

         is there woman in the kitchen

         'There is a woman in the kitchen.'

If the NP _dd_ynes is the subject it should receive nominative case,

and would not be predicted to undergo SM by Zwicky's analysis

since this is claimed to be the accusative marker. Presumably,

Zwicky could account for the SM in (61) by an ad hoc device, but

this would miss the generalization: what (57) and (61) have in

common, of course, is the occurrence of an NP before the mutatee,

and it is this NP which is the mutation trigger.

We can therefore conclude that Zwicky's first proposal is not

supported, when additional data are taken into account, and turn

to his second suggestion. This involves a radical departure from

the way in which mutation is usually assumed to occur: Zwicky

suggests that rather than being triggered, SM in Welsh is actually

the default case. The motivation for such a treatment is twofold.

Firstly, as Zwicky rightly points out, SM occurs in many more

contexts than the other mutations, AM and NM. Even the

environments for NM and AM put together would number far fewer

than the total environments for SM. An additional point not mentioned by Zwicky is that SM is even taking over some of the environments which previously triggered either AM or NM, in certain dialects (cf. chapter 2).

Zwicky's second point is that all instances of AM and NM have an overt trigger which obeys the Trigger Constraint (56). Some instances of SM, however, appear to lack any overt trigger; in other words, the 'incorporated' class of mutations (cf. section 1.2).

Does either of these facts constitute compelling evidence for considering SM as the default marking ? The first point is true but Zwicky has interpreted it incorrectly. SM is very much more frequent and productive than AM and NM, but this does not mean that it has become the default marking for an NP. What it does tell us is that SM is becoming the default <u>mutation</u>, generalizing to environments previously the domain of other mutations.

The second point is also true, but not as relevant as Zwicky makes it out to be. He has been over zealous in citing environments which display SM without an overt mutation trigger (Zwicky 1984:397f). Three of the six environments listed as having no trigger are as follows:

(62) i) Mae yna   <u>l</u>yfrau yn y   cwpwrdd.   (llyfrau)

         is   there books in the cupboard

         'There are books in the cupboard.'

    ii) Mae gennyf i <u>a</u>rdd.   (gardd)

         is   with-1s me garden

         'I have a garden.'

iii) Dyma _f_achgen.   (bachgen)

      here boy

      'Here's a boy.'

In each of these examples, the mutatee is immediately preceded by

an NP, which, as we have seen, is a mutation trigger for SM. The

NPs are _yna_ 'there', _i_ 'me', and _dyma_ 'here'. Clearly, none of

the examples in (62) is in fact without an overt mutation trigger.

The remaining examples cited by Zwicky form a disparate group; two

of them are fairly infrequently heard: the appositive in (63i) and

the vocative in (63ii).

(63) i) Duw _D_ad   (Tad)

         God father

         'God the Father'

    ii) Bore   da, _b_lant.   (plant)

         morning good children

         'Good morning, children.'

(Zwicky 1984:397)

Possibly, both of these examples simply lack a mutation trigger

and should therefore be treated as incorporated mutation; we

return, however, to this topic in chapter 2, where plausible

mutation triggers for these cases are discussed. The last example

of Zwicky's appears genuinely to lack a trigger: in (64) we see

that the adverb has undergone SM, which is typically the case in

Welsh, even in sentence-initial position.

(64)   _Dd_wy flynedd yn ol, fe   ddaethon nhw.   (dwy)

        two years   ago   prt came-3s they

        'Two years ago, they came.'

What this set of examples amounts to is a limited class of

environments for SM which lack a mutation trigger. It is not the

case, however, that such examples fail to obey the Trigger

Constraint (56), which is what Zwicky seems to suggest. (63) and

(64) do not have a non-adjacent, non-c-commanding trigger, they

just have no trigger at all. Therefore, they do not constitute

counterexamples to the Trigger Constraint; they are simply not

cases of projected mutation, and largely irrelevant to Zwicky's

argument.

I turn now to the exact mechanism of Zwicky's proposal for SM

as the default marking. He suggests that [+SM] is marked by

default on all NPs, except where the NP is c-commanded by an

adjacent [-SM] trigger. The Trigger Constraint is still obeyed,

but in these cases the trigger determines a [-mutation] rather

than a [+mutation] feature. The environment suggested by Zwicky

for this trigger is where a word is c-commanded by an immediately

preceding verb. This gives the radical rather than SM in (65):

(65) i)   Mae llyfrau yn y   cwpwrdd.   (*lyfrau)

          is books   in the cupboard

          'Books are in the cupboard.'

  ii) Rydw i'n   gweld ci.   (*gi)

          am   I-prt see   dog

          'I can see a dog.'

There is, however, a serious flaw in the 'SM by default'

analysis. Zwicky suggests SM gets marked by default on NPs, but

this does not cover the SM found in such examples as (66):

(66)   Rhaid i mi _fynd.   (mynd)

          must   to me go

          'I must go.'

Here, the non-finite verb _fynd_ has undergone SM (following the NP

_mi_, in the present analysis). Yet Zwicky does not account for

this: he cannot add verbs to the category of items receiving SM by default, as this would erroneously produce SM on the non-finite verb gweld in (65ii). And he does not include NPs as possible mutation triggers, so cannot analyze this as a triggered mutation as we have done here. Even if Zwicky were to account for (66) by some other means, the analysis would still be missing the generalization that an NP triggers SM. In the light of such problems, it seems that Zwicky's proposed analysis cannot be sustained.

To conclude this section, it is interesting to compare Zwicky's notion of SM-by-default with Willis's notion, discussed in section 1.4.2. SM is marked by default in exactly complementary environments by these two authors: there is no point of agreement. As we saw, Willis (1986) assumes that within a phonological word (e.g. between a clitic and a noun) SM is the default case, but SM on direct objects and after 'parentheses' such as in (62) and (66) must be handled transformationally. Zwicky on the other hand does not discuss intra-phonological-word phenomena, but would certainly consider these as triggered mutations covered by the Trigger Constraint. Those environments which are recalcitrant in Willis's analysis, and must be handled by transformations, are the default cases for Zwicky.

My suggestion is that neither of these authors has the correct answer; I contend that the only way in which SM is unmarked is that its environments are spreading at the expense of AM and NM. Any other claims about the 'default' occurrence of SM have too many counterexamples to be seriously considered.

1.6.3 Stump (ms.)

In this section I will review a discussion of an environment for mutation in Breton which does not obey the Trigger Constraint (56). I will then go on to discuss an environment for mutation in Welsh which obeys neither the Trigger Constraint nor Stump's revised version of it, and suggest a further revision to account for the Welsh data.

Stump (ms.) shows that the adjective _holl_ 'all' in Breton allows mutation _across_ it, so that the trigger is nonadjacent to the mutatee, in contravention of the Trigger Constraint. Normally, _holl_ triggers lenition on the following noun, as in (67):

(67)   an holl _di_   (ti + lenition)

         'the whole house'

(Stump ms:6)

However, _holl_ can also follow a set of determiners which trigger spirantization: _va_ 'my', _he_ 'her' and _o_ 'their'. In this case, we find not lenition on the noun, in conformity with the Trigger Constraint, but spirantization:

(68)   va holl _zud_/*dud   (tud + spirantization)

         my whole people

         'all my people'

(adapted from Stump (ms:7)

A plausible explanation for this, as Stump argues convincingly, is that this occurrence of spirantization has a nonlocal trigger, the determiner _va_. The Trigger Constraint would predict incorrectly in this case that we would find lenition in (68) rather than remotely triggered spirantization.

Stump suggests that the only solution to this problem is to reformulate the Trigger Constraint in accordance with the problematic data: in effect, he proposes a weaker version of the Constraint:

(69)   Stump's Trigger Constraint

"The trigger determining a rule feature for a morphophonemic rule

(i)   must c-command the affected word and

(ii) may be separated from the affected word by at most one named element, adjacency being the default option."

(Stump ms:34)

Stump does point out that the strong version of the constraint is certainly the default, and that in any case the c-command requirement does not have to be weakened at all since it is not counterexemplified by any Breton data. Furthermore, Boolean conditions are still obeyed even by the weaker version, since (69) would not permit a nonlocal trigger to be arbitrarily distant from its target: the conditions which 'count' as a permissible environment for mutation are still very strict, and, I believe, as restricted as possible given the data from Breton. (69) appears to be simply the strongest statement available which accords with the facts.

However, both Zwicky's and Stump's versions of the Trigger Constraint run into problems with some data from Welsh. We have seen throughout this chapter that an NP is a trigger for SM, and in the main, NP triggers obey the strong version of the Trigger Constraint (56). The NPs in (70) are all adjacent to their targets and c-command them also:

(70) i)   Gwelais [NP i] gi.   (ci)

          saw-1s   I dog

          'I saw a dog.'

     ii) Mae [NP yna] ddynes yn y   gegin.   (dynes)

          is   there woman in the kitchen

          'There's a woman in the kitchen.'

     iii) [NP dyna] eneth dda.   (geneth)

               there girl good

          'There's a good girl.'

There is, however, one common environment for SM in which the NP

immediately precedes the mutatee but does not c-command it; this

is when the NP is immediately dominated by a PP, as in (71):

(71) i)   Mae rhaid [PP i [mi]] fynd.   (mynd)

          is must   to me go

          'I must go.'

     ii) Gwelais i [PP ar [y   bryn]] gastell.   (castell)

          saw-1s I   on the hill   castle

          'I saw in the hill a castle.'

I assume that these examples have the structures shown in (72):

(72) i)

```
                        S
              /    / |    \
           /    /   |     \
         /    /     |      \
        V    NP     PP      V
     [+fin]   |    /  \     |
        |     |   P    NP   |
        |     |   |    |    |
       mae  rhaid i    mi  fynd
```

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ii)

```
                        S
                     /  /  \   \
                   /   /    \    \
                  /   /      \     \
                 V   NP      PP     NP
                 |    |      / \     |
                 |    |     /   \    |
                 |    |    P    NP   |
                 |    |    |   /\    |
                 |    |    |  /  \   |
              gwelais  i  ar  y bryn gastell
```
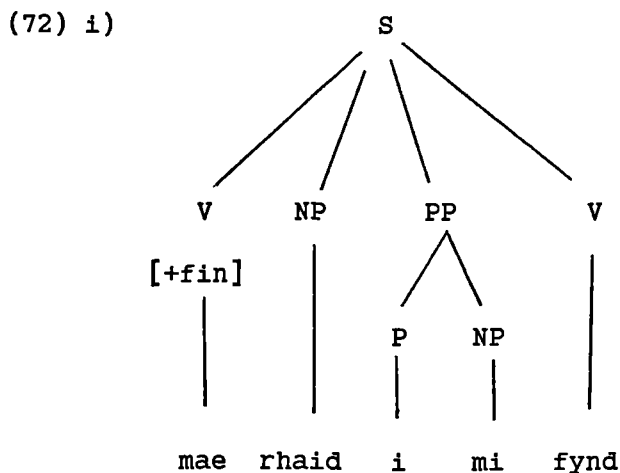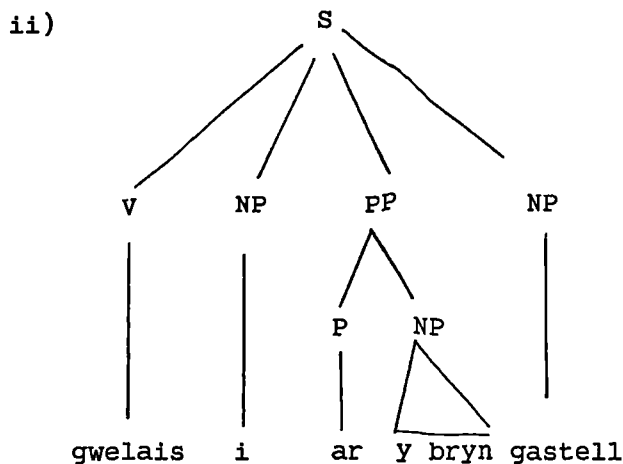
Clearly, these examples do not obey either the strong Trigger

Constraint (56) or the weaker version of it (69), since both

formulations require the trigger to c-command its target. The NP

triggers in these examples, fi and y bryn are dominated by a PP,

and so do not c-command the mutatee, which is outside the PP.

Now, the vast majority of instances of triggered mutation in

Welsh do obey Zwicky's strong version of the Trigger Constraint,

in that the mutatee is both adjacent to and c-commanded by its

trigger. In (71) for some reason the c-command requirement is

violated, yet these examples appear to be legitimate cases of

triggered mutation. It appears also that no amount of juggling

could put the mutatees into the same constituent as the mutation

triggers in these cases. It can easily be shown by topicalization

that the NP gastell in (72ii) is outside the PP:

(73) i) [PP Ar y   bryn] welais i gastell.

          on the hill saw-1s I castle

         'It was on the hill that I saw a castle.'

 ii) *[Ar y   bryn gastell] welais i.

          on the hill castle   saw-1s I

Clearly, the NP inside the PP does not c-command the NP mutatee.

However, the PP itself does c-command the mutatee in (72), so

perhaps phrasal categories other than NP are also mutation triggers. This interesting possibility is explored in detail in chapter 2.4.4.

It seems to me that what is happening here is simply that Welsh and Breton have developed different conditions for a permissible relationship between a mutation trigger and its target. The vast majority of environments in both languages do fulfill both the adjacency and the c-command requirements of the strong Trigger Constraint (56), but both languages allow a weakening of one of the subparts, in one environment only. Adjacency is weakened in Breton as we saw in (69), and c-command is inapplicable in Welsh in this one instance. We can therefore state a language-specific version of the Trigger Constraint for Welsh:

(74) Trigger Constraint

The trigger determining a rule feature for a morphophonemic rule must immediately precede its target.

It is not surprising, given the sandhi origins of mutation phenomena, that the most important condition for a possible trigger is the adjacency requirement. It is more surprising, perhaps, that Breton allows any deviation from this. Possibly, in fact, it does not: an alternative way of analysing the exceptional environment would be to assume that a restucturing rule has occurred, so that there is now a complex mutation trigger [va holl] (cf. (68)). For some reason the mutation properties of va rather than those of holl have come to be perceived as dominant. If such a reanalysis has occurred, there are no longer any exceptions to (74) in Breton, so that this language can also be said to conform to that version of the Trigger Constraint.

Since the majority of triggers form phonological words with
their mutatees, as Willis (1986) shows, then naturally they will
be dominated by the same phrasal node, as in (75):

(75)

```
            NP
          /    \
      DET        N
   [+SM]--->  |
      |          |
      |          |
     ei     ben      ei ben 'his head'
```
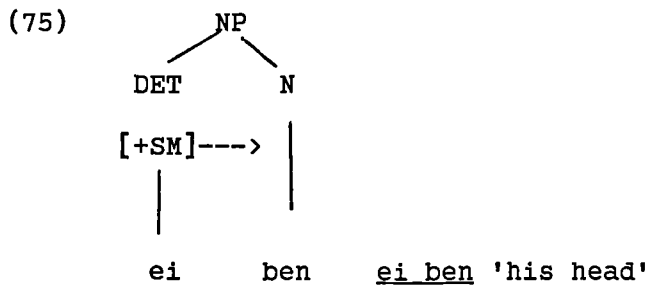
Since this is the default relationship between trigger and
mutatee, it is again hardly surprising that c-command holds in the
majority of cases: it cannot fail to, given the structure in (75).

However, although immediate precedence alone is a sufficient
condition for mutation (given a triggering item), as (71) shows,
it turns out that c-command alone is not sufficient condition. As
evidence for this, consider compound prepositions in Welsh. What
we are looking for are cases where both prepositions exist
independently and trigger different mutations in their independent
existence. Such cases are shown in (76):

(76) i)   cyn i   'before'

          [+SM]

    ii)   wedi i   'after'   ˙

          [+SM]

   iii)   nes i   'until'

          [+SM]

In each case here, the first preposition retains the radical
consonant when occurring in isolation. To test the claim that
c-command is not a sufficient condition for mutation to be
triggered, we need to find cases where both prepositions forming a
compound are in a c-command structure with a possible mutatee.

These prepositions are typically found in embedded adverbial

clauses, and these are argued by Sproat (1985:205) to have the

structure in (77):

(77)   [S' COMP i NP VP]

For example:

(78)   [S' Cyn   i Siôn laddu draig] y   mae rhaid iddo

                before to   kill dragon prt is   must to-3ms

          brynu llaeth i'r   gath.

          buy   milk   to-the cat

          'Before Siôn kills a dragon, he has to buy

          milk for the cat.'

(Sproat 1985:205)

The first element in the compound, according to Sproat, is a

prepositional complementizer. When prepositions are used as

aspect markers (cf. chapter 3) or complementizers in Welsh, they

retain their usual properties as mutation triggers. In the

structure in (77), both the complementizer and i c-command the NP,

so such sentences can be used as diagnostics for the importance of

the c-command relationship:

(79)   Welais i neb   nes   i lanc redeg o'r   beudy.

          saw-1s I no one until to lad   run   from-the cowshed

          'I saw no one until a lad ran from the cowshed.'

Here, only the adjacent c-commanding preposition i is a

permissible mutation trigger, hence SM on lanc. The preposition

nes causes the retention of the radical initial, but this is not a

possible alternative form in (79), as *llanc would be ill-formed.

Nes does c-command the NP in (79), but this is not a sufficient

condition for it to be a mutation trigger.

1.6.4 Conclusion

We can conclude from all the evidence available that a trigger must immediately precede its mutatee in Welsh. In the typical case, this relationship will also encompass c-command, since the majority of environments for mutation are confined to within a single phrasal category. However, mutation across phrasal category boundaries also occurs in Welsh, where NP is a mutation trigger. The only proviso is that the trigger must be adjacent to the target form.

FOOTNOTES

1. This observation, which was originally due to Rhys Jones (1977:Appendix 5) is the subject of chapter 4.

2. In fact Willis (1986) claims that [d] is prefixed to vowel-initial verbs in general in CW, but this is not true: <u>bod</u> 'to be' takes the negative proclitic but not other vowel-initial verbs:

(i)   Agoron nhw mo'r   drws.

        shut-3p they NEG-the door

        'They didn't shut the door.'

(ii)   *'Dagoron   nhw mo'r   drws

        NEG-shut-3p they NEG-the door

3. In the framework of autosegmental morphology (cf. Lieber 1983) SM of vocative expressions might be handled by positing a floating autosegmental feature, which does not have any phonetic content itself but triggers the mutation. This is discussed fully in section 1.6.1.

4. For example, Lieber (1983), Zwicky (1984), Sproat (ms.), Bellin (1984), P.W Thomas (1984) and Willis (1986). A notable exception is Harlow (1981) who is the first theoretical linguist to take account of, and formalize, this environment for SM.

5. Some of the points I make in section 1.6 concerning the Trigger Constraint, and the proposals of Lieber and Zwicky, are also now made by Harlow (ms.). Independently, Harlow draws some conclusions very similar to my own.

6. Cf. chapter 4.1.4 for a detailed discussion of the pronominal system of CW.

THE ENVIRONMENTS FOR MUTATION

2.1 MUTATION PROCESSES

This section begins with a short description of the
phonological processes of mutation, and then goes on to an
examination of the forms which trigger and which undergo mutation.
Subsequent sections in this chapter present the specific
environments for the three mutation processes.

2.1.1 The phonological processes of mutation

The complete set of phonological effects of mutation for
standard LW are shown in Table 1:

Table 1

Radical:	p	t	k	b	d	g	m	ɫ	r̥
SM:	b	d	g	v	ð	ǿ	v	l	r
NM:	m̥h	n̥h	ŋ̊h	m	n	ŋ	NO CHANGE		
AM:	f	θ	x	<--- NO CHANGE --->					

The same processes are shown in Welsh orthography in Table 2:

Table 2

Radical:	p	t	c	b	d	g	m	ll	rh
SM:	b	d	g	f	dd	ǿ	f	l	r
NM:	mh	nh	ngh	m	n	ng	NO CHANGE		
AM:	ph	th	ch	<---- NO CHANGE ---->					

There are nine mutable consonants in standard Welsh, but as the
tables show only SM affects all of these. NM only affects the

stop consonants (voiceless and voiced); and AM only affects the voiceless stops. [1] This situation does vary according to dialect and sociolinguistic factors such as age of speaker etc., [2] but I will ignore these factors, and only present examples of mutation as shown in the tables above.

As far as phonological rules are concerned, the processes of NM and AM are described very simply (cf. Awbery 1975), as each of them involves only a single phonological process: NM is nasalization of a noncontinuant segment, and AM is frication of a voiceless noncontinuant. The actual realization of the so-called voiceless nasals which are the result of NM applying to /p,t,k/ varies greatly from dialect to dialect (cf. fn.2); G.E. Jones (1984) suggests that these segments would be more appropriately termed aspirated nasals, for example.

SM, on the other hand, subsumes various phonological processes, and cannot be described by a single rule (cf. Awbery 1975, Willis 1986). The processes of SM include voicing, denasalization and frication, but this is not completely general as /g/, rather than becoming a fricative like the other voiced stops, deletes completely in all varieties of modern Welsh.

Some of the segments in Table 1 are only found in initial position when they are products of mutation: this applies to the voiceless nasals, and also /ð/. The segments /l,r/ and /v/ are found in loanwords from English such as letys 'lettuce', rwber 'rubber', and ficer 'vicar', but as native initial segments they are very restricted: a few exceptions are fi 'me'; fy 'my' and North Welsh rwan (for nawr) 'now'. It is interesting to note that /f/ in Welsh can be either a product of AM, in which case it is written as 'ph', or a non-mutated form, in which case it is

written 'ff'. Thus Welsh orthography differentiates rather neatly
the two functions of the same segment.

Finally, note that unity in the mutation processes lies along
the horizontal axis of Table 1: despite the fact that SM has a
variety of phonological effects, it must be a unified process
because these effects are entirely predictable from the
grammatical environment. For example, as we saw in chapter 1, an
NP is a trigger for SM, so that the stop /d/ will become /ð/ in an
environment following an NP:

(1)   Gwelodd [NP y   bachgen] ddynes.   (dynes)

         saw-3s   the boy   woman

         'The boy saw a woman.'

In phonological terms what has happened here is a process of
frication. This also happens when the radical /t/ becomes /θ/,
under AM, so why is it that we cannot unify these two occurences
of frication? The answer is that the latter instance, where /t/
becomes /θ/, does not occur in the same set of environments in
which /d/ becomes /ð/. Certainly, it does not occur following an
NP:

(2) i)   *Gwelodd [NP y   bachgen] thad.   (tad)

         saw-3s   the boy   father

   ii)   Gwelodd y   bachgen dad.   (tad)

         saw-3s the boy   father

         'The boy saw a father.'

(2i) is ungrammatical because tad 'father' is in an environment
for SM, but has actually undergone AM. The correct process in
this environment is for /t/ to become /d/, as in (2ii). It can be
seen from this that even where the same phonological effects are
produced by different mutations, these processes cannot be

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collapsed, because they are triggered by different factors. The

unity of the environments for mutation is therefore far more

important than the possible unity of some of the phonological

processes.

2.1.2 Mutation triggers and targets

In this section I will discuss the forms which trigger

mutation, and the forms which undergo mutation, the target word or

mutatee.

To take the target words first, which categories 'count' as

possible mutatees? Mutation is restricted to the initial segments

of the lexical categories noun, verb, adjective and adverb in

modern Welsh. It is appropriate to describe the mutatee as being

the lexical category rather than the phrasal category because

sometimes the lexical category itself will have properties which

make it eligible or ineligible for mutation. For example, the

determiner y 'the' triggers SM only on feminine singular nouns.

The mutatee thus has features which attract mutation to it. This

will be seen in more detail in section 2.4.2.

Occasionally, only a closed set of specific words undergoes a

mutation. For example, ugain 'twenty' triggers NM of just three

nouns: blynedd 'year', blwydd 'year of age' and diwrnod 'day'.

Typically, the more restrictions which are placed on the mutatee,

the more unstable it is likely to be as a mutation environment.

In the unmarked case, however, the properties of the mutatee

are irrelevant to whether or not it undergoes a particular

mutation. Normally, a mutation trigger operates on any lexical

category which it immediately precedes, irrespective of the

features such as number or gender, and verbs as mutatees can typically be finite or non-finite.

Note that prepositions have been left out of the list of possible mutable categories. The usual situation is that prepositions do not undergo mutation in modern Welsh, even in an appropriate environment. For example in (3), the prepositional complementizer <u>tan</u> retains its radical initial consonant, even after the SM triggering NP <u>yma</u> 'here':

(3)   Mi fyddi di'n   aros yma tan ddo'   i yn ôl.
       prt will-2s you-prt stay here until come-1s I back
       'You'll be staying here until I come back.'

(Jones and Thomas 1977:139)

In previous stages of the language, prepositions clearly did belong to the set of mutable categories, because some prepositions display a 'fossilized' soft mutation as their usual lexical form in modern Welsh: <u>gan</u>, <u>gyda</u> 'with' and <u>wedi</u> 'after' (earlier <u>*can,</u> <u>*cyda, *gwedy</u>) fall into this category. In other cases the fossilization process is not complete and there are forms in (relatively) free variation: <u>tan/dan</u> 'under, until'; <u>tros/dros</u> 'over'; and <u>trwy/drwy</u> 'through'. <u>Tan</u> is the more common variant in the complementizer, as (3) shows.

There is, however, one problem with the mutation of prepositions which is discussed by Griffen (1975) and Ball (ms.). <u>Gan</u> and <u>gyda</u> never appear in their earlier 'radical' forms <u>*can</u> and <u>*cyda</u> in modern Welsh, yet these forms appear to act as input when these prepositions appear in an environment for AM: the result is the unexpected occurrence of forms like <u>a chan, a chyda</u> 'and with'. Griffen suggests that these prepositions should be treated as if they had underlying voiceless initials, so that they

will undergo the AM rule straightforwardly. The modern voiced

radical initials, however, will have to be produced by a separate

rule, which is not productive: it is certainly not the case that

gan and gyda are only found in environments for SM, despite the

fact that the voicing appears to be the result of a 'fossilized'

soft mutation.

In the present analysis I will assume that this abstract

solution should be rejected in favour of a lexical solution, since

the lexicon is the proper repository for unpredictable

information. The 'underlying' forms never surface in modern

Welsh, and indeed even a chan, a chyda are rare in the spoken

language, so that they should be given a special lexical entry,

rather than being treated as the result of a productive rule of

AM. In this solution there is no need for abstract underlying

forms, and no need for a special voicing rule to produce the

surface forms.

Let us turn now to the mutation triggers. Here, as we saw in

chapter 1.2, the unmarked case is projected mutation, where the

trigger is a lexical item. In modern Welsh the phonological

properties of the triggers are not involved in determining which

mutation is triggered. This can be illustrated by looking at the

homophonous items ei (3ms) 'his' and ei (3fs) 'her':

(4) i)   ei ben   (pen + SM)

         'his head'

   ii)   ei phen (pen + AM)

         'her head'

As (4) shows, the 3ms form triggers SM, but the identical 3fs form

triggers AM. It is clear then that there is no way of predicting

which mutation, if any, will be triggered, merely by examining the

mutation triggers.

Many of the triggering forms can be considered as clitics, as Willis (1986) shows, so that mutation often takes place within a single phonological word. Willis considers this to be the unmarked case (cf. chapter 1.4.2). An example of this type of mutation is illustrated in (4), where the triggers are the proclitic determiners ei. Prepositions are often mutation triggers, but not always; other common triggers are numerals and pre-verbal particles (particularly in LW).

At the start of this section, we saw that restrictions on an environment made it unstable. Conversely, it appears that the greater the functional load of a particular environment for mutation, the less likely it is to disappear from Welsh dialects. Again the determiner ei can be used to illustrate the point: as we saw, the 3fs form triggers AM, and in some dialects this is the only extant environment for AM. The remaining traditional environments either preserve the radical initial consonant or even trigger SM instead (see section 2.3). Clearly, the mutation following the 3fs form is useful as it distinguishes 'her' from 'his', and so is unlikely to be lost. However, it must also be pointed out that AM after ei (3fs) is neither a necessary nor a sufficient condition for determining gender. It is not necessary because in CW we invariably find an enclitic pronoun following the head, and this is gender-specific:

(5) i)   ei   ben   o

         3ms head him

         'his head'

ii)   ei   phen hi

3fs head her

'her head'

The pronouns o, hi, would therefore determine gender even if the

head noun did not mutate. Mutation is not a sufficient condition

either because of course not all nouns have a mutable initial

consonant:

(6)   ei   ffrind

3ms/3fs friend

'his/her friend'

Nonetheless, mutations which resolve potential ambiguities do seem

to be particularly resilient, and we can predict that these are

the least likely to die out in the future.

In Oftedal's (1962) work only lexical items are considered as

true projected mutation triggers. However, if we assume that the

salient characteristic of a projected mutation trigger is that it

immediately precedes the mutatee, then we can also include

combinations of morphosyntactic features (see 2.4.2), phrasal

categories (section 2.4.4) and also empty categories (chapters 4

and 5) as possible mutation triggers. An example of a combination

of morphosyntactic features which trigger mutation is that only

feminine singular nouns trigger SM of a following adjective,

whereas masculine or plural nouns do not. The important point

about such non-lexical environments is that they are productive:

if a new feminine noun enters the lexicon, it too will trigger SM

of adjectives; if a new noun is used in an NP, it too will trigger

SM, as do all NPs.

The one remaining category of mutations falls into Oftedal's

(1962) category of 'incorporated' mutation (cf. chapter 1.2). As

we saw in chapter 1, this is mutation with no overt trigger at all. As is the case with non-lexical mutation triggers also, only SM has any environments which exemplify incorporated mutation. The main candidate for consideration as incorporated mutation is the SM of adverbs:

(7)   Rydym ni'n byw _ddwy_ filltir o'r   dre.   (dwy)

        are-1p we-prt live two   miles   from-the town

        'We live two miles from the town.'

Here, there is no overt trigger, although of course adverbs sometimes follow an NP, which could be considered as the triggering factor.

One question yet to be discussed is the problem of exceptions to mutation rules. Potential mutatees which turn out to be exceptions to the rules fall into two categories: predictable exceptions and idiosyncratic exceptions. Predictable exceptions have some feature(s) which regularly prevent them from undergoing mutation: for example, feminine singular nouns which have the initial consonants _ll_- and _rh_- do not undergo the usual rule of SM following the determiner _y_. Such exceptions are productive in that any neologisms which have these particular initial consonants would also fail to undergo the SM rule. Predictable exceptions therefore can, and should, be incorporated into the environments for mutation. This category of exceptions will be discussed as it arises at various points in the remaining sections of this chapter.

Idiosyncratic exceptions, on the other hand, must merely be marked as such in the lexicon. To an extent, even some of these items can be predicted to be likely exceptions: for example, personal names often fail to undergo mutation, although this

varies from speaker to speaker; also place names, even some Welsh

ones, tend to retain the radical initial. Loanwords from English

which are /g/- initial tend not to undergo SM, as this would

result in deletion of the initial segment. This seems to be

undesirable because it has the effect of making the loanword too

dissimilar to the English original. For example, these words

resist the usual SM of a feminine noun following y:

(8) i)   y gêm   *yr êm

       'the game'

  ii)   y gât   *yr ât

       'the gate'

  iii) y garej *yr arej

       'the garage'

Possibly for the same reason, the loanword braf (from 'brave')

'fine' also resists mutation. Some /g/-initial monosyllabic

native words also fail to undergo SM, such as go 'rather' and gau

'false'; Willis (1986:71) suggests plausibly that such short words

would be unrecognisable without their initial segments, a

suggestion which may also apply to the English loanwords in (8).

In other cases, idiosyncratic exceptions are simply odd lexical

items which never mutate, or are exceptions to certain

environments:

(9) i)   nos   da/*dda

      night good

      'good night'

  ii)   wythnos diwetha/*ddiwetha

      week   last

      'last week'

Both nouns here are feminine and should therefore trigger SM of a

following adjective; these particular adjectives are exceptions to this rule. In the sections that follow I will not add anything to this brief discussion of idiosyncratic exceptions to mutation rules.

Finally in this section I will mention the phenomenon which Sproat (ms.) calls 'lexical mutation'. Sproat, in an analysis which has much in common with that of Lieber (1986), suggests that SM in particular should largely be handled by lexical redundancy rules. Both of these authors place a lot of emphasis on the concept of SM as the unmarked case within a phonological word. Since this ground has been covered fairly thoroughly by these two authors I will not attempt to add very much in the sections that follow. Briefly, however, Sproat is mainly concerned with mutation in word-formation (cf. section 2.4.2 below); for example, most prefixes trigger SM, as these examples show:

(10) i) cam- 'mis' + deall 'understand': camddeall

         'misunderstand'

    ii) rhag- 'pre' + barn 'judgement': rhagfarn 'prejudice'

   iii) try- 'through' + gloyw 'bright': tryloyw 'transparent'

(Sproat ms:11)

Of course, these are just the sort of cases which Willis (1986) would consider to be unmarked lenition within a phonological word (cf. chapter 1.4.2). I will not treat the type of mutation in (10) in the following sections, but refer the reader to the references cited.

2.2   NASAL MUTATION

Of the three types of mutation, NM is the only one to retain

vestiges of the original phonetic motivation for the sound change.

In some dialects, triggers for NM have to have a final nasal

segment, although this necessary condition is not a sufficient

condition for NM to apply, as many words with final nasals do not

trigger NM, of course. The two major environments are described

in NM 1 and NM 2.

NM 1   Clitic _fy_; 'yn 'my'

+[_ [+NM]] NP,VP

(11) i) yn nhad   i   (tad)

     1s father me

     'my father'

ii) yn mhrif forwyn i   (prif)

     1s chief maid   me

     'my chief maid'

iii)yn ngweld i   (gweld)

     1s see   me

     'seeing me'

Fy is the LW form which is still found to an extent in colloquial

North Welsh, but the colloquial form 'yn is more usual.

As is the case with all the possessive proclitics, the 1s

form occurs not only with a noun or adjective in an NP, as in

(11i) and (ii), but also as the object of a non-finite verb, as in

(11iii).

In the sections that follow we will often see that SM is

generalizing to environments previously the domain of other

mutations, and such is the case here, in some dialect areas.

R.O. Jones (1971) reports that NM is declining amongst younger

speakers in the Tyddewi dialect, a situation which we might expect

to result in the retention of the radical initial consonants.

However, /p,t,k/-initial words appear instead to undergo SM, as

they become /b,d,g/-initial, though still following what is

traditionally an NM trigger.

NM 2 Preposition yn 'in'

+[_ [+NM]] PP

(12) i) ym mag y   postman   (bag)

       in bag the postman

       'in the postman's bag'

    ii) ym mhrif waith yr awdur   (prif)

       in chief work the author

       'in the author's chief work'

The assimilation of the preposition to the point of articulation

of the following consonant is reflected in the orthography, as yn

becomes ym before bilabials and yng before velars.

Note that I have not included the yn which occurs before

non-finite verbs, as in (13):

(13)   Mae hi'n   canu.

       is she-prt sing

       'She's singing.'

This yn does not trigger NM: as (13) shows, the following item

retains the radical, but this yn is often glossed as 'in'

nonetheless. I examine this word in detail in chapter 3.4, along

with the other aspect markers, and will conclude there that they

should not be treated as prepositions.

As is the case with fy; yn 'my', the preposition yn does not

always act as an NM trigger in dialects of Welsh. Even in 1913

Fynes-Clinton noted that younger people tended to retain the radical initial in place names: yn Bangor for yn Mangor, 'in Bangor', for instance (Fynes-Clinton 1913:577). Rhys Jones (1977:331) notes that in many cases SM tends to be found instead of NM after yn, for example yn Gaerdydd for yng Nghaerdydd 'in Cardiff'. This tendency is also remarked on by S.J. Williams (1980:175), and discussed by P.W. Thomas (1984).

NM 3 Numerals

+[_ blynedd] NP; +[_ blwydd] NP; +[_ diwrnod] NP

[+NM]   [+NM]   [+NM]

Possible candidates for triggering NM amongst the numerals are listed below:

(14)   un 'one'   naw 'nine'

             pum 'five'   deng 'ten'

             saith 'seven'   ugain 'twenty'

             wyth 'eight'   can 'hundred'

This instance of NM is only triggered on (at most) three nouns, as the environment shows: blynedd 'year', blwydd 'year of age', and diwrnod 'day':

(15) i) deng mlynedd   (blynedd)

        'ten years'

  ii) saith niwrnod   (diwrnod)

        'seven days'

The numerals listed in (14) are traditionally considered to be NM triggers, but in many cases this mutation is archaic, and not found in modern dialects. There is much dialectal and idiolectal variation; for example, A.R. Thomas (1966:101) notes that his and other idiolects do not have NM after saith, wyth or naw. Such speakers have a phonological restriction that the numerals

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triggering NM must be nasal-final. [3]   However, un 'one', which

does have a final nasal, appears to be the most marginal numeral

as far as triggering NM is concerned, probably because it can also

be an SM trigger, and so has been subsumed into the environments

for SM.

To sum up, the position as regards NM is a particularly

interesting one because many speakers require NM-triggering forms

to have final nasals; unlike the other types of mutation, NM is

therefore partially phonetically motivated. We might expect that

this would increase the stability of NM triggers, since we would

expect a phonetically motivated rule to be more natural than a

morphologically triggered one. However, it turns out that exactly

the converse is true: NM is declining more than either AM or SM,

and in a variety of ways. It is losing its mutation triggers (the

numerals) and losing environments for the mutation (yn before

placenames). Furthermore, some of the environments for NM are

being taken over by SM instead, particularly in the case of

younger speakers. We can conclude, then, that counter-intuitively

the likely survival of a mutation is not increased by its having

(partial) phonetic motivation.

2.3   ASPIRATE MUTATION

AM 1 Prepositions: â 'as, with'; gyda 'with'; tua 'about,

towards'; efo 'with'.

+[_ [+AM]] PP

These four prepositions are all etymologically related: for

example, gyda derives from cyd â 'together with'. The form efo is

confined more or less exclusively to North Wales.

(16) i) torri bara â̂   chyllell   (cyllell)

         cut   bread with knife

         'to cut bread with a knife'

    ii) cath gyda throed gwyn   (troed)

         cat with foot   white

         'a cat with a white foot'

   iii) tua   phen y   mynydd   (pen)

         towards head the mountain

         'towards the summit of the mountain'

In common with many other of the AM triggers, these prepositions

are often followed by the radical consonant in dialects of CW.

This tendency was noted by Fynes-Clinton as early as 1913; he

notes that "the radical is often heard after â̂ instead of the

spirant mutation" (1913:17). Almost certainly, the decline in the

use of AM following these prepositions will continue until they

are no longer considered to be mutation triggers.

     AM 2 Numerals: tri 'three; chwe 'six'

     +[(Det)_ [+AM]] NP

(17) i) tri chi   (ci)

         three dog

         'three dogs'

    ii) chwe phont   (pont)

         six bridge

         'six bridges'

Tri is the form which is used with masculine nouns, but there is

also a feminine form tair which is followed by the radical

initial. Nouns of either gender are preceded by chwe.

     Again, this environment for AM is declining; Fynes-Clinton

notes that the radical is sometimes found after tri instead of the

AM form (1913:543) and Rhys Jones (1977:332) claims that in

speech, AM after these numerals is largely confined to two nouns,

cant 'hundred' and ceiniog 'pence':

(18) i)   tri   chant   (cant)

          'three hundred'

     ii) chwe cheiniog   (ceiniog)

          'six pence'

     AM 3   Clitic: ei 'her' (3fs)

       +[_ [+AM]] NP, VP

(19) i)   ei   phen hi   (pen)

          3fs head her

          'her head'

     ii) ei   chanu hi   (canu)

          3fs sing   her

          'her singing'

The 3fs proclitic is one of the few AM triggers which is still

found in modern CW. Probably the main reason for its continuation

as an AM trigger is the existence of the homophonous 3ms form ei,

which triggers SM. Rhys Jones notes:

(20) "The AM after other words is rarely heard in spoken Welsh,

but this mutation after ei 'her' is one of the distinguishing

factors between ei 'her' and ei 'his' ... and is therefore

rigorously observed."

(Rhys Jones 1977:105)

There are also two contracted forms of ei: 'i after vowels and 'w

which is only found after the preposition i 'to':

(21) i)   ei   gardd a'i   thŷ   (tŷ)

          3fs garden and-3fs house

          'her garden and her house'

ii) i'w   chartref   (cartref)

to-3fs home

'to her home'

As (21) shows, the contracted 3fs proclitic forms also trigger AM.

AM 4 Conjunction: a 'and'

+[_ [+AM]] NP, AP, VP, S

(22) i) ci a chath   (cath)

'dog and cat'

ii) melyn a choch   (coch)

'yellow and red'

iii) gwerthu a phrynu (prynu)

'to sell and buy'

iv) Gwerthais i'r bwthyn a phrynais

sold-1s   I-the cottage and bought-1s

un arall.   (prynais)

one other

'I sold the cottage and bought another.'

As usual, this environment for AM is largely unproductive in CW,

but it survives in various common phrases where the mutation is

fossilized:

(23) i) bara 'chaws   (caws)

'bread and cheese'

ii) ceffyl a chart   (cart)

'horse and cart'

iii) papur a phensil (pensil)

'paper and pencil'

(Cf. P.W. Thomas (1984:219), who also cites a list of frequently

occurring mutatees which do tend to receive AM regularly).

AM 5   Adverb: tra 'very'

+[_ [+AM]] AP

(24)   tra chyfoethog   (cyfoethog)

         'very rich'

This environment for AM is mainly confined to LW. Originally a

prefix, tra has come to be regarded as an independent lexical item

because the standard orthographic procedure was to write it as a

separate word. The normal word order in Welsh is Head + Modifier,

which examples such as (24) clearly contravene if we regard tra as

a modifier on the head adjective. In such cases, as we will see

under SM 15, the default mutation is for the modifier to trigger

SM on the head (cf. Willis 1986 and Sproat ms.) but a few

modifiers also trigger other mutations.

The complementizer tra does not trigger AM.

AM 6   Complementizers:

oni   +[_ ⎡+AM ⎤] S'
           ⎢-cont ⎥
           ⎣-voice⎦

(25) i) Rhaid i ni aros yma [S' hyd oni

         must to us stay here   until

         [S chawn   gyfle i fynd.]]   (cawn)

            get-1p chance to go

         'We must stay here until we get chance to go.'

    ii) Dringwch [S' hyd oni [S chyrhaeddwch

         climb-IMP   until   reach-2p

         y   groesffordd.]]

         the crossroad

         'Climb until you reach the crossroad.'

As S.J. Williams (1980:160) points out, oni is rare in CW, where

the usual complementizer meaning 'unless, until' is <u>os na</u>.

As is the case with several other AM triggers, <u>oni</u> triggers AM of /p,t,k/ but remaining mutable consonants undergo SM (cf. SM 10 below).

<u>Oni</u> also has another use: in LW it occurs sentence-initially as an interrogative-negative particle:

(26)   Oni   <u>ch</u>redwch   chi'r   stori?   (credwch)

        INT-NEG believe-2p you-the story

        'Do you not believe the story?'

Like other pre-sentential particles, <u>oni</u> is not found in this type of example in CW, although the AM may often remain, as (27) shows:

(27)   <u>Ch</u>redwch   chi mo'r   stori?   (credwch)

        believe-2p you NEG-the story

        'Do you not believe the story?'

Although traditional grammars such as Williams (1980) treat these different uses of the particle <u>oni</u> as two or three different environments for AM, I feel that this is artificial. In each case, <u>oni</u> triggers the same mutations (AM of /p,t,k/, SM of remaining consonants), and it occurs in the same environment: in pre-sentential position, preceding a finite verb. I therefore assume that we are dealing with only one mutation trigger here.

Complementizer: <u>ni</u> (Negative Particle)

$$+[\_ \begin{bmatrix} +AM \\ -cont \\ -voice \end{bmatrix}] \, S'1$$

This particle occurs overtly in LW in sentence-initial position, as in (28i), but in CW only the mutation effects remain, on the finite verb, as in (28ii):

(28) i) Ni chlywais y   gog.   (clywais)

         NEG heard-1s the cuckoo

         'I didn't hear the cuckoo.'

    ii) Chlywais i mo'r   gog.   (clywais)

         heard-1s I NEG-the cuckoo

         'I didn't hear the cuckoo.'

In the CW form, the medial negative marker is used: this has the

form dim as a negative indefinite determiner, as in (29), and dim

o, usually contracted to mo, as a negative definite determiner, as

(28ii) shows.

(29)   Chysgais i ddim winc.   (cysgais)

         slept-1s I NEG wink

         'I didn't sleep a wink.'

These medial negative markers have become general throughout CW as

the usual overt realization of negation; as P.W. Thomas (1984:232)

remarks, this may lead to the initial marker becoming redundant.

There is already evidence of this in the instability of the

environment as far as AM is concerned. In LW, ni triggers AM of

/p,t,k/ and SM of the other mutable consonants. For many speakers

of CW, however, SM has generalized to all consonants including

/p,t,k/ in this environment (cf. Rhys Jones 1977:335f). For such

speakers, (29) would be realized as (30):

(30)   Gysgais i ddim winc.   (cysgais + SM)

         slept-1s I NEG wink

         'I didn't sleep a wink.'

    Ni does have a variant nid which is used as an overt negative

marker in topicalized constructions even in CW, although this

particle is not a mutation trigger. Examples of this are shown in

(31i), before a non-finite verb, and before a PP in (31ii):

(31) i) Nid cysgu yr   oeddwn.

         NEG sleep COMP was-1s

         'I wasn't <u>sleeping</u>.'

    ii) Nid mewn bws y   byddwn   yn mynd.

         NEG in   bus COMP would-be-1s prt go

         'I wouldn't go <u>by bus</u>.'

As Jones and Thomas (1977:320) point out though, <u>dim</u> is also used

in this environment by many speakers.

Complementizer: <u>na</u> (Negative Particle)

$$+[\_ \begin{bmatrix} +AM \\ -cont \\ -voice \end{bmatrix}] \ S'n, \ where \ n>1.$$

The complementizer <u>na</u> has much the same role as <u>ni</u> in LW except

that it only occurs in embedded clauses. Once again, it triggers

SM of all mutable initials except the voiceless stops, which

undergo AM:

(32) i) LW: Gwn   na <u>phl</u>annodd ef y twtws.   (plannodd)

             know-1s NEG planted-3s he the potatoes

             'I know that he didn't plant the potatoes.'

    ii) CW: Mi wn   i <u>ph</u>lannodd 'y nhad mo'r   tatws.

             prt know-1s I planted-3s 1s father NEG-the potatoes

             'I know that my father didn't plant the potatoes.'

Again, the complementizer does not appear overtly in the CW form

although its mutation effects remain. However, the tendency for

SM to generalize to all the mutable consonants is also found here,

as this example from <u>Dewch i ddysgu Cymraeg</u> ('Come and learn

Welsh') Book 2 shows:

(33)   Mae'r garden bostiodd e ddim yn ei boced e   o hyd.

        is-the card   posted-3s he NEG in 3ms pocket him still

        'The card which he didn't post is still in his pocket.'

(U.I.G.C. 1973:169)

In this example the standard form would be the AM form phostiodd

but instead we find the SM form bostiodd.

(33) also shows that na is used as the negative

complementizer in relative clauses, although as usual the particle

is not overtly present in CW.

AM 7 Particle: na (Negative)

$$+[\_ \begin{bmatrix} +AM \\ -cont \\ -voice \end{bmatrix}] \; V$$

There is also a particle na which is used with inflected verbs in

answers to questions. This is also negative, and again triggers

AM of the voiceless stops and SM of the remaining mutable

consonants:

(34)   Ga   i rai? Na chewch.   (cewch)

        get-1s I some NEG get-2p

        'Can I have some? No, you can't.'

This particle has a further use in LW in negative imperatives as

in (35):

(35)   Na phrynwch   car newydd.   (prynwch)

        NEG buy-IMP-2P car new

        'Don't buy a new car.'

This usage has dropped out of CW, and been replaced by the use of

paid (2s) and peidiwch (2p) as a negative imperative particle,

plus the non-finite verb:

(36)   Peidiwch   prynu car newydd.

        stop-IMP-2p buy   car new

        'Don't buy a new car.'

There are two pieces of evidence which favour treating this
particle na as a separate environment for AM from the
complementizer na. Firstly, the complementizer only occurs in
embedded clauses, whereas the particle occurs in pre-verbal
position in direct answers. Therefore the distribution of each
item is quite different. Secondly, the complementizer na has a
variant nad which occurs in topicalized embedded clauses and in a
pre-vocalic environment. The particle, on the other hand, has a
pre-vocalic variant nag (or nac in LW):

(37)   Nag ydy, dydy   hi ddim yn canu.

        NEG is-3s NEG-is she NEG prt sing

        'No, she isn't singing.'

I therefore follow traditional usage by continuing to assume that
these two uses of na are separate mutation triggers. There is,
however, still a third particle na, which I believe should also be
considered as a separate environment for AM:

        AM 8 Particle: na 'neither, nor, than'

                +[_ [+AM]] NP, VP

This use of na triggers AM only, which is a major reason for
treating it as a different item than the other na particles:

(38) i) Welais i na   thy   na chapel.   (ty, capel)

         saw-1s I neither house nor chapel

         'I saw neither house nor chapel.'

     ii) Gwell llaeth Cymru na   chwrw Lloegr. (cwrw)

         better milk   Wales than beer England

         'Better the milk of Wales than the beer of England.'

It also has a pre-vocalic variant nag (nac in LW). Although traditional grammars such as Williams (1980) typically treat the uses of na exemplified in (38) as two separate environments for AM, this seems unjustified. I assume that the environments in (38) are conflated, but represent a different use of na from the negative particle and the complementizer.

This concludes the discussion of the environments for AM. In the case of the negative complementizers oni, ni and na, AM is not very stable in CW, tending either to be replaced by the radical initial consonant, or even by SM, as we have seen. No doubt this extension of the environments for SM is partly due to the fact that the particles in question already trigger SM of all the mutable consonants except /p,t,k/, so that for SM to generalize to all nine mutable consonants would be an expected move.

2.4   SOFT MUTATION

2.4.1   Lexical items triggering SM.

SM 1 Prepositions:

am 'for'; ar 'on'; at 'to'; gan 'with';

heb 'without'; hyd 'until'; i 'to'; o 'from';

wrth 'at'; tan/dan 'under';

tros/dros 'over'; trwv/drwy 'through'

+[_ [+SM]] PP

(39) i)   ar ben y   bryn   (pen)

on top the hill

'on top of the hill'

ii) am <u>dd</u>au o'r   gloch   (dau)

at two of-the clock

'at two o'clock'

Several of the SM-triggering prepositions also have homophonous

forms used as aspect markers: <u>i</u> with the meaning 'supposed to',

<u>dan</u> 'whilst', <u>ar</u> 'about to', <u>am</u> 'intend to', <u>heb</u> 'not' and <u>gan</u> 'in

the process'.

(40) i) Rydych chi i <u>g</u>ychwyn am saith o'r   gloch.   (cychwyn)

are-2p you to start   at seven of-the clock

'You are to start at seven o'clock.'

ii) Rydw i am <u>b</u>rynu car newydd.   (prynu)

am-1s I for buy   car new

'I intend to buy a new car.'

These forms, which occur before the non-finite verb, are discussed

in detail in chapter 3.4, where I conclude that they should not be

treated as prepositions. For now, they are grouped with the

homophonous prepositions because the mutations effects are

identical in each case.

    <u>SM 2 Aspect Marker</u>: <u>newydd</u> 'just'

(Recent perfect aspect)

$$+[\_ \ [+SM] \ ] \ VP \quad [4]$$

Following Jones and Thomas (1977:121) I will assume that <u>newydd</u> is

a recent perfect aspect marker, although it behaves rather

differently from the remaining aspect markers. The major

difference is that it can occur either as the sole aspect marker,

as in (41i), or immediately following the perfective aspect marker

<u>wedi</u>, as in (41ii):

(41) i) Mae   hi newydd <u>o</u>rffen ei gwaith.   (gorffen)

         is-3s she just   finish 3fs work

         'She has just finished her work.'

     ii) Mae   hi wedi newydd <u>o</u>rffen ei gwaith.   (gorffen)

         is-3s she PERF just   finish 3fs work

         (=(i))

This is the only construction in which two aspect markers can

appear in succession as they do in (41ii); normally, each aspect

marker must co-occur with a form of <u>bod</u> 'to be', which is finite

in initial position and non-finite elsewhere:

(42) i) Mae   hi wedi bod yn   sgrifennu llyfr.

         is-3s she PERF be PROG write   book

         'She has been writing a book.'

     ii) *Mae   hi wedi yn   sgrifennu llyfr.

         is-3s she PERF PROG write   book

         (cf. (i))

(42ii) is ill-formed because the two aspect markers are not

separated by <u>bod</u>. However, the two aspect markers in succession

in (41), <u>wedi newydd</u>, are fully gramatical.

   Morgan (1952:37f) suggests that SM triggered by <u>newydd</u>

originated in such constructions as (43):

(43)   Mae   ef newydd ei ladd.   (lladd)

         is-3s he just   3ms kill

         'He has just killed him.'

The SM in this example is triggered by the 3ms proclitic <u>ei</u>, but

if <u>ei</u> is deleted, as often happens colloquially, the SM remains.

This would then appear to be triggered by <u>newydd</u>, and the mutation

would subsequently generalize to other environments, as in (41).

However, I suggest there is another possibility, which is
that <u>newydd</u> originally triggered SM in constructions like (41ii)
because it was a modifier which immediately preceded the head of
the phrase, the non-finite verb. In section 2.4.2 below we will
see that the word order modifier + head results in SM being
triggered on the head. This may now have been reanalyzed so that
<u>newydd</u> is seen as a lexical mutation trigger. As an alternative
explanation to that of Morgan (1952) this is plausible since it is
consistent with the other occurrences of SM in modifier + head
constructions.

<u>SM 3 Numerals</u>:

<div style="text-align:center">

<u>un</u> 'one', <u>dau</u>(m), <u>dwy</u>(f) 'two', <u>saith</u> 'seven',

<u>wyth</u> 'eight'.

</div>

The basic environment is thus:

<div style="text-align:center">

+[(Det)_ [+SM]] NP

</div>

However, there are various restrictions on the properties of the
mutatee. <u>Un</u>, for instance, appears in the following
subcategorization frame:

$$+[(Det)\_ \begin{bmatrix} +SM \\ +fem \\ +sing \end{bmatrix}] \ NP$$

This specifies that the head noun must be feminine singular: the
SM will be either on the noun itself or on a preceding adjective
if there is one: [5]

(44) i) un   gath (f)   (cath)

      'one cat'

  ii) un   dawel awr (f)   (tawel)

      'one quiet   hour'

In the case of nouns, initial <u>ll</u> and <u>rh</u> are often exceptions to

this environment for SM, although Rhys Jones (1977:326) states

that this is confined to North Wales. In any case, adjectives and

adjectives used nominally in place of feminine singular nouns

appear to undergo SM even when ll- and rh- initial:

(45) i)   un   lawen (yw hi)   (llawen)

          one happy is she

          '(She is) a happy one.'

     ii) un   rydd yw'r   wlad (f)   (rhydd)

          one free is-3s-the country

          'The country is a free one.'

(S.J. Williams 1980:43)

Some examples of SM following the remaining numerals are shown in

(46):

(46) i)   dau   fab   (mab)

          'two sons'

     ii) dwy   ferch   (merch)

          'two daughters'

     iii) saith bunt   (punt)

          'seven pounds'

As is usual in the case of numerals, there is dialectal and

idiolectal variation amongst both triggers and mutatees. Dau and

dwy, the masculine and feminine forms of 'two', seem to be firmly

established as SM triggers, yet Fynes-Clinton (1913:76) and

Williams (1980:43) mention sporadic exceptions even to this

environment, eg. cant 'hundred': dau cant 'two hundred'; pen

'head': dau pen 'two heads'. However, Williams also notes that SM

is a possible alternative to the radical initial even in the case

of these 'exceptions'.

Saith and wyth seem to be fast losing ground as SM triggers.
Fynes-Clinton, for the Bangor district, records SM of all the
mutable consonants after wyth (1913:563), but SM of the voiceless
stops only, after saith (1913:472). Williams (1980:44), however,
states that only the voiceless stops undergo SM in North Wales,
whereas in South Wales even these consonants retain the radical
initial.

On the other hand, tair (f) 'three' may be a newly productive
mutation trigger, as adjectives used nominally after it tend to
undergo SM, although this is not traditionally considered to be an
environment for the mutation:

(47) i)   tair dda   (da)

          three good

          'three good ones'

     ii) tair wen   (gwen)

          three white

          'three white ones'

(S.J. Williams 1980:44)

     SM 4 Clitics: ei (3ms) 'his'; dy (2s) 'your'

              +[_ [+SM]] NP, VP

(48) i) ei ben o   (pen)

         3ms head him

         'his head'

     ii) Rydw i'n   ei weld o.   (gweld)

         am-1s I-prt 3ms see   him

         'I can see him.'

As was the case with the 3fs proclitic ei which triggers AM, the
3ms form also has two contracted variants, both of which trigger
SM: 'i after vowels and 'w after the preposition i 'to':

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(49) i) o'i dref o (tref)

from-3ms town him

'from his town'

ii) i'w ardd (gardd)

to-3ms garden

'to his garden'

The 2s proclitic is illustrated in (50), and its postvocalic

variant 'th, which occurs in LW, is also seen in this example:

(50) dy dad a'th fam (tad, mam)

2s father and-2s mother

'your father and mother'

Both forms trigger SM, although the contracted form is not

normally found in CW.

SM 5 Determiners: y 'the'

$$+[\_\begin{bmatrix} +SM \\ +fem \\ +sing \end{bmatrix}] \; NP$$
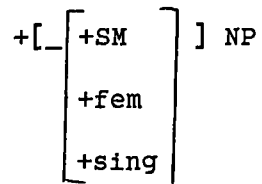
As was the case with un, only feminine singular nouns undergo SM

after y:

(51) i) yr eneth (geneth)

'the girl'

ii) y gath

'the cat'

Again, initial ll and rh may be exceptions to this rule, so that

we get y llong (f) rather than *y long, for 'the ship', for

example. However, Rhys Jones (1977:326) notes that this is

confined to North Welsh dialects, and Willis (1986:10, 59) states

that these exceptions are eliminated from spoken Welsh.

If an adjective precedes the feminine singular noun, then we find SM on the adjective, as well as on the noun, cf. SM 15 below. Thus we have (52i), and this environment also applies to ordinal numerals used adjectivally, as in (52ii):

(52) i) y   rydd wlad   (rhydd)

       'the free country'

   ii) y   bumed eneth

       'the fifth girl'

Adjectives used nominally in place of feminine singular nouns also undergo SM:

(53) i) y lonnaf   (llonaf)

       'the happiest woman'

   ii) y fechan   (bechan)

       'the little girl'

SM after y occurs as well on two specified lexical items: dau (m) and dwy (f) 'two' both undergo SM in this environment:

$$+[\_ \text{ dau } N \text{] NP}; \quad +[\_ \text{ dwy } N \text{] NP}$$
$$[+\text{SM}] \quad\quad\quad\quad [+\text{SM}]$$

(54) i) y   ddau gi   (dau)

       'the two dogs'

   ii) y   ddwy long   (dwy)

       'the two ships'

  Other determiners also trigger SM:

    pa 'what, which', sut 'what (kind of)', rhyw 'some'

$$+[\_ \text{ [+SM]] NP}$$

(55) i) Pa   ddiwrnod ydy hi heddiw?   (diwrnod)

    what day   is-3s she today

    'What day is it today?'

ii) Sut le   yw Bangor?   (lle)

        what place is-3s

        'What kind of a place is Bangor?'

   iii) Mae   rhyw ddyn wrth y   drws.   (dyn)

        is-3s some man at   the door

        'There's some man at the door.'

    iv) Rhyw gysgu roeddwn i.   (cysgu)

        some sleep was-1s I

        'I was sort of sleeping.'

Rhyw can occur before a non-finite verb too (the traditional

'verb-noun') as (55iv) (from U.I.G.C. 1976:107) shows. Compounds

of rhyw also trigger SM, for example unrhyw 'any', amryw and

cyfryw 'such':

(56) i) unrhyw bobl   (pobl)

         'any   people'

    ii) amryw   bethau   (pethau)

         'several things'

   iii) y   cyfryw bethau   (pethau)

         the such   things

         'such things'

However since Welsh, like English, only allows one item in the

determiner slot, it appears that cyfryw is not a determiner, since

it co-occurs with the determiner y 'the' as (iii) shows. So

cyfryw is more likely to be adjectival, and as such should

possibly be analyzed as triggering SM because it is a modifier

immediately preceding a head (cf. SM 15, section 2.4.2).

    Not all items which appear in the determiner position trigger

SM: for example, peth 'some, a little', rhai 'some', pob 'every',

and sawl 'several' do not: peth llefrith 'some milk'; pob merch

'every girl'.

SM 6 Predicative particle: yn

+[_ [+SM]] NP, AP

(57) i) Mae   Aled [NP yn   fachgen tal]   (bachgen)

         is-3s   PRED boy   tall

         'Aled is a tall boy.'

     ii) Mae   Aled [AP yn   dal iawn]   (tal)

         is-3s   PRED tall very

         'Aled is very tall.'

Adverbs are also formed from yn + Adj, and again the adjective

undergoes SM:

(58)   Mae   Aled wedi rhedeg yn   gyflym.   (cyflym)

         is-3s   prt. run   PRED quick

         'Aled has run quickly.'

In standard LW, initial ll and rh are once again exceptions to

this environment for SM. However, as Rhys Jones (1977:334) points

out, in CW all mutable consonants tend to conform to the rule.

This general tendency to iron out exceptions is prevalent

throughout CW, as we have often seen.

SM 7 Conjunction: neu 'or'

+[_ [+SM]] NP, AP, VP

(59) i) te   neu goffi   (coffi)

         'tea or coffee'

     ii) da   neu ddrwg   (drwg)

         'good or bad'

    iii) ennill neu golli   (colli)

         'win   or lose'

Note that unlike the conjunction a (AM 4), neu does not trigger

mutation of a finite verb. When VPs are conjoined, the verb is

always non-finite, but would be finite in the conjunction of two
sentences. It is here that SM fails to apply:

(60)   Ewch   allan neu byddwch/*fyddwch yn   dawel.

          go-IMP-2p out   or be-IMP-2p   PRED quiet

          'Go out or be quiet.'

(U.I.G.C. 1976:63)

     SM 8 Particles: fe, mi

               +[_ [+SM]] S'1

Historically, the forms fe and mi were simply personal pronouns,

but in modern Welsh they are used as pre-sentential affirmative

markers, and are not marked for person, number or gender:

(61) i) Fe welais i ddamwain.   (gwelais)

         prt saw-1s I accident

         'I saw an accident.'

    ii) Mi ganodd Aled neithiwr.   (canodd)

         prt sang-3s   last night

         'Aled sang last night.'

Fe is predominantly a South Walian form, and mi is North Walian.

Like many other particles, these are often omitted in speech but

the mutation triggered by them will remain. In any case, these

affirmative particles are entirely optional.

     Mi and fe cannot co-occur with any of the complementizers

discussed under AM 6, oni, ni and na, as (62i) shows; nor can

these particles occur with the complementizer a, hence (62ii):

(62) i) *Mi ni welais i'r   ci.

         prt NEG saw-1s I-the dog

         ('I didn't see the dog.')

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ii) *Fe a   welais i'r   ci?

　　　prt INT saw-1s I-the dog

　　　('Did I see the dog?')

Given these co-occurrence restrictions, a likely hypothesis is that _fe_ and _mi_ are _also_ complementizers in modern Welsh:

(63)　　　　S'

```
        / \
       /   \
    COMP     S
      |
```

　　　fe, mi
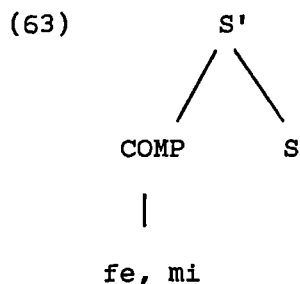
Interestingly, even if the other complementizers are not overtly present, as is usually the case in CW, the affirmative particles cannot appear in initial position in, for example, interrogative or negative sentences. So (64) can only have the first (affirmative) interpretation, and cannot be interpreted as if it were a negative sentence with the negative complementizer not overtly present:

(64)　　Mi　welais i'r　ci.

　　　　prt saw-1s I-the dog

　　　　'I saw the dog.'

　　　　*('I didn't see the dog.')

　　SM 9 Particle: po

　　　　　　　+[_ [+SM]]

(65)　　gorau po　gyntaf　　(cyntaf)

　　　　better prt. soonest

　　　　'the sooner, the better'

This rather archaic construction seems mostly to be confined to LW, and it is not clear to me what the exact status of the particle is in such cases.

SM 10 <u>Mor</u>; <u>cyn</u>:   +[_ [Adj [+SM]]] A'

The particles <u>mor</u> and <u>cyn</u> are pre-adjectival specifiers which are

used in the comparison of adjectives in the equative degree. <u>Mor</u>

is followed by the citation form of the adjective (+SM) but <u>cyn</u>

takes a special equative form of the adjective. As is often the

case, initial <u>ll</u>- and <u>rh</u>- are treated as exceptions to this

environment in many dialects.

(66) i)   Mae'r ffrog mor <u>wy</u>n   ag eira.   (gwyn)

          is-the dress as white as snow

          'The dress is as white as snow.'

    ii)   Mae'r ffrog cyn <u>wy</u>nned ag eira.   (gwynned)

          is-the dress as white as snow

          'The dress is as white as snow.'

The occurrence of SM following these two particles appears to be

completely idiosyncratic, as the particles which are used in the

comparative and superlative degrees of comparison do not trigger

SM: cf. <u>mor dal</u> (< <u>tal</u>) 'as tall as' with SM, but <u>mwy tal</u> 'taller'

and <u>mwya tal</u> 'tallest' with no SM. In fact, we might have

expected the adjective to undergo SM in each case, since the

comparison of adjectives contravenes the unmarked word order in

which the head is always initial in its phrase. This tends to

result in SM being triggered on the head, as we will see in

section 2.4.2, environment SM 15.

    SM 11 Complementizers: +[_ [+SM]] S'

<u>pan</u> 'when'

(67)   Gwelais i e [S' pan [S <u>dd</u>aeth e yma]]   (daeth)

         saw-1s I him   when   came-3s he here

         'I saw him when he came here.'

<u>tan</u> 'until'

(68) Mi wnei di aros yma [S' tan

       prt will-2s you stay here   until

       [S <u>d</u>do'   i yn ôl]]   (do')

            come-1s I back

       'You'll stay here until I come back.'

<u>a</u> Relative Pronoun

(69) Dyma'r dyn [S' a   [S <u>w</u>elais i ddoe]]   (gwelais)

       here-the man   COMP   saw-1s I yesterday

       'Here's the man I saw yesterday.'

<u>A</u> is the complementizer used mainly in what Harlow (1983:77) terms

'immediate dominance dependencies': dependencies into the matrix

subject or object position. Although it is not normally overtly

overtly present in CW, once again the SM triggered by <u>a</u> typically

remains.

<u>a</u> Interrogative Particle

(70) i) A   <u>a</u>llwch chi ddod heno?   (gallwch)

          INT can-2p you come tonight

          'Can you come tonight?'

     ii) Gofyn [a <u>g</u>yrhaeddodd hi?]   (cyrrhaeddodd)

          asks-3s INT arrived-3s she

          'He asks whether she has arrived.'

In LW, <u>a</u> is used as an interrogative complementizer in matrix and

embedded clauses, as (70) shows. Once again, it is normally

omitted in CW, so that the SM must remain in order to distinguish

affirmative statements from interrogatives:

(71) i) Gallwch chi ddod heno.

         can-2p you come tonight

         'You can come tonight.'

    ii) Allwch chi ddod heno?   (=70i)

However, statements and questions can be syntactically identical,

since the overt affirmative particles (SM 8) also trigger SM when

not overtly present. In such a case, affirmatives and

interrogatives are differentiated only by intonation patterns.

    Finally in this section we look at the particles which were

discussed under AM 6: the complementizers which trigger AM of

/p,t,k/ and SM of all other mutable consonants.

<u>oni</u>

(72)   Oni   welsoch chi ef?   (gwelsoch)

         INT-NEG saw-2p you him

         'Did you not see him?'

<u>ni</u>

(73)   Ni welsom ni ef.   (gwelsom)

         NEG saw-1p we him

         'We didn't see him.'

<u>na</u>

(74)   Dywedodd na welodd y   dyn.   (gwelodd)

         said-3s NEG saw-3s the man

         'He said that he didn't see the man.'

Examples (72) through (74) are from LW; in CW the particles are

not found overtly, although the SM remains. The fourth particle

which has the same mutation effects is the particle <u>na</u> discussed

under AM 7; this is used in negative answers, and in negative

imperatives in LW:

(75) i) Allwch chi fynd?   Na allwf.   (gallaf)

      can-2p you go   NEG can-1s

      'Can you go? No, I can't.'

  ii) Na werthwch   y   car hwn.   (gwerthwch)

      NEG sell-IMP-2p the car this

      'Don't sell this car.'

In all of these cases we need to show that the particles

trigger AM where possible, that is, on the initial voiceless

stops, and that otherwise they trigger SM. The environment can be

specified as follows:

(76)   +[_ $\begin{bmatrix} +\text{AM} \\ -\text{cont} \\ -\text{voice} \end{bmatrix}$]

      +[_ $\begin{bmatrix} +\text{SM} \\ \text{elsewhere} \end{bmatrix}$

(cf. also Willis 1986:55)

Alternatively we might assume two ordered rules; rule A being the

more specific will take precedence over rule B, the more general.

(77)   A: +AM / $\begin{bmatrix} -\overline{\text{cont}} \\ -\text{voice} \end{bmatrix}$

      B: +SM / elsewhere

2.4.2 Morphosyntactic features as SM triggers

The following environments in which SM is triggered differ

from the environments so far examined in that the triggers are not

lexical items, but rather, morphosyntactic features. However, as

in all the preceding sections, the trigger must always precede the

mutatee, so that the Trigger Constraint is obeyed in every case.

Another salient difference in this section is that often, the

mutatees themselves must bear special features in order to be

eligible for SM. Usually, as we have seen throughout sections

2.2, 2.3 and 2.4, only the properties of the trigger are relevant:

the unmarked case is that any following mutable category will

undergo the appropriate mutation. In 2.4.1 there were two

exceptions to this which are relevant to the present section: un

'one' and y 'the' only trigger SM of feminine singular nouns; in

this section we will see that the category of feminine singular

noun is prominent once again.

SM 12

$$+[(Det)\begin{bmatrix} +fem \\ +sing \ N \end{bmatrix}[+SM] \ ] \ NP$$

Here, a feminine singular noun triggers SM on a following mutable

consonant within an NP. The mutatee may be an adjective or an

adverb, or another noun:

(78) i) mam   [dda]Adj   (da)

   mother good

   'a good mother'

  ii) y   ddynes [[dra]Adv hardd]   (tra)

   the woman   extremely beautiful

   'the extremely beautiful woman'

  iii) allt [goed]N   (coed)

   hill trees

   'a treed hill'

The post-modifying noun in (iii) is used adjectivally and

therefore receives SM as it is within the same NP as the feminine

noun, allt.

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This environment subsumes the otherwise inexplicable occurrence of SM noted by Knudsen (1973:149) following Anwyl (1901:77). Knudsen claims that certain 'religious terms' trigger SM on the names of saints and Duw 'God'. For example:

(79) i) llan Fair   (Mair)

         church Mary

         'St. Mary's'

    ii) llan Bedr   (Pedr)

         church Peter

         'St. Peter's'   (e.g. the place name Llanbedr 'Lampeter')

There is, however, a more significant explanation other than to assume that religious terms somehow have SM triggering properties; all the terms cited, with one exception, are feminine in gender: eglwys 'church', llan 'church', teml 'temple' and teyrnas 'kingdom'. As feminine singular nouns, we would expect all these terms to be SM triggers, since they meet the environment shown in SM 12. The only exception seems to be tŷ 'house', which is masculine. [6] However, the one salient example seems to be in the place name Tyddewi 'St. David's' from tŷ + Dewi.

One interesting feature about this environment is that if a string of adjectives follows a feminine singular noun, all must undergo SM:

(80) i) bord gron fawr   (cron, mawr)

         table round big

         'a big round table'

    ii) y   frawddeg enwol bur   (pur)

         the sentence nominal pure

         'the pure nominal sentence'

(Willis 1986:48)

As (80ii) shows, this occurs even if one adjective in the string

does not have a mutable initial consonant, so breaking the SM

sequence. Willis (1986:51) proposes a transformational solution

to handle this occurrence of SM, which indicates that she

considers it to be marked (cf. chapter 1.4.2). I suggest that

rather than having an extremely language-specific transformational

rule, the best way to handle this type of mutation is through a

feature percolation device of some sort. Assume, for example,

that the head noun transmits the +SM property to the category

which it immediately precedes. This category then in turn

transmits the SM to the category that _it_ immediately precedes,

within its maximal projection. Whether an adjective has a mutable

initial or not, it will pass on the +SM feature, up to the

boundary of the maximal projection. The Trigger Constraint is not

violated if we assume that each adjective inherits the triggering

property; in this way SM is not claimed to be triggered remotely

by the head noun, a solution which _would_ violate the Trigger

Constraint.

However, in other examples of this construction, there is an

alternative explanation for the appearance of SM: for example, in

(81i), SM occurs on both _dra_ and _fawr_. I assume that this has the

structure shown in (81ii):

(81) i) y   ddynes _d_ra   _f_awr   (tra, mawr)

         the woman   extremely big

         'the extremely big woman'

ii)

```
                N"
              /    \
          Det       N'
           |       /  \
           |      N    A"
           |      |   /  \
           |      |  Adv  A
           |      |   |   |
           y   ddynes dra fawr
```
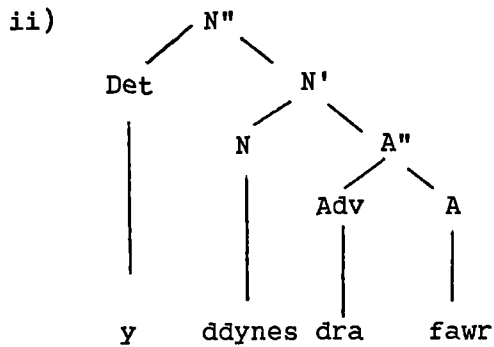
In this case, we have a pre-adjectival modifier, _dra_, preceding an adjective. The adverb receives SM as usual because it follows a feminine singular noun, but the adjective is in the environment which will be discussed under SM 15; it is a Head preceded by a Modifier. In such constructions, SM is always triggered on the head, so that in this case the feature percolation device is redundant.

SM 13

$$+[\text{(Det) } [+ordinal] \begin{bmatrix} +SM \\ +fem \\ +sing \end{bmatrix}] \text{ NP}$$

The category of feminine singular noun is also involved in this environment: the ordinal numerals trigger SM of a following feminine singular noun:

(82) i) y   bumed _e_neth   (geneth)

         'the fifth girl'

     ii) y   pumed bachgen

         'the fifth boy'

Like other adjectives which precede feminine singular nouns (cf. SM 5, section 2.4.1) the ordinals themselves undergo SM after the definite article (_bumed_ < _pumed_ in (82i)). However, the ordinals are clearly a special category of adjective as they do not trigger SM on masculine nouns (82ii) or plural nouns; this is

exceptional, as we shall see under SM 15, since normally an
adjective which precedes a noun triggers SM in every case.

SM 14 +[[+proper]N [+SM]] NP

In this environment, a proper noun triggers SM of a following noun
or adjective in apposition, for example:

(83) i) Dafydd Frenin   (Brenin)

         David king

         'King David'

    ii) Hywel Dda   (Da)

              good

         'Hywel the Good'

Here, SM is not confined to the category of feminine singular
noun, as these examples show. It is possible to get a contrast
between an ordinary adjective following a masculine noun, which
does not undergo SM, versus a term used in apposition, which does
mutate:

(84) i) Llewelyn Mawr

                great

         'Great Llewelyn'

    ii) Llewelyn Fawr   (Mawr)

         'Llewelyn the Great'

Probably the majority of examples are fossilized, rather than this
being a productive environment for SM in modern Welsh. As
S.J. Williams (1980:39) points out, there are in any case many
exceptions to this environment, where the second term fails to
undergo SM:

(85) i) Ieuan Du/*ddu

              black

         'Ieuan the Black'

ii) Gwilym Tew/*dew

fat

'Gwilym the Fat'

However, in the present framework we do have a likely
explanation for the occurrence of SM on the term used in
apposition, which is that it follows not a noun, but an NP. For
example, in (84) we would propose the following contrast:

(86) i) [NP [N Llewelyn] [Adj Mawr]]

ii) [NP [NP Llewelyn] [Adj Fawr]]

If this is plausible, then the occurence of SM in (ii) is
predicted by the fact that the mutatee is immediately preceded by
an NP, which, as we saw in chapter 1, is an SM trigger.

SM 15

$$[+ \text{Modifier}] \begin{bmatrix} + \text{Head} \\ + \text{SM} \end{bmatrix}]$$

We now return to an environment for SM first discussed in chapter
1.4.2. We saw in that section that the unmarked word order in
Welsh is Head + Modifier: the tendency is for the head to be in
initial position in its maximal projection. However, this
unmarked word order may be violated so that the modifier precedes
the head; in this case, the marked construction is signalled by
the appearance of SM on the head. For example, as we saw in
1.4.2, the usual word order in an NP is Noun + adjective, where
the adjective will only undergo SM if it follows a feminine
singular noun. If the adjective precedes the noun, however, this
will always result in SM on the noun, whatever its gender. In
this way, minimal pairs may be created:

(87) i) glaswellt   (glas + wellt <gwellt)

              green grass

   'grass'

  ii) gwelltglas   (gwellt + glas)

             grass   green

   'grass'

In (87i), the adjective precedes the noun, and as predicted, we

find SM on __wellt__. The unmarked word order in (87ii), N + Adj, has

no SM.

    Traditional grammarians have not failed to note this

environment for SM: S.J. Williams, for example:

(88) " ... if the first element qualifies the second, a __proper__

compound is formed... The second element undergoes SM..."

(Williams 1980:122f)

and Morgan, in the seminal work on Welsh mutations, notes that:

(89) "A special characteristic pertaining to proper compounds is

the SM which is always found on the initial consonant of the

second element."

(Morgan 1952:115; translation mine, MOT. [7])

The 'proper' compound of traditional grammar, then, is the order

Modifier + Head. SM is found not only in the case of compounds

which are orthographically one word, as in (87), but also in

phrases where each element is a separate phonological word

accented individually -- the 'loose' compounds of traditional

grammar. For example:

(90)   Adj + N: yr   unig __ddyn__   (dyn)

             'the only man'

        (cf. __dyn uniq__ 'a lonely man')

(91)   Adv + V: cyflym redeg   (rhedeg)

         [-fin] quick run

         'to run quickly'

(92)   Adv + V: Uchel waethodd   ef.   (gwaethodd)

         [+fin] loud shouted-3s he

         'He shouted loudly.'

(93)   Adv + Adj: rhy gyfforddus   (cyfforddus)

         'too comfortable'

(94)   N + N: bedw   bren   (pren)

              'birch wood'

Allen (1975) argues that loose compounds have internal word

boundaries whereas 'strict' compounds do not: these are

orthographically a single word, and receive the main stress on the

penult, which is the regular stress pattern in Welsh. These also

exemplify SM when the order is Modifier + Head:

(95)   Adj + N: hendaid : hen + taid

                              old   grandfather

         'great-grandfather'

(96)   Adj + V: llongyfarch : llon + cyfarch

              [-fin]   glad   greet

              'to congratulate'

(97)   Adj + Adj: cochddu : coch + du

                              red   black

              'brownish'

(98)   N + Adj: penwan : pen + gwan

                         head   weak

              'weakheaded'

(99)   N + N: dwrgi : dwr + ci

water dog

'otter'

(100)   V + N: adroddgan : adrodd + can

recite   song

'recitative'

(101)   N + V: llygadrythu : llygad + rhythu

[-fin]   eye   stare

'to stare'

(102)   Prefix + Adj: addfwyn : add-   + mwyn

(intensifier) gentle

'meek'

Note that in the case of (98), the elements in the compound appear

to be in the unmarked word order, since the noun precedes the

adjective. However, this is of course only the unmarked word

order in NPs, where the noun is the head of the phrase. In (98)

the noun is the modifier modifying the head adjective; since the

resulting compound penwan is an adjective, the head is no longer

initial in its maximal projection, resulting in SM.

Despite the clarity of the treatment of compounds in the

traditional grammars, recent linguistic accounts have frequently

failed to make the correct generalization regarding marked word

order and mutation. For example, Griffen (1975:38) claims that

all N + N compounds undergo SM of the second noun. However, this

is only true where the first noun modifies the second; in genitive

constructions, there is no SM:

(103) i) dyddbrawd : dydd + brawd

day   judgement

'day of judgement'

ii) dyddbarn : dydd + barn

               day   judgement

    'day of judgement'

iii) treftad : tref + tad

             home   father

    'heritage'

Both Willis (1986) and Sproat (ms.) also fail to make the distinction between Modifier + Head compounds and Head + Modifier compounds. Willis states that SM is the unmarked case within phonological words; that is, across morpheme boundaries rather than word boundaries. The type of data in (103) is 'predicted' by her analysis (1986:45f); since such sequences "are truly separate words" rather than one single phonological word, the radical initial is the default occurrence on the second element. However, Willis's analysis then fails to account for the appearance of SM in such cases as (99). This is because it is impossible to distinguish between 'proper' (+SM) and 'improper' (-SM) compounds solely on the basis of their internal morphology. To establish this point clearly, further examples of N + N proper compounds are given in (104):

(104) i) canhwyllbren : canhwyll + pren

                  candle   stick

    'candlestick'

ii) gweithdy : gwaith + tŷ

             work   house

    'workhouse'

iii) gwinllan : gwin + llan [8]

             wine   yard

    'vineyard'

In (104), the second noun in each case is clearly the head of the construction: a candlestick is a type of stick; a workhouse a type of house; a vineyard a type of yard. This is not so in (103). Here, and in other genitive constructions, the first element is clearly the head: the day of judgement is a particular day, and so on.

Willis's mistake is to confuse the distinction between 'loose' and 'strict' compounds, which is a phonological/morphological distinction, with the 'proper' versus 'improper' distinction, which is made on syntactic grounds. The two sets of distinctions do not coincide. Recall that loose compounds, according to Allen (1975), have internal word boundaries, #(_)##(_)#, whereas strict compounds do not: #(_ + _)#. Both kinds, however, can exhibit internal SM, so qualifying as proper compounds. The following data is adapted from Allen (1975:188):

(105)   Loose compounds   Strict compounds

         cynfaer : cyn, maer   cynaeaf : cyn, gaeaf

                        mayor   winter

         'ex-mayor'   'autumn'

         cynbregethwr : cyn, pregethwr   cynddelw : cyn, delw

                        preacher   image

         'ex-preacher'   'prototype'

The distinction between these columns is established by Allen on the basis of phonological and other evidence: the prefix cyn 'former' is pronounced /kin/ as in its isolation form before a word boundary in the loose compounds, but undergoes vowel reduction to /kən/ before the morpheme boundary in the strict compounds. In all the examples in (105), however, we find SM on

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the second element: clearly, the mutation is entirely unrelated to the internal morphology.

Sproat makes a very similar point to Willis's:

(106) "... the unmarked form for a consonant word-internally is lenited."

(Sproat ms. 11)

Of course, such a statement fails once again to take the proper/improper distinction into account. In Sproat's analysis the forms in (103) would inexplicably be considered to be 'marked', since they do not undergo SM internally. Yet in fact genitive compounds are common, and there is no reason to consider them to be marked, when on the contrary, they display the unmarked Head + Modifier word order of Welsh.

Strangely, Sproat also claims that SM is the only mutation to occur in compounds. Whilst it is true that amongst the Prefix + Head type of compound, as exemplified in (102), SM is by far the most usual mutation found on the head, there are also prefixes which trigger AM or NM. In fact Sproat himself (ms.:25) even cites some of the cases where AM applies. Some examples are shown in (107) and (108):

AM

(107) i) a<u>th</u>rist : a   + trist

               (intensifier) sad

      'sad'

   ii) dra<u>ch</u>efn : dra   + cefn

               (intensifier) back

      'again'

(108) i) an<u>nh</u>eg : an + teg

                un-   fair

    'unfair'

  ii) an<u>gh</u>ywir : an + cywir

                  in-   sincere

    'insincere'

The environment which we have outlined here enables generalizations to be made which have been missed in previous descriptions of mutation: for example, cf. footnote 5 relating to the adjective <u>un</u>. As a pre-head modifier <u>un</u> meaning 'similar' triggers SM of any following noun, as is predicted by the environment under discussion. For example:

(109)   Mae'r plentyn yr un <u>b</u>en â'i   dad.   (pen)

          is-the child   the same head with-3ms father

          'The child has a head like his father's.'

(S.J. Williams 1980:43)

Traditional descriptions typically fail to recognize this as an example of the modifier + head environment for SM. The same can also be said of the case in (110):

(110)   Pa   fath <u>l</u>yfr gollaist ti?   (lyfr)

          what kind book lost-3s you

          'What kind of book did you lose?'

Here, <u>pa</u> 'what' has triggered SM on <u>math</u> 'kind' (SM 5 above), and we then find SM on <u>lyfr</u> 'book'; this is usually considered to be triggered by the phrase <u>pa fath</u>. However, <u>fath</u> is clearly a modifier preceding the head noun, and so again we would predict that this noun should undergo SM, as is the case.

Several other items which are usually simply listed as SM triggers in Welsh grammars are actually subsumed by the modifier + head environment. (111) illustrates some adjectival and nominal modifiers triggering SM in this environment:

(111) i) rhy _f_ach   (bach)

      'too small'

  ii) go   _dd_a   (da)

      'quite good'

  iii) gweddol _dd_rwg (drwg)

      'fairly bad'

  iv) ychydig _l_yfrau   (llyfrau)

      'some   books'

  v) holl _b_obl y byd   (pobl)

      all people the world

      'all the people of the world'

It is not always easy to distinguish between two particular environments for SM: pre-nominal modifiers, as in (iv) and (v), and the determiners which trigger SM (cf. (55) and (56) above). A criterial property of determiners is that they do not co-occur with other determiners, although not all the pre-nominal modifiers are found with determiners either. Holl happens to be one which can occur following a determiner, eg. yr holl bobl 'all the people'. I have separated the two environments on two grounds: firstly, distribution of the mutation triggers -- if the item does not co-occur with a determiner, then it should probabably be treated as a determiner itself. The second ground is the general applicability of the mutation rule: whereas all modifiers appear to trigger SM on a following head, not all determiners are mutation triggers, and so must simply be listed -- they are

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lexically specified for their mutation triggering properties.
Some support for my position comes from S.J Williams (1980:63ff)
who states for example that rhai 'some', which triggers no SM,
does not form a compound with the following word. In our terms,
this means that it is not a pre-head modifier. On the other hand
holl 'all' does form a compound, and as such, triggers SM: the
fact that it triggers SM is not seen as a lexical property of the
individual item, as in the case of rhai, but as a function of its
pre-head position.

Finally, it should be noted that traditionally only
adjectives in the positive degree are SM triggers; nouns following
adjectives in the equative, comparative and superlative degrees do
not undergo SM:

(112) i) cystal   dydd/*ddydd

         as good day

         'such a good day'

     ii) gwell   dydd/*ddydd

         'a better day'

    iii) hyn   gwr/*wr

         'an older man'

However, even here it seems that SM is spreading, as Williams
(1980:37) cites the example in (113) and states that SM is
sometimes found after superlative adjectives in place of the
traditional radical:

(113)   ardderchocaf   frenin   (brenin)

         'most exalted king'

2.4.3 Incorporated mutation

In this section of chapter 2.4 we consider two environments for SM which are possible candidates for the status of incorporated mutations (cf. chapter 1.2). We will see, though, that each of these environments could plausibly be re-analyzed as triggered (projected) mutation as well, which would mean that every mutation environment in Welsh is in fact triggered.

SM 16

$$\begin{bmatrix} + \text{ Vocative} \\ + \text{ SM} \end{bmatrix}$$

(114) i) Foneddigion a   boneddigesau   (boneddigion)

gentlemen   and ladies

'Ladies and gentlemen'

ii) Bore   da, blant.   (plant)

morning good children

'Good morning, children.'

iii) Dewch   i mewn, bawb.   (pawb)

come-IMP-2p in   everyone

'Come in, everyone.'

In (114) we see that 'vocative' expressions undergo SM apparently without any triggering item being present. However, it must be said that all these examples are fairly fixed expressions, and the mutation in them may well be fossilized rather than productive. Furthermore, in other examples there is actually some particle which can be said to trigger the SM, so that the vocative cases will 'count' as projected mutation:

(115) i) O Dduw!   (Duw)

　　　　'Oh God!'

　ii) Hylo fachgen   (bachgen)

　　　　'Hello boy'

Welsh, like English, has a number of monosyllabic interjections,
and these typically seem to trigger SM, as Williams (1980:162)
points out. It may be that like so many other particles in
colloquial Welsh, these do not appear overtly in many cases, but
the SM triggered by them remains. A similar point is made by Rhys
Jones (1977:337): he suggests that the SM may be due to "a
hypothetical O! ... or Chi!" We can tentatively conclude that
since this rather marginal case of SM is certainly triggered in
some examples, it does not constitute a clear case of incorporated
mutation.

<u>SM 17</u>

$$\begin{bmatrix} + \text{ Adv P} \\ + \text{ SM} \end{bmatrix}$$

The remaining environment which may qualify as an incorporated
mutation is exemplified by the SM which is often found on
adverbials, as in (116):

(116) i) Rydyn ni'n   byw ddwy filltir o'r   dre.   (dwy)

　　　　are-2p we-PROG live two miles   from-the town

　　　　'We live two miles from the town.'

　ii) Gwelodd hi Aled ddydd Sul diwetha.   (dydd)

　　　　saw-3s she   Sunday   last

　　　　'She saw Aled last Sunday.'

The question is whether or not there is a triggering item in such
examples. Often, the adverbial follows an NP, as in (116ii), and
since NPs are a trigger for SM, we would expect to find mutation

as in this example. There are several problems here however:

firstly, the occurrence of SM may be preceded by some phrasal

category other than NP, as in (116i), where the VP <u>yn byw</u> precedes

the mutatee. Clearly, even if the preceding NP <u>is</u> the trigger in

some cases, this cannot account for the SM in all the cases of

adverbial mutation.

What is even more striking is the fact that even following an

NP such as <u>e</u> 'him', adverbials sometimes fail to mutate:

(117)   Gwelais i [NP e] dydd Sadwrn diwetha.

         saw-1s I   him Saturday   last

         'I saw him last Saturday.'

(U.I.G.C. 1976:60)

Although the SM form of the adverbial is equally possible here,

and probably considered to be prescriptively correct, the SM rule

is in fact "no longer rigidly observed" (U.I.G.C. 1976:120). As

is often the case, dialectal variation may govern the appearance

or absence of SM; Williams (1980:144) states that with adverbs of

time, SM is usually found in North Wales but not South Wales:

(118)   Af   [NP yno] dydd Llun (SW)/<u>dd</u>ydd Llun (NW)

         will-go-1s   there Monday

         'I'll go there on Monday.'

(S.J. Williams 1980:144)

Not surprisingly, if SM fails to apply following NPs, it is also

optional following other phrasal categories:

(119)   Fydda   i [VP ddim yn   mynd [V' i   siopa]] dydd Sadwrn.

         will-1s I   NEG PROG go   to shop   Saturday

         'I won't be going shopping on Saturday.'

(Rhys Jones 1977:199)

The final problem is that an adverb in sentence-initial

position often undergoes SM, where there can be no possible

mutation trigger. For this reason the SM of adverbials can be

considered as a candidate for incorporated mutation, as this

example shows:

(120)   D̲dwy flynedd yn ol, daethon nhw i fyw yma. (dwy)

         two years ago   came-3p they to live here

         'Two years ago, they came to live here.'

(Rhys Jones 1977:336)

We might expect incorporated mutation to decline, since it is the

marked case, the vast majority of all mutation being triggered.

However, Lewis and Pedersen claim that just the opposite is

happening in the case of adverbial mutation:

(121) "At the beginning of a sentence, non-lenition [ie. lack of

SM, MOT.] was formerly the rule but lenition is gradually

spreading here too in modern Welsh."

(Lewis and Pedersen 1961:140f)

In some cases, SM is always found on the adverbial, as a

fossilized mutation: this information is part of the idiosyncratic

behaviour of certain lexical items and should therefore be

included in their lexical entries. This applies for example to

d̲doe (< d̲oe)'yesterday', g̲artre' (< c̲artre') 'at home', and b̲ob (<

p̲ob) 'every', as in b̲ob tro 'every time'.

2.4.4 Phrasal categories as SM triggers

We have often noted throughout chapters 1 and 2 that NPs act

as triggers for SM, and following on from this observation, a

natural question to ask is whether other phrasal categories also

trigger SM. The environment for SM following an NP is taken up

again in chapters 4 and 5, where we will investigate the

triggering properties of both overt and empty nominal categories.

In this section we will consider whether the evidence supports the

position that all phrasal categories are SM triggers, as Harlow

(1981; 1983; ms.) has in fact suggested.

It is extremely hard to prove that phrasal categories in

general are SM triggers. Welsh is a strongly head-initial

language, as we saw in the discussion of compounds in section

2.4.2; therefore we find both prepositions and verbs preceding

their NP complements. Because of this a mutatee is often

immediately preceded not only by an NP but also by the phrasal

category boundaries of PP and VP, as these examples show:

(122) i) Mae [PP yn [NP yr ardd]] ferch.   (merch)

        is   in   the garden girl

        'There's a girl in the garden.'

  ii) Mae Aled [VP yn   gweld [NP y   ferch]]

        is   prt. see   the girl

        bob   dydd.   (pob)

        every day

        'Aled sees the girl every day.'

 iii) Bydd   Aled [VP yn   cerdded

        will-be-3s   prt. walk

        [PP i [NP 'r dre]]] rywbryd.   (rhywbryd)

          to   the town   sometime

        'Aled will be walking to town sometime.'

In (i), both an NP and the dominating PP immediately precede the

mutatee; in (ii), the same is true of NP and VP; and in (iii), the

mutatee is immediately preceded by the three phrasal categories

NP, PP and VP. Clearly, such examples do not provide any evidence that phrasal categories other than NP are SM triggers.

Recall that in chapter 1.6.3 we discussed the appropriate formulation of the Trigger Constraint, and discovered that Zwicky's version, chapter 1.6.2, which requires the trigger to c-command the mutatee, could not handle all examples in Welsh. For example, the c-command condition would not account for the SM on _ferch_ in (122i), under the assumption that of the phrasal categories only NPs are SM triggers, since the NP does not c-command _ferch_. However, suppose that Harlow is correct, and other phrasal categories are also SM triggers. Then we can retain Zwicky's version of the Trigger Constraint, and state that the c-commanding PP is the mutation trigger in (122i).

Let us then see whether or not there is any evidence that phrasal categories _are_ mutation triggers. (122) does not provide unambiguous evidence, because of the existence of an immediately preceding NP in each case. A better diagnostic is provided by examples where a phrasal category such as VP does not dominate an NP, and indeed the prediction that SM is triggered in such cases appears to be borne out:

(123)   Mae hi [VP 'n   gweithio] _b_ob   dydd.   (pob)

         is she   prt. work   every day

         'She works every day.'

We know that by the Trigger Constraint of chapter 1.6 all cases of projected mutation must be triggered by the immediately preceding item, so if the mutation in (123) is triggered at all, then the VP must be responsible. The same applies to (124) where in each case an AP immediately precedes the mutatee:

(124) i) Gweithiodd ef [AP yn   galed] ddydd a   nos.   (dydd)

worked-3s he   PRED hard   day   and night

'He worked hard day and night.'

(M.D. Jones 1976:126)

ii) Mae ef [AP yn   dalach] beth na   hi.   (peth)

is he   PRED taller   some than she

'He's somewhat taller than she is.'

(S.J. Williams 1980:64)

The case is not yet proven, however, since it is not at all

clear that the mutation of adverbs in (123) and (124) is

triggered; as we discussed in section 2.4.3, adverbs may undergo

SM with no triggering factor, in other words, as incorporated

mutation. The first reason to doubt that all phrasal categories

are SM triggers is the noted unpredictable behaviour of

adverbials; not all speakers have SM in such cases as (123) and

(124). Even following an NP, SM is not always found:

(125)   Athro   fydd   [NP e] rhyw ddiwrnod.

teacher will-be-3s   he some day

'He'll be a teacher some day.'

(U.I.G.C. 1976:75)

Here, the initial segment of rhyw retains the radical consonant,

despite the environment for SM. We might try to explain (125) by

suggesting that for some speakers, NP is not an SM trigger, but

this is not the case: all speakers have SM on direct objects,

triggered by subject NPs, for example. It is evident that the

adverbial itself is the exception, in failing to undergo SM. This

seems to suggest that the SM of adverbials is not a projected

mutation at all, but should be treated as incorporated mutation as

I propose in section 2.4.3.

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Secondly, some adverbs such as <u>ddoe</u> 'yesterday' have

fossilized their SM forms: *<u>doe</u> only occurs in modern Welsh in

compounds such as <u>echdoe</u> 'the day before yesterday'. So even

though the SM on <u>ddoe</u> in (126i) may appear to be triggered by the

immediately preceding VP, the word is also found in its SM form in

sentence-initial position as in (126ii), where there is no

possible trigger:

(126) i) Mae Aled [VP wedi mynd] <u>dd</u>oe.

        is   PERF go   yesterday

        'Aled went yesterday.'

  ii) <u>D</u>doe   mae Aled wedi mynd.

        yesterday is   PERF go

        'Aled went <u>yesterday</u>.'

Even where the mutation is not fossilized, adverbials still

frequently undergo SM in sentence-initial position, as we saw in

section 2.4.3:

(127)   <u>Dd</u>wy flynedd yn ôl, fe ddaethon nhw.   (dwy)

        two years ago   prt came-3p they

        '<u>Two years ago</u> they came.'

This mutation is optional, but nonetheless does not have an

immediately preceding item as a possible trigger. Could it be the

case that the mutation was triggered at a previous stage in the

derivation, when the adverbial <u>did</u> follow a phrasal

category? Such a solution would take (126i) as the underlying

form of (126ii), which would then be derived transformationally.

The adverb would receive its SM at the underlying level, and

retain the mutation when moved into sentence-initial position.

    Unfortunately, the behaviour of other categories under

topicalization does not support this solution:

(128) i) Gwelais i _f_ab y   dyn.   (mab)

saw-1s I son the man

'I saw the man's son.'

ii) [Mab y   dyn] welais i.

son the man saw-1s I

'I saw the man's son.'

(129) i) Mae'r llyfr yn   goch.   (coch)

is-the book PRED red

'The book is red.'

ii) [Coch] ydy'r llyfr.

red   is-the book

'The book is red.'

In the (i) sentences, SM has been triggered: by the NP i in (128)

and by the predicate marker yn in (129). Yet this mutation does

not carry over when the mutated items appear in topic position. I

conclude from this piece of evidence from mutation that the

topicalized constituent does not originate in a D-structure

position as in the (i) sentences, but in fact must be

base-generated in position as suggested by Chomsky (1977).

So far we have not seen any evidence which provides

unambiguous support for Harlow's proposal that phrasal categories

in general are SM triggers. The final set of data appear at first

to provide such support, since these examples exhibit SM which is

apparently unaccounted for in the present framework:

(130) i) Mae'r dyn yn cyflym _g_erdded.   (cerdded)

is-the man prt fast   walk

'The man is walking quickly.'

ii) Yr   oedd y   ferch yn   melys ganu.   (canu)

     prt was   the girl prt sweet sing

     'The girl was singing sweetly.'

(M.D. Jones 1976:86)

Both of these constructions have a marked word order, the more

usual constructions being as in (131):

(131) i) Mae'r   dyn yn   cerdded yn   gyflym.

       is-the man prt walk   PRED fast

       'The man is walking quickly.'

   ii) Yr   oedd y   ferch yn   canu'n   felys.

       prt was   the girl prt sing-PRED sweet

       'The girl was singing sweetly.'

In (130) the SM on the verbs gerdded, ganu is apparently triggered

by a phrasal category, that is by the preceding APs yn gyflym, yn

melys. This suggests that the structure of the VP is thus:

(132)   ... [VP [AP yn melys] [V ganu]] (= (130ii)

However, if this suggestion is correct, the lack of SM on the

adjectives in (130) is inexplicable; cf. yn gyflym, yn felys in

(131) but yn cyflym, yn melys in (130). The predicate marker yn

is indeed an SM trigger, as we saw in section 2.4.1, SM 6.

Wherever the predicative yn and the adjective form a constituent,

the adjective undergoes SM; it must therefore be the structure in

(132) which is incorrect, since no SM is triggered in (130).

   I suggest that the following reanalysis of the data will

account for the facts so far. The predicative yn of the AP has

been deleted where it would otherwise follow the aspect marker yn

in (130):

(133)   *... yn [AP yn melys] ganu   (=130ii)

This suggestion is supported by Morgan (1952:118), who mentions

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the loss of predicative yn in such positions. The yn which is the

aspect marker does not trigger SM, so it is not surprising that

the adjectives in (130) do not undergo SM: they do not follow an

SM trigger. Rather than (132), then, the structure I suggest for

the marked word order examples in (130) is this:

(134)   .

                    .

                   VP
                  / \
                 /   \
                /   \
              prt   V'
               | / \
               | /   \
               | A   V
               | | |
               | | |
              yn cyflym gerdded
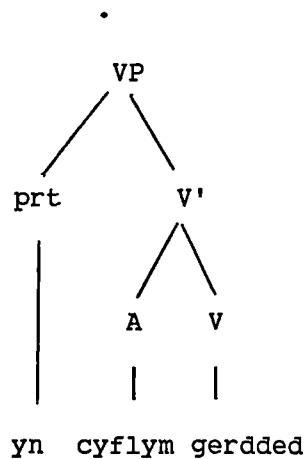
This hypothesis is supported by examples which have an aspect

marker other than yn; in such cases it is clearly the predicative

yn of the AP which is deleted, and not the aspect marker:

(135)   Mae'r dyn [VP wedi   [V' cyflym gerdded]]

         is-the man   PERF ASP   fast   walk

         'The man has walked quickly.'

It still remains, however, to account for the SM on the

non-finite verbs in (130). We have argued against the analysis

(as in (132)) that there is an AP which triggers the SM in these

examples. The alternative structure proposed in (134) shows that

in the marked word order, the adjective is a modifier which

precedes the head verb. We now have an explanation for the SM in

terms of the environment presented in section 2.4.3, SM 15: when a

modifier precedes the head of the phrase, the head undergoes SM.

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According to the structure in (134), the adjective and the non-finite verb form a constituent. This is reinforced by the discussion of such constructions in Williams (1980):

(136) "When an adjective is used adverbially before a verb-noun a compound is formed; i.e. _cyflym gerdded_ or _cwbl gredu_ ['to believe all', MOT.] is a compound verb-noun."

(S.J. Williams 1980:114)

Williams also goes on to point out that the resulting compound can itself be used adjectivally, e.g. _plentyn newydd-eni_ 'a child new-born' where _geni_ 'to be born' has undergone SM. Such constructions give further support to the analysis of the adjective and verb as a single constituent. Under other diagnostics such as topicalization the status of the proposed constituent is also clearly shown:

(137)   [Cyflym gerdded] oedd   hi.

          fast   walk   was-3s she

          'She was _walking quickly_.'

To conclude, from the evidence that we have examined in this section, I believe that there is no support for the proposal that all phrasal categories act as triggers for SM. All the apparent examples of this that we looked at can be reanalyzed without having to resort to any ad hoc solutions; the head + modifier environment for SM is well motivated, as we saw in section 2.4.3.

I therefore propose that of the phrasal categories, only NP can be shown to be a trigger for SM. The c-command condition in Zwicky's Trigger Constraint (chapter 1.6.2) should also be dispensed with, as I proposed in chapter 1.6.3, since adjacency, but not c-command, has been shown to be a necessary condition on the environment for mutation.

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The role of NPs as triggers for SM is examined in detail in
chapters 4 and 5, following the discussion of general grammatical
points in chapter 3.

1. In fact Ball (1984) has shown that aspiration rather than voicing is distinctive in Welsh plosives. However, I will continue to represent the pairs of phonemes as voiced and voiceless, eg. /b/ versus /p/.

2. The sociolinguistic variables involved are discussed in several papers in Ball and Jones (1984): cf. especially G.E. Jones; Bellin; P.W. Thomas; and cf. also Albrow (1966).

3. The citation forms of the numerals which trigger NM for these speakers are not usually nasal-final: pump, deg and cant. Before nouns these become pum, deng and can.

4. The status of the constituent containing the aspect marker plus non-finite verb is discussed in chapter 3.3 and 3.4, where it is argued that this constituent is a VP.

5. Un is also an adjective meaning 'the same' or 'similar', and it precedes the noun as (i) shows:

(i)   Mae'r plentyn yr un ben a'i   dad.   (pen)

        is-the child   the same head with-3ms father

        'The child has his father's head.'

(S.J. Williams 1980:43)

As pen 'head' is a masculine noun, we would not expect it to undergo SM by the environment shown in SM 3, which restricts the occurence of SM to feminine singular nouns. However, as we will see in section 2.4.2, under SM 15, an adjective preceding a noun is in the marked Modifier + Head word order, and as such always triggers SM. Williams (ibid.) states that when un means 'one and the same' only feminine singular nouns will undergo SM, hence a contrast between (ii) and (iii):

(ii)   yn yr un tŷ

         'in the same house'

(iii)   yn yr un <u>d</u>ref   (tref)

         'in the same town'

(Williams (ibid.))

The noun <u>tŷ</u> is masculine and retains the radical, but <u>tref</u> is

feminine, and undergoes SM. I believe, however, that the

distinction is a prescriptive one, and in speech the general rule

of SM on the head noun is followed, so that in (ii) <u>tŷ</u> would also

undergo SM: <u>dŷ</u>. This observation is supported by Fynes-Clinton

(1913) and Morris-Jones (1931:131).

6. Morgan (1952:109f) discusses this and other cases of masculine

nouns triggering SM idiosyncratically.

7. The original is as follows:

"Nodwedd arbennig sy'n perthyn i'r gair cyfansawdd rhywiog yw'r

treiglad meddal a geir bob amser yng nghytsain flaen yr ail

elfen."

(Morgan 1952:115)

8. Idiosyncratically, <u>ll</u>- and <u>rh</u>- usually fail to undergo SM

following -<u>n</u> and -<u>r</u>.

THEORETICAL OUTLINE AND GRAMMATICAL OVERVIEW

3.1   GOVERNMENT BINDING THEORY

In this section I will present a short outline of the

Government Binding framework (henceforth GB) developed by Chomsky

(1980, 1981, 1982). GB theory provides a useful framework in

which to discuss the syntax of noun phrases as it has a

particularly well developed taxonomy of nominal categories. This

is of importance in the present work since, as we saw in chapter

1, NPs are a mutation trigger for SM. However, we need to

consider the question of which nominal elements trigger SM, and

this will be the topic of chapter 4.

The present chapter, after presenting the theoretical

framework in 3.1, goes on to discuss proposals that have been made

for the underlying word order of Welsh (3.2), and then considers

the question of whether or not there is a VP in Welsh (3.3).

Finally, section 3.4 deals with the syntax and semantics of the

aspect markers.

3.1.1 Organization of the Grammar

GB theory has as its goal the development of a theory of

Universal Grammar (UG):

(1) "What we expect to find ... is a highly structured theory of

UG based on a number of fundamental principles that sharply

restrict the class of attainable grammars and narrowly constrain

their form, but with parameters that have to be fixed by experience."

(Chomsky 1981:3f)

In practice this means that we can only account for the learnability of individual languages by showing that their core grammars are derivable from general principles. Language-specific statements will hopefully be reduced to a minimum, as we come to understand more about the 'parameters' set by individual languages or classes of languages. Core Grammar is structured as follows:

(2)   D-Structure

                            |

                            |

                         move-@

                            |

                            |

                        S-Structure

                         /   \

        PF (Phonetic form)   LF (Logical form)
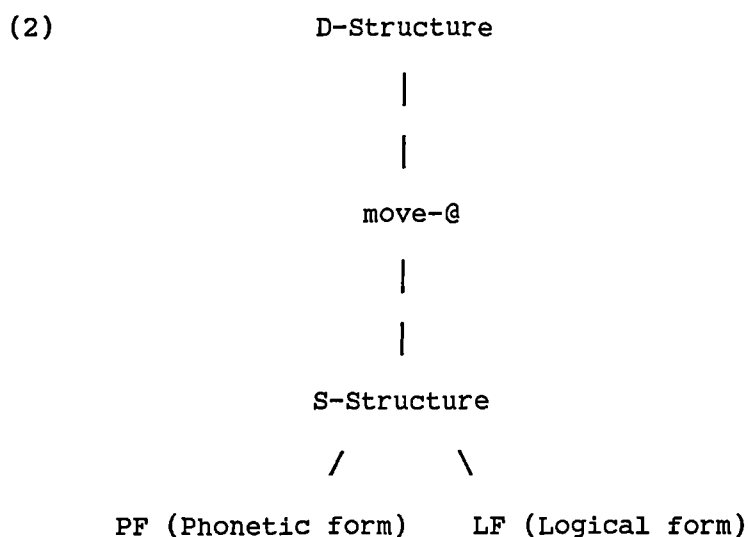
Move-@ is the transformational component: it allows for the unrestricted movement of any category. What does constrain move-@ is the interaction of various principles of UG; the system is highly modular, and includes the following subsystems:

(3)   bounding theory

        government theory

        theta theory

        binding theory

        Case theory

        control theory

        X-bar theory

3.1.2 The Projection Principle and empty categories

Amongst other general principles is the Projection Principle, which Chomsky first states informally as follows:

(4) "Representations at each syntactic level (i.e. LF, and D- and S-structure) are projected from the lexicon, in that they observe the subcategorization properties of lexical items."
(Chomsky 1981:29)

Thus it is made explicit in GB that once the subcategorization frameworks have been established in the lexicon (or learned by the child) then those lexical requirements are always met in syntactic structure. If, for example, a verb is subcategorized as transitive, then it must be shown to have a direct object throughout the derivation, at every syntactic level.

In Chomsky (1982) this principle is combined with the added requirement that all clauses have subjects, giving what Chomsky terms the Extended Projection Principle. This new tenet is responsible for the analysis of Equi and Raising verbs with full sentential complements in GB; for example in (5) we have the control or Equi verb want, which must have the empty category PRO as subject of the embedded clause in order to meet the Extended Projection Principle:

(5)   John wants [PRO to leave]

In (6) the raising verb seem also takes a sentential complement in GB, this time the subject being the trace of the raised NP John:

(6)   John seems [t to be asleep]

It is this analysis of control and raising verbs in Welsh that Borsley (1984) takes issue with, and which will be discussed fully in chapter 4.2.

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The Projection Principle also forces an analysis of so-called Pro-drop (null subject) languages with an empty NP category in subject position. Welsh is arguably amongst this class of languages, so that in (7) the phonologically null subject is the pro of Chomsky (1982):

(7)   Gwelodd [NP e] ddynes

         saw-3s   woman

         'He/she saw a woman.'

(5), (6) and (7) have exemplified three of the empty categories (ECs) assumed to exist in GB; the fourth is the trace of wh-movement, wh-t, or variable:

(8)   Who [does John like t]

By the Projection Principle, once like is lexically established as a transitive verb, its transitivity must still be represented even after the movement rule has moved the overt object: hence the trace in object position at S-structure.

We know already from chapter 1 that Welsh is a language in which at least some NPs trigger the overt phonological effects of Soft Mutation. It is therefore a useful language in which to test the predictions made by GB theory regarding the existence of the four empty NP categories, as we will see in chapters 4 and 5.

GB theory must also provide mechanisms for the interpretation of the various ECs, and this is handled by the interaction of the subsystems in (3) with certain universal principles. The interpretation of PRO in Equi sentences is determined by control theory, which is in fact the least well developed part of GB as presented in Chomsky (1981,1982). (However, cf. Bouchard (1983) for a full re-working of control theory). PRO, as we have seen, is the subject of infinitival complements, and can have an

antecedent or may be arbitrary in reference. The antecedent can

be the matrix subject as in (9) (subject-controlled Equi in

standard transformational terms):

(9)   John promised Mary [PRO to take care of himself]

or the matrix object as in (10) (object-controlled Equi):

(10)   John persuaded Mary [PRO to take care of herself]

PRO in (11) does not have an antecedent in the matrix clause; it

is arbitrary in reference:

(11)   It is unclear [how PRO to proceed]

    The pro of null subject constructions is first explicitly

mentioned in Chomsky (1982:81). Pro-drop is a parameter in GB

which is assumed to relate to a well-developed system of verbal

inflection. According to Chomsky:

(12) "... the possibility of having a pure pronominal EC subject

is related, though sometimes imprecisely, to a rich enough

inflectional system, so that inflection determines the grammatical

features of the 'missing subject'."

(Chomsky 1982:86)

The pro-drop parameter has received extensive discussion in the

literature; cf. for example Bouchard (1983), Borer (1983) and for

Welsh, Sadler (1984).

3.1.3   Theta theory and trace

    In theta theory verbs assign thematic roles according to what

type of predicate they are; for example laugh, a one place

predicate, assigns one thematic role, but kill, a two place

predicate, will assign two. Some thematic roles are

agent-of-action, goal-of-action, and so on. NPs which have

theta-roles are called arguments in GB, and these are the NPs with

a referential function. Non-arguments, NPs with no referential

function, occur in idioms like 'take advantage of', where

'advantage' has no theta-role, and likewise pleonastic elements

like 'there' in 'there's a good reason for his refusal', or hi in

(13):

(13)   Mae hi'n   bwrw glaw.

         is   she-prt throw rain

         'It's raining.'

Arguments are assigned theta-roles according to the principle in

(14), the theta-criterion:

(14) "Each argument bears one and only one theta-role, and each

theta-role is assigned to one and only one argument."

(Chomsky 1981:36)

How does this relate to NPs which have been moved by move-@? The

trace is in a theta-position, and thus receives a theta-role,

which it then transmits to its antecedent: the trace itself is

assumed in GB to be a non-argument (cf. Chomsky 1981:101). The

moved NP, the antecedent, is an argument, but is not in a

theta-position:

(15)   The books were put t on the table.

         John seems [t to be a fool].

In (15), 'the books', 'John', are not in theta-positions: when an

argument moves out of a theta-position it cannot receive another

theta-role in its new slot, or the theta-criterion (14) would be

violated. However, 'the books' and 'John' are in what Chomsky

terms A-positions. An A-position can be seen as one to which a

grammatical relation such as subject or object is assigned. This

is a potential theta-position, but as (15) shows, the two notions

are not always synonymous: passives and raising verbs do not

assign a theta-role to their subjects. Theta-role assignment is

therefore an inherent property of the lexical item in question.

Non-A-positions (A'-positions) such as COMP have no

grammatical relation assigned to them.

Theta-theory has the effect of constraining the operation of

move-@ in an interesting way; it will, for example, prohibit the

transformation raising-to-object, which in earlier literature was

assumed to take place in the derivation of examples such as (16).

(16)   John believes Mary to be a doctor.

If 'Mary' moved from underlying embedded subject position, it

would be theta-marked in this position, but it would also receive

a theta-role in its landing-site, the matrix object position, as

this is a subcategorized position. The theta-criterion would

therefore be violated.

3.1.4 Government theory

We will now examine two of the other subsystems, government

theory and binding theory (3.1.5.), which interact to constrain

the possible interpretation of nominal elements, whether overt or

empty. The notion of government which is formalized in GB stems

from the traditional concept of a head governing its complements.

Many different formulations of government are discussed throughout

Chomsky (1981), and there is no one agreed, definitive version in

the literature. However, one definition which seems to have

widespread acceptance is based on Aoun and Sportiche (1983):

(17)   <u>Government</u>

In the structure [...B...@..B...],@ governs B if and only

if   i)   @ = X⁰(i.e. a lexical category)

          ii) where Z is a maximal projection, if Z

dominates B then Z dominates @.

By (i), the governor must be a lexical category, which in GB means

not only N, V, A, and P but also the agreement element AGR.   AGR

is part of the inflection element INFL --- INfL replaces the AUX

of earlier transformational work.   INFL has the values

[+/- Tense], [+ Tense] being finite and [- Tense] being

infinitival.   When INFL is [+ Tense] it also has the agreement

features for person, number and gender which Chomsky (1981) labels

AGR.   INFL is assumed to be head of S in GB, so that in recent

work, S is seen as the maximal projection of INFL.   S' is seen as

the maximal projection of COMP, the other maximal expansions being

NP, VP, AP and PP.

   Some examples of the operation of government are shown in

(18):

(18) i)   [VP   V [PP   P NP]]

    ii)   [VP   V [NP1   NP2's N]]

In (i), V governs PP but it does not govern NP, since there is a

maximal projection PP which dominates NP but does not dominate V:

condition (ii) of (17) is therefore not fulfilled.   P, however,

governs NP, as is intuitively desirable.   In (ii) V governs NP1

but not NP2 or N, since the latter two are 'protected' by the

maximal projection NP1, which dominates NP2 and N but not V.

Maximal projections in general can therefore be seen as an

absolute barrier to government.   This can be seen as the correct

result for (ii), since we do not want the genitive NP2 to be

governed by, and therefore be the object of, V.

Subject position is held to be governed by AGR, in both pro-drop and non-pro-drop languages. Where there is no AGR, in other words in the case of a [- Tense] infinitival clause, the PRO subject must be ungoverned.

One of the salient properties of pro-drop languages is their apparent violation of the *that-t filter of Chomsky and Lasnik (1977). A non-pro-drop language such as English, on the other hand, must obey the filter or ungrammatical sentences such as (19) result: [1]

(19)   *Who do you think [that [t saw Bill]]

Such examples are now analyzed as subcases of the more general and explanatory Empty Category Principle (ECP) in (20):

(20)   ECP: [NP e] must be properly governed.

The trace in (19) is evidently not properly governed: whatever the correct formulation of this notion, it is connected with the 'rich enough' inflectional system, the pro-drop parameter of (12). It appears that in pro-drop languages a trace in examples such as (19) can be properly governed by the INFL, but the impoverished inflectional system in non-pro-drop languages is too weak to allow this. Although the ECP is a stipulation in GB, Chomsky regards it as a natural principle:

(21) "... it is not unreasonable that UG should require that the presence of an empty category be signalled in some manner by elements that are overtly present."

(Chomsky 1981:251).

3.1.5 Binding theory

Binding theory in GB grew out of the Chomskyan conditions on transformations of earlier work (cf. Chomsky 1973, 1977, 1980). In the "On Binding" framework (Chomsky 1980) the salient concept is freedom within certain syntactic domains: firstly, the subject of a tensed sentence (the Nominative Island Condition or Tensed-S Condition of earlier literature); and secondly, the c-command domain of the subject of an NP or S (the Specified Subject Condition (SSC). Chomsky (1977) had showed that these two conditions not only constrained movement out of the two domains, but also what he called interpretive rules or rules of construal; rules which handle anaphor/antecedent relations. The two domains are termed 'opaque':

(22) "The binding theory characterizes two domains as opaque in the sense that an anaphor cannot be free in these domains and a pronoun is disjoint in reference from an 'antecedent' within them."

(Chomsky 1981:153).

The class of anaphors consists of overt anaphors, which are reciprocals and reflexives, NP-traces, and PRO. The class of pronominals consists of pronouns and PRO.

Binding theory is attempting, then, to account for data such as (23):

(23) i)   *They expected [me to introduce each other to Bill]

     ii)   They expected [me to introduce them to Bill]

     iii) *We thought [each other gave the books to Bill]

     iv)   We thought [they gave the books to Bill]

Examples (i) and (ii) illustrate the opaque domain covered by the

SSC: the anaphor 'each other' in (i) does not have an antecedent

in this domain; it is free in the embedded sentence, hence the

ungrammaticality. The pronoun 'them' in (ii) is possible

precisely because it has no antecedent in this domain; the

conditions are the converse. In (iii) and (iv) we have the opaque

domain of the NIC; the anaphor 'each other' in (iii) has no

antecedent within the embedded tensed S, and is therefore

impossible, but the pronoun in (iv) is correctly free in the same

domain.

Perhaps the major problem with the opacity account of the

distribution of NPs is that although it broadly predicts the

correct results, it is largely stipulatory, and furthermore the

two opaque domains are completely unrelated. The GB account

attempts to remedy this undesirable situation; the way it does so

involves unifying the binding conditions and integrating them with

the rest of the grammar to give a network of interdependent

'subsystems', rather than ad hoc statements. The binding

conditions of the later framework are as in (24):

(24)   A. an anaphor is bound in its governing category.

         B. a pronominal is free in its governing category.

         C. an R-expression is free.

We have already seen which NP-categories fall under Binding A and

B; condition C applies to 'referential' expressions which are

lexical nouns and wh-traces. There are two types of binding in

GB, although the conditions in (24) are only concerned with one of

these, A-binding. Under A-binding, the bindee and binder

involved, for example an anaphor and its antecedent, are both in

A-positions (cf. 3.1.3 above). This type of binding involving

only A-positions is also known as antecedent binding. The other

type, operator binding or A'-binding, involves a binder in an
A'-position, such as COMP, which has no grammatical relation
assigned to it. A'-binding holds for example between a wh-trace
and an element in COMP, eg. who, which binds the variable from an
A'-position. Having established this difference, we can now give
the definition of binding in (25):

(25) "@ is X-bound by B iff @ and B are co-indexed, B c-commands
@, and B is in an X-position, where X = A, A'. If not bound, @ is
free."

(Chomsky 1981:184).

As an attempt to generalize the two distinct opaque domains,
Chomsky (1981) introduces the concept of governing category.
Various definitions of this notion are considered; (26) is an
early definition.

(26) "@ is the governing category for B if and only if @ is the
minimal category containing B and a governor of B, where @ = NP or
S." [2]

(Chomsky 1981:188).

In (23) we saw some examples of anaphors and pronominals; the
overt anaphors in (i) and (iii) fall within the scope of binding
condition A: in each case their governing category is the embedded
sentence, but since no antecedent is available here for the
anaphors, both examples are ill-formed. The pronominals in (23ii)
and (iv) also have the embedded S as their governing category, and
in each case they are free as binding condition B requires. We
have stated, however, that PRO is included in both the class of
anaphors and pronominals, and this must now be justified.

PRO is considered to be a pronominal anaphor, since it has
properties of both classes of NPs: like pronouns, PRO need not

have an antecedent at all:

(27)   It is unclear [what [PRO to do]]

However, where PRO does have an antecedent, the antecedent must

always be 'remote', just as in the case of pronouns: it cannot be

in the same clause or NP. The anaphoric quality of PRO is that it

has no intrinsic referential content, just like overt anaphors,

and can therefore receive its reference from an antecedent, as

(28) shows:

(28)   John wants [PRO to kill Fred]

As a pronominal anaphor PRO would appear to be subject to both

binding conditions A and B, but it obviously cannot satisfy both

conditions. The answer to the dilemma is that PRO only appears

when both binding conditions are inoperable; that is, just in case

there is no governing category for PRO, and PRO is ungoverned.

Ungoverned PRO is, in fact, not just a possibility but a

requirement: in examples like (29) PRO is ungrammatical:

(29)   *John believes [PRO to kill Fred]

This is because 'believe' governs down into the embedded S, but as

PRO must be ungoverned the result is ill-formed.

        Let us now examine how NP-traces fulfil binding condition A.

In (30), the trace must be bound in the matrix S, since this is

the minimal category containing the trace and a governor of trace,

in this case the verb 'seem':

(30)   Mary[i] seems [t[i] to be mad]

Since the trace can indeed be bound in this domain, taking Mary as

its antecedent, the sentence is grammatical. In (31), however,

the trace is not correctly bound:

(31)   *John[i] seems [Mary to hate t[i]]

The NP John has moved from underlying embedded object position,

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but the derivation violates binding condition A as in this case
the trace should be bound in the embedded S; this is its governing
category as it is the minimal category containing the trace and
its governor, the verb <u>hate</u>.

Binding condition C applies to wh-traces in the following
way: although a variable is bound, it is A'-bound rather than
A-bound; its antecedent is not inside S but in COMP as this
example shows:

(32)   [S' who[i] [S can we see <u>t</u>[i]]

Referential expressions also exhibit freedom from A-binding as
condition C demands; in (33) with normal stress the embedded
subject NP <u>John</u> is not coreferential with the matrix subject:

(33) i) He said that John would win.

     ii) John said that John would win.

3.1.6 <u>Case theory</u>

The subsystem of Case handles the positions in which lexical
NPs must appear, and is closely allied to government, since
normally an NP is assigned Case by its governor. We find, then,
that a verb governing its object assigns it objective Case, and a
preposition also assigns objective Case to its NP object.[3] The
subject of a tensed sentence is governed by AGR in INFL as we have
seen, and is assigned nominative Case.

It is claimed that all lexical NPs must have Case to be
well-formed; Chomsky (1981) assumes the existence of the Case
Filter (34) in core grammar:

(34)   *NP if NP has phonetic content and no Case.

The Case assigned to an NP percolates down to its head N.

Obviously the Case Filter does not apply to empty categories: this

gives us the distinction between (i) and (ii) in (35):

(35) i) *It is unclear [who [S John to visit t]]

    ii) It is unclear [who [S PRO to visit t]]

In (35i) the embedded subject <u>John</u> is in an ungoverned position,

and hence cannot receive any Case marking. The ungrammaticality

is attributable to a violation of the Case Filter. In (ii) on the

other hand PRO is correctly ungoverned, and has no Case, and since

it has no phonetic content, does not fall foul of the Case Filter.

Note that binding theory cannot predict the complementary

distribution of lexical NP and PRO in (35).

    The Case Filter does not preclude the possibility that some

empty categories have Case, however. PRO does not appear in

Case-marked positions as (35ii) shows, but how does Case theory

apply to traces? In raising and passive constructions, we have

D-structures as in (36) in order to satisfy the (Extended)

Projection Principle: clauses must have subjects and transitive

verbs must have objects:

(36) i) [NP e] seems [S John to be unhappy]

    ii) [NP e] was murdered the man.

However, the lexical NPs <u>John, the man</u> are not in Case-marked

positions: <u>seem</u> as an intransitive verb does not assign objective

Case, and passive participles are quasi-adjectival and therefore

not Case markers. In order not to violate the Case Filter,

NP-movement must occur, so that <u>John</u> and <u>the man</u> receive

nominative Case, being governed by AGR in INFL. If the NPs in

their D-structure positions are Caseless, it follows that the

NP-traces left in that position are also Caseless.

Conversely, wh-traces are Case-marked. This can be seen in the derivation of (37):

(37)   *Who does it seem [t to see Mary]

A wh-phrase in COMP does not receive any Case on its own account, as it is in an ungoverned position. Therefore, if it is not to violate the Case Filter, it must inherit Case from its trace. In (37) this is not possible, as the trace is in an ungoverned and hence non-Case-marked position also. This violation of the Case Filter accounts for the ungrammaticality. In (38) this does not occur, as the wh-phrase correctly inherits Case (nominative in this example) from its trace:

(38)   Who [t can see Mary]

3.1.7 Bounding theory

A further constraint on the application of move-@ is provided in GB by bounding theory. This developed out of the subjacency condition of Chomsky (1973), which in turn was a generalization of the work on constraints of Ross (1967). Subjacency prevented move-@ from applying if the moved constituent would cross more than one bounding node, to give for example the ill-formed derivation in (39):

(39)   *This is the woman[i] [S' who[i] [S I hate [NP the man[j] [S' who [S t[j] married t[i]]]]]]

Bounding theory attempts to discover which categories are universally bounding nodes, and which are bounding nodes only as a parameter of a specific language. The usual candidates are NP, S and S', probably with S' as a universal bounding node.

Bounding apparently affects only the rule move-@, as
interpretive rules are not constrained in this way. Hence the
possibility of construal, by binding theory, across the two nodes
NP and S' in (40):

(40) i) We want very much [S' for [NP pictures of each other]
to be on sale.]

     ii) The men expected [S' that [NP pictures of each other]
would be on sale.]

3.2   WORD ORDER

3.2.1 Surface and underlying word order

In this section I will consider various proposals that have
been made concerning the underlying word order of Welsh, and of
VSO languages generally. The unmarked surface word order of Welsh
matrix clauses is clearly VSO, for example:

(41)   Gwelodd y   ferch y   ci.

          saw-3s the girl the dog

          'The girl saw the dog.'

A base-generated VSO order is assumed in the transformational
analyses of Awbery (1976) and McCloskey (1979), and also in the
non-transformational accounts of Borsley (1983) and Harlow (1983),
both working within the framework of Generalized Phrase Structure
Grammar. However, other authors working in the GB model have
argued for an underlying SVO order for Welsh, and some have argued
that all surface VSO languages should be analyzed as underlyingly
SVO.

As McCloskey (1983:9) points out, the question of an abstract underlying word order for verb-initial languages stems from the view of grammatical relations taken by Chomsky (1965). The existence of an 'exceptional' subject NP, [NP,S], has become axiomatic in Chomsky's work; by definition this NP must be outside the other main constituent of S, the VP. This principle leads ultimately to the Extended Projection Principle discussed in section 3.1.2. We therefore have the base rules in (42), and the traditional subject-predicate dichotomy:

(42) i)   S --> NP VP

     ii) VP --> V NP

The interesting question, of course, is whether or not these rules can be shown to be universal.

If the rules in (42) are part of the phrase structure component of Welsh, then this presupposes two further points about Welsh syntax:

(43)   Welsh is underlyingly SVO and has a transformational rule of verb-fronting which derives the surface order.

(44)   Welsh has a VP constituent.

In what follows I will investigate these two claims. Linguists who have argued in favour of the positions taken in (43) and (44) have sometimes confined themselves to internal evidence from Welsh, for example Jones and Thomas (1977) -- the earliest SVO proposal for Welsh -- and Harlow (1981). More frequently (43) and (44) are posited originally on theoretical grounds, but supported by citing data from Welsh or some other verb-initial language; this stance is taken by Koopman (1984), Sadler (1984), Sproat (1985) and E. Williams (1984).

3.2.2 SVO as universal base order: (1) Emonds (1980)

Emonds first of all defends the standard theory postulation of an exceptional subject NP. As he points out, various rules and conditions appear to depend on the segregation of the subject NP, such as the Specified Subject Condition of Chomsky (1973). Since Emonds was writing, the Extended Projection Principle of Chomsky (1982) has now formalized the notion that the exceptional subject NP is indispensable.

According to Emonds, the universally "totally unmarked" order is SVO. Transformational rules can apply to alter this order, but unconstrained movement is prevented by three general principles of grammar. Firstly there is the well-motivated structure-preserving constraint of Emonds (1976). Secondly, Emonds proposes that any rule which reorders, deletes, inserts or copies phrases must be stylistic, and optional, rather than syntactic, and obligatory. Thirdly, Emonds suggests the principle that a head must not be moved round within its phrase. What effect do these principles have? One effect is that SVO underlying order could not obligatorily become SOV: a rule reordering the object would have to be an optional rule by the second principle, and verb movement within the VP would be prevented by the third principle. Although the remaining details of Emonds' proposals are tangential to the present study, he demonstrates that these three principles combine to reduce the possible structures which can be derived from SVO base order to just one: VSO surface order.

Various facts about VSO typology are predicted by an analysis in which these languages are underlyingly SVO. There is first of all the fact that verb-first languages are much rarer than SVO

languages. Given Emonds' proposals, we can predict the comparative rarity on the grounds of decreased learnability: the required verb-fronting rule will be non-structure-preserving in the sense of Emonds (1976). [4]   Since VSO languages are therefore harder to learn, their statistical infrequency is now accounted for.

The second typological point is that Emonds' analysis automatically explains and predicts Greenberg's Universal 6:

(45) "All languages with dominant VSO order have SVO as an alternative or the only alternative basic order."

(Greenberg 1966)

However, (45) does not seem to be a genuine universal; McCloskey (1983) points out that in Irish, subjects often do precede verbs, but only in topicalized constructions. The same is true of Literary Welsh. On the other hand, the difference between unmarked VSO sentences and topicalized SVO sentences has been rather eroded in CW: firstly, the SM-triggering complementizer a, normally found in LW, is omitted in CW:

(46)   Aled (a) welodd y   lleidr.

         COMP saw-3s the thief

         'Aled saw the thief.'

A triggers SM, so welodd (from gwelodd) in (46), but if the verb does not have a mutable initial consonant, there will be no morphological evidence of topicalization at all:

(47)   Aled eisteddodd yn yr ardd.

         sat-3s   in the garden

         'Aled sat in the garden.'

This gives the appearance of SVO order, and in fact such structures are not highly marked at all in CW, as is shown by the

early and thorough treatment that topicalization receives in pedagogical grammars of CW such as U.I.G.C. (1976,1978).

All this would seem to support an analysis in which VSO is merely a derived order. We might imagine, then, that whenever we find SVO order, the verb-fronting rule has failed to apply. However, in Emonds' proposal VSO is derived by an obligatory rule from SVO; presumably, to derive the topicalized example in (47) the VSO sentence would undergo a further optional stylistic rule which reordered the subject around the verb. Although such an analysis has every appearance of a 'Duke of York' derivation (cf. Pullum (1976), in fact it seems to me to be the best way of handling the data, given SVO order as a starting point. The reason is that despite the frequent occurrence of subject-topicalized structures, they are nonetheless less basic than VSO sentences.

Another Celtic language, Breton, seems to be 'reverting' to SVO order, cf. for example Stephens (1982) and Stump (1984). Breton evidently does not have VSO order in what Stephens calls neutral sentences, only in embedded clauses or topicalized structures. Presumably in terms of Emonds' analysis the obligatory verb-fronting rule has been lost from the grammar, so that SVO always surfaces.

Emonds observes that however well motivated, a conclusion in favour of an SVO analysis should not be drawn a priori, but only on consideraton of the internal syntactic behaviour of VSO languages. According to Emonds, work on Breton by Anderson and Chung (1977) supports his claim. Although Anderson and Chung in fact reject the possibility that Breton has an SVO basic order, they present data which shows that the verb and its object behave

as a constituent for the purpose of topicalization:

(48)   [Deskiñ Brezhoneg] a   reomp

         learn Breton   prt do-1p

         'We are <u>learning Breton</u>.

(Anderson and Chung 1977)

On the other hand, the verb and the subject never behave as a

single unit. Stephens (1982) also proposes a VP constituent for

Breton, and McCloskey (1983) draws the same conclusion for Irish.

As we will see in section 3.3, the evidence from Welsh also points

to the existence of a VP constituent.

3.2.3 <u>SVO as universal base order: (2) Williams (1984)</u>

        A stance very similar to Emonds' is taken by E. Williams

(1984), except that Williams separates the syntactic definition of

the notion 'subject' from the lexical definition. The syntactic

characterization is the subject-predicate relation, which

corresponds to Emonds' notion of the "exceptional subject NP".

The lexical characterization of 'subject' derives from the

predicate structure of particular verbs. As we saw in section

3.1.3., verbs in GB theory assign different theta-roles to each of

their arguments; to illustrate, the verb <u>give</u>, as a three-place

predicate, assigns three theta-roles:

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(49)   i.

```
                        S
                      /   \
                    /       \
                  NP         VP
                 /          / | \
                /         /   |   \
               /        /     |     \
           John[i]  gave  Bill[k]  the book[j]
                              |
                              |
                    (A[i], Th[j], G[k])
```
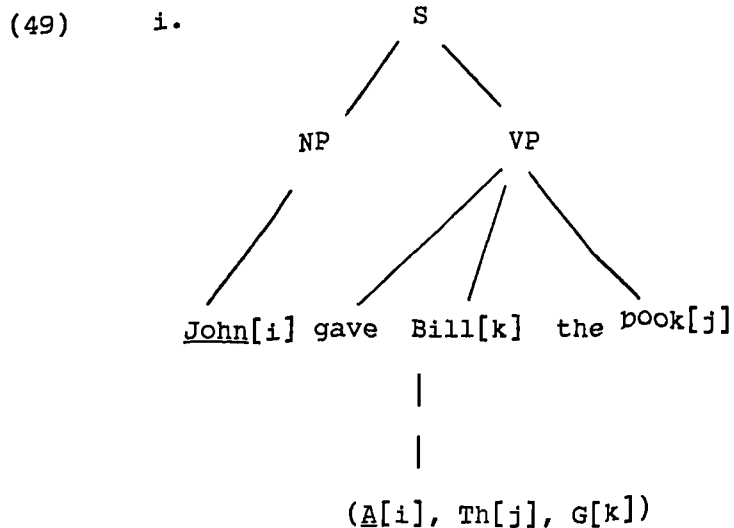
ii. give: (actor, theme, goal)

(Williams 1984:641)

Williams considers that amongst the NPs which form the argument

structure of a verb, one argument is typically the 'external'

argument: that is, one NP is external to the predicate. In the

case of give the external argument is the 'actor' argument,

underscored in (49).

It is important to note that the two characterizations of

'subject' need not correspond in Williams' analysis. Obviously in

the case of give and many other verbs, the syntactic subject will

also be the external argument. However, in the case of raising

verbs, this is not so:

(50)   John[i] [VP seems [S t[i] to have left]]

Verbs like seem have a syntactic subject which originates inside

the VP, and therefore do not have an external argument. In

standard GB terms, John in (50) is in an A-position (that of

subject) but it is not in a theta-position (specifically, it does

not receive the theta-role of 'actor' from seem, as the subject NP

in (49) does from give.

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In a theory which has VPs, we can distinguish between external and internal arguments; internal arguments are NP complements of the verb. These notions depend on the verb's predicate structure, and theta-theory. However, although Williams claims the universal existence of a VP constituent, not all theorists would agree. In Lexical-functional Grammar (LFG) (eg. Bresnan 1982) there is no VP in f-structure (functional structure, considered by Williams to correspond to S-structure in GB). It is pertinent to consider the case of languages in which the existence of VP is particularly questionable: the two types considered by Williams are nonconfigurational languages such as Walbiri and Malayalam; and secondly, VSO languages. In both these language types, Williams is in favour of positing a VP.

To take the case of nonconfigurational languages first, it might be argued that there is no evidence for the existence of VP in this case, since a description of their grammars may well never need to refer to such a constituent. For instance, in Malayalam, in LFG terms, only NP daughters of S can be clefted; however, this generalization seems at first to be obscured by positing a VP, since the object NP would then be a daughter of VP, not S. Williams counters that the generalization can be equally well stated in terms of clefting only arguments of V: both internal V-complement arguments, and the external subject NP. As for the possible charge that a VP would be hard to learn in nonconfigurational languages, Williams points out that if it is universal, then the VP will be innate.

In the case of VSO languages, Williams (1984) claims that if subjects show any special properties as external arguments, then there is evidence of a VP constituent, giving us the

external/internal distinction. Williams cites the Breton data in
(48) as evidence for VP in that language. Welsh has parallel
data: as in Breton, only one constituent can appear in topic
position, and whilst verb-plus-object is allowed, as in (51i),
verb-plus-subject is not, as in (51ii):

(51) i) [VP Wedi darllen y   papur] mae Ceri.

            prt read   the paper is

        'Ceri has <u>read the paper</u>.'

    ii) *Wedi darllen Ceri mae'r   papur.

        prt read   is -the paper

        '(<u>Ceri has read</u> the paper.)'

In fact Welsh offers even more support for the existence of a VP
than does Breton, as in Breton it is possible for a transitive
verb to topicalize, leaving its object behind:

(52)   Deskiñ a   reomp Brezhoneg.

         learn prt do-1p Breton

         'We are <u>learning</u> Breton.'

(Anderson and Chung 1977)

In Welsh, however, the parallel construction fronting only the
verb is ungrammatical:

(53)   *Wedi darllen mae Ceri'r   papur.

          prt read   is   the paper

          ('Ceri <u>has read</u> the paper')

The non-finite verb and its object clearly form an even closer
unit in Welsh than in Breton. Such data as (51) and (53) lend
support to Williams' position, which is that the differences in
possibilities for topicalization can only be due to the existence
of a VP constituent, in VSO languages as in all other languages.

On the basis of such evidence, Williams makes the claim that

VSO languages must have the S --> NP VP categorial rule. However,

rather unusually he claims that this rule holds for S at

S-structure, and that the verb-fronting rule applies after

S-structure. Since Williams does not justify this point I will

treat it as a minor difference between his analysis and that of

Emonds.

It is interesting that the two authors make essentially

different assumptions: Emonds bases his argument on the claim in

(43), that SVO is the underlying order of Welsh and VSO is derived

from it; he supports his claim by citing data which prove the

existence of a VP constituent. Williams on the other hand takes

the existence of VP as axiomatic; the position in (44) is his

starting point, and he then claims that as a consequence of the

universal VP constituent, VSO must be an order derived only by

verb-fronting. I believe that the claims in (43) and (44) should

actually be assessed separately, and that one is not necessarily a

concomitant of the other. In fact, we will see in section 3.3

that the existence of a VP node is justified, and so the claim in

(44) is upheld. However, the claim in (43), that Welsh is

underlyingly SVO, is refuted, both by the discussion in the

remainder of this section and also by the evidence from mutation,

which is presented in chapter 4.

3.2.4 SVO as the base order for Welsh.

I now go on to examine the motivation which has been put

forward for specific SVO analyses of Welsh. As already mentioned,

the earliest transformational proposal was that of Jones and

Thomas (1977). According to these authors, Welsh has the rule in
(54):

(54)   S --> (prt) Aux NP VP

This is posited not on theoretical grounds but purely on the basis
of data like that in (55):

(55) i)   Mi wneith   Aled palu'r ardd.

          prt will-do-3s   dig-the garden

          'Aled will dig the garden.'

     ii) Mi balith   Aled yr ardd.

          prt will-dig-3s   the garden

          'Aled will dig the garden.'

There is no appreciable difference in meaning between these two
examples, but whereas (55i) is generated by the rule in (54),
(55ii) does not seem to be. However, the finite verbs in both
cases carry the same inflection; Jones and Thomas therefore
propose that the -ith inflection in (55ii) is base-generated under
Aux, and the non-finite form palu 'dig' originates in the VP, and
is moved into Aux by a transformational rule.

   Harlow's (1981) analysis is very similar in motivation and
execution. The main difference is that Harlow envisages the
verb-fronting rule deriving (55ii) as being optional; if it fails
to apply, the verb gwneud 'do' is inserted into the position to
the left of INFL, deriving (55i). Harlow also proposes that where
verb-fronting applies, the VP node is pruned, giving the following
S-structure:
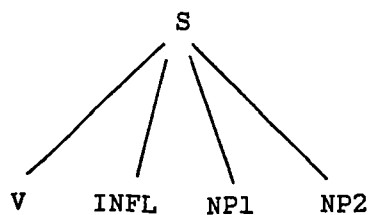
(56)   S   (NP1 = subject,

                  / / \ \   NP2 = object)

                 / /   \   \

                V INFL NP1   NP2

As Sadler (1984:ch.2) points out, though, this assumption is problematic for GB Case-assignment; there is no way of ensuring that only NP2 will correctly be assigned objective Case, since NP1 is also governed by the verb.

Such problems lead Sadler to propose the structure in (57), where verb-fronting has applied, leaving a trace, and the VP node is intact:

(57)

```
                  S
             /   |  \
            /    |   \
           V   INFL  NP    VP
                            / \
                           /   \
                          V     NP
                          |
                          t
```
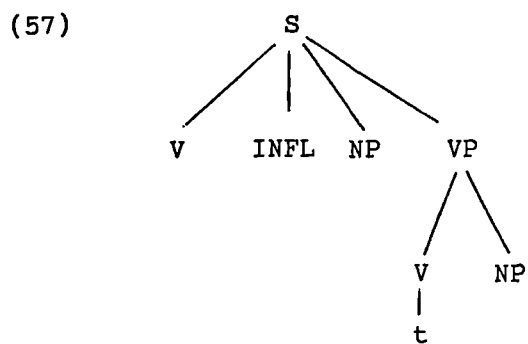
(Sadler 1984:50)

Once again, Sadler's motivation for postulating an S --> INFL NP VP rule for Welsh is largely based on the existence of an inflected 'tense carrier' in initial position, with the subject preceding the non-finite verb. This is a common construction, for instance in the 'periphrastic' form in (58):

(58)   Roedd   Meic yn   astudio ym Mangor.

        was-3s   prt study   in Bangor

        'Meic was studying in Bangor.'

The superficial structure of such examples directly supports Sadler's base rule for Welsh, but in any case, as she points out, an analysis which has a VP node will meet the GB requirements for Case-assignment. The existence of such data as (55i) and (58) merely confirm what seems to be the only feasible solution consistent with GB theory.

An analysis very similiar to Sadler's is proposed by Koopman

(1984:218), the main difference being that Koopman has INFL

dominate the fronted verb. In Koopman's work, the requirements of

Case theory will force the INFL-initial structure she proposes,

and will also force verb-fronting. (Cf. chapter 4.3 for a full

criticism of these proposals). She points out that SVO languages

and VSO languages are closely related typologically in that both

are head-initial. This gives rightward Case-assignment, and

Koopman also claims that theta-role assignment is rightward in

these languages. AGR in INFL must therefore precede the verb in

order to assign nominative Case rightward to it (cf. sections

3.1.4, 3.1.6):

(59) "Nominative Case is assigned to (or checked for) the NP

governed by AGR."

(Chomsky 1981:259)

This requirement prompts the INFL SVO underlying structure

proposed by both Sadler and Koopman, which ensures that only the

subject NP, [NP,S], is governed as in (59).

The motivation for V-movement is also related to Case theory;

Koopman proposes that only a verbal INFL, that is, an INFL

containing either an auxiliary or the main verb, is 'strong'

enough to assign nominative Case. She refines (59) as (60):

(60)   "NP is nominative if governed and adjacent to [INFL   V]"

(Koopman 1984:140)

This would have the following effect on such pairs as (55i) and

(55ii): in (i), which has an auxiliary in initial position,

Koopman would assume that no V-fronting has occurred because the

requirement in (60) is satisfied; a verbal element occurs in INFL,

and is adjacent to and governs the subject NP. The subject NP

therefore automatically receives nominative Case. In (55ii)
however, the main verb palith has to be fronted into the empty
INFL node in order to assign nominative Case. Koopman's analysis
is essentially the same as the proposals of Jones and Thomas
(1977) and Harlow (1981), but has the motivation of the
theory-internal requirements of Case theory.

To summarize, both Jones and Thomas (1977) and Harlow (1981)
espouse the position in (43), that Welsh is underlyingly SVO, or
rather Aux/INFL SVO. The status of the VP is not crucial in
either analysis: no claims are made about the correctness of the
claim in (44). Recall that Harlow assumes that the VP is in fact
pruned before the surface level. In the work of Sadler (1984) and
Koopman (1984) the position in (43) is also the starting point,
largely on the basis of theoretical considerations in GB.
However, the existence of constructions which are superficially
INFL SVO, such as in (55i) and (58), lends support to their
analyses.

3.2.5 Sproat (1985): Problems for the GB analysis

The analysis developed by Sproat (1985) is essentially very
similar to Sadler (1984) and Koopman (1984). Sproat, however,
makes both the claims in (43) and (44), and argues that they apply
universally to VSO languages. In fact he maintains that no other
position would be consistent with the GB framework.

SVO and VSO languages derive from a common D-structure in
Sproat's analysis:

(61)
```
                    S(=I")
                   /    \
                  /      \
                 /        \
               NP          I'
                          /  \
                         /    \
                        /      \
                     INFL      V"
```
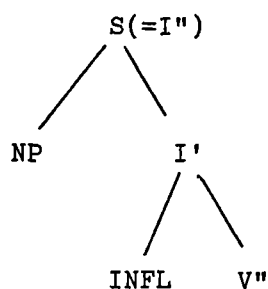
(Sproat 1985:200)

This configuration is not to be interpreted as expressing linear

order of constituents, only dominance relations. In Sproat's

analysis, as in Koopman (1984), much emphasis is placed on the

'parameter' of directionality. For example, the categorial

component of grammar can be greatly reduced not only by X-bar

syntax, but also by assuming that languages set parameters for the

directionality of Case- and theta-role assignment. Koopman argues

that Case assignment is fixed for directionality in any one

language, but the directionality of theta-role assignment may vary

cross-categorially.

For Sproat, the difference between SVO and VSO languages

hinges on his claim that a single parameter for directionality is

set differently between the two language types: in SVO languages,

INFL can Case-assign either rightward or leftward, but in VSO

languages, INFL only Case-assigns rightwards, as do V and P.

Since it is a tensed INFL which assigns nominative Case, then

clearly INFL must move into a position left of subject NP before

this Case-assignment can proceed. Unlike Koopman, who assumes

that INFL is base-generated in initial position in VSO languages

and that it is V which fronts, Sproat proposes that INFL itself

moves in order to meet the requirements of Case-assignment. The

motivation for the further rule of V-fronting is that INFL must be

morphologically supported, in fact the reverse of the operation of

affix-hopping in the Standard Theory. If V-fronting does not

occur, then an auxiliary verb must be inserted in Sproat's

analysis, as in Harlow (1981), giving pairs of examples such as

those in (55).

Sproat assumes that universally, the least marked linear word

order is subject preceding object. Presumably, then, the infant

learning the language will assume this order unless positive

evidence to the contrary is found.

Suppose that INFL-movement fails, in Sproat's analysis: in

this case, there is no motivation for V-fronting either, and the

prediction is that in such structures the unmarked SVO order would

be retained. This is what Sproat claims is happening in embedded

infinitival clauses, which have SVO order:

(62) i) [cyn   i Siôn weld y   car newydd] ...

            before to   see the car new

        'Before Siôn sees the new car...'

    ii) [wedi i Mair ddod] ...

            after to   come

        'After Mary comes...'

(Sproat 1985:206)

If INFL were to be fronted in these examples, it could not assign

Case to the subject NP, as there is no AGR in the INFL of

non-finite verbs (cf.(59)). Sproat assumes, then, that INFL (and

hence V) fail to front, which leaves the subject NP potentially

Caseless. To avoid violating the Case Filter (section 3.1.6)

Welsh utilizes a Case-assigning prepositional complementizer i

'to'. I certainly behaves like the true preposition in that it

also triggers SM, and so regarding it as a prepositional

complementizer does not seem unreasonable. [5]   It assigns Case

to the subject NP just as 'for' does in English: cf. It is time
[S' for you to go].

Sproat extends this analysis to the infinitival complements
of verbs like dymuno 'want':

(63)   Dymunai   Wyn i Ifor ddarllen y   llyfr.

        wanted-3s   to   read   the book

        'Wyn wanted Ifor to read the book.'

(Sproat 1985:206)

It is not clear to me what Sproat assumes the structure of (63) to

be, though I presume the following:

(64)   Dymunai Wyn [S' i[S Ifor ddarllen y llyfr]]

Again, in the absence of a Case-assigning INFL, i 'rescues' the

embedded subject NP Ifor from being Caseless.

Whilst this analysis works plausibly for the preceding

examples, and seems to predict the SVO order of the embedded S, as

Sproat claims, unfortunately it cannot be extended to subjectless

infinitival complements. This is demonstrated convincingly by

Borsley (1986): as Borsley shows, if the standard GB assumptions

are followed, any account of subjectless infinitives is extremely

problematic for GB theory. Although Borsley does not mention any

specific proposals in the existing literature, in fact the

analyses of Sproat (1985), Sadler (1984) and Koopman (1984) would

all suffer from the same drawbacks in this respect.

The prepositional complementizers i (as in (64)) and o occur

not only with full non-finite clauses, but also in subjectless

infinitivals:

(65) i) Mae Aled yn awyddus [S' i [S PRO fynd adre']]

        is   prt eager   to   go home

        'Aled is eager to go home.'

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ii) Mae Aled yn falch [S' o [S PRO fynd gyda chi]]

       is   prt proud   to   go with you

       'Aled is proud to go with you.'

iii) Mae Aled yn para   [S' i [S t weithio yn y   dre']]

       is   prt continue   to   work   in the town

       'Aled is still working in town.'

iv) Mae Aled yn siwr [S' o [t gytuno]]

       is   prt sure   to   agree

       'Aled is sure to agree.'

In (65), examples (i) and (ii) contain control predicates with PRO as embedded subject, and (iii) and (iv), raising predicates with NP-trace as embedded subject. [6]

Borsley shows that whatever assumptions are made, the examples in (64) and (65) are problematic for a GB analysis. Basically, the problem lies in the fact that since the so-called prepositional complementizers precede both lexical NPs, e.g. Ifor in (64), and EC NPs, e.g. PRO and NP-trace in (65), no unified account of the various constructions is possible.

Firstly, assume that the structures are as shown in (64) and (65). If i assigns Case to Ifor in (64), as Sproat (1985) claims, then clearly i must be a governor for the embedded subject. This entails, though, the fact that i would also govern PRO in (65i) and o would govern PRO in (65ii). However, under standard GB assumptions PRO cannot be governed (cf. Chomsky 1981:191). But if i,o cannot govern the embedded subject, then Ifor in (64) would be Caseless, which would violate the Case Filter.

Under either assumption, there is no tenable analysis of such examples as (65iii) and (iv), as Borsley (1986) demonstrates. Empty NPs must be properly governed under the Empty Category

Principle (cf. 3.1.4), which will be satisfied if the traces in

these examples are governed by i,o. However, Case is normally

assigned under government, so if the traces are so governed, they

ought to receive Case, which obviates the motivation for raising

(NP-movement) occurring in the first place. This is because

raising always takes place when the subject NP would not otherwise

have Case assigned to it -- the NP moves in order to get Case. If

the embedded subject position is after all a Case-marked position,

then raising should not need to occur, yet if it does not the

structure is ungrammatical:

(66)   *Mae'n siwr [S' o [S Aled gytuno]]

        is-prt sure   to   agree

        (cf.(65iv))

Another possible solution suggested by Borsley (1986:73f) is

that i and o are not prepositions but merely complementizers.

Under this assumption, it would be plausible to claim that they

were not governors, thus correctly leaving PRO ungoverned in (65i)

and (ii). In fact, though, this assumption does not work either,

since it cannot account for lexical NP subjects as in (64) or

NP-trace subjects as in (65iii) and (iv): Ifor could not be

assigned Case, and the traces would violate the ECP by not being

properly governed. Clearly, the most desirable solution, a

unified account of the distribution of i and o, is impossible.

Borsley goes on to suggest an alternative analysis to (65) in

which there are no prepositional complementizers, but instead i

and o are in post-subject position:

(67) i) Mae Aled yn awyddus [S' [S PRO i fynd adre']]

        is   prt eager   to go   home

        'Aled is eager to go home.'

ii) Mae Aled yn falch [S' [S PRO o fynd gyda chi]]

      is   prt proud   to go   with you

      'Aled is proud to go with you.'

iii) Mae Aled yn para   [S t i weithio yn y   dre']

      is   prt continue   to work   in the town

      'Aled is still working in town.'

iv) Mae Aled yn siwr [S t o gytuno]

      is   prt sure   to agree

      'Aled is sure to agree.'

Under this analysis, PRO in (i) and (ii) is correctly ungoverned

if we assume that i and o, like to in English, do not govern the

subject position. The NP-trace in (iii) and (iv) would be

lexically governed by the verb para and the adjective siwr, given

the assumption of S'-deletion, so meeting the requirements of the

ECP. As in English, this analysis requires the assumption that

the intransitive verb and the adjective in such examples are not

Case-assigners; otherwise, once again, the motivation for raising

would be removed because the embedded subject position would

already be a Case-marked position. However, as we saw in (66),

derivations where raising does not occur are not possible.

The main problem with the post-subject analysis of i and o is

that it prevents a unified account of control and raising

structures, on the one hand, and examples such as (64) on the

other. In (64), i is in pre-subject position, and a

Case-assigner; in (67), post-subject i and o do not assign Case.

Whatever assumptions in a GB framework are made, any unified

treatment of the prepositional complementizers seems unlikely,

since what we are looking for is an item which has conflicting,

and structure-dependent properties. In such an account, i must

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firstly be a governor and Case-assigner in (64), so that Ifor is

Case-marked. Secondly, i and o must neither govern nor

Case-assign to PRO in (65i) and (ii). Thirdly, i and o must

govern NP-t but must not assign Case to it in (65iii) and (iv).

The only conclusion is the undesirable one that each item must be

treated separately.

In short, far from it being the case that Welsh bears out the

predictions of GB theory with regard to these constructions, as

Sproat (1985:206) claims, it is actually a source of some

apparently intractable problems for GB.

3.2.6 Summary

Borsley's paper (1986) shows that there are serious

theory-internal problems for a GB analysis making the standard

assumptions; these problems apply to the analyses of Sproat

(1985), Sadler (1984) and Koopman (1984), who all assume the SVO

base-order analysis of Welsh. In chapters 4 and 5 we examine the

relationship between empty categories and mutation, and it will be

shown that GB theory also runs into problems in this area: in

section 4.2. we consider the problems of control and raising

structures in more detail, and in section 4.3, the repercussions

that a V- (and INFL-) fronting analysis has for the treatment of

mutation.

As Emonds points out:

(68) "The real arguments [between a base VSO and a SVO --> VSO

analysis, MOT] have to be made in terms of the internal syntactic

behaviour of the VSO languages."

(Emonds 1980:51)

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We have seen in this section that up to a point, Welsh seems to support the abstract SVO --> VSO solution. However, this analysis breaks down when the tenseless embedded sentences are considered. In chapter 4 we see that the SVO analysis is not supported either by further internal evidence, largely from mutation.

3.3   THE EXISTENCE OF A VP CONSTITUENT

The question of whether or not a verb-initial language can have a VP constituent is logically independent of the question of SVO or VSO word order. In this section we turn to the position in (44): does Welsh have a constituent that can plausibly be analyzed as a VP? This question is considered in two parts: firstly, is there a constituent containing a non-finite verb at all? This is the topic of section 3.3.1. Secondly, if so, what is the categorial status of this constituent? This is discussed in section 3.3.2. I will review the arguments that have been put forward concerning the categorial status of this constituent, and conclude that it is indeed a VP.

3.3.1 Constituent status

The phrase under discussion occurs in several types of construction, but all have in common an inflected verb in initial position, and a non-finite verb form elsewhere in the sentence. This non-finite verb is the 'verb-noun' of traditional Welsh grammar. Firstly, let us look at the aspectual periphrastic construction in (69): this always has an inflected form of <u>bod</u> 'to be' in sentence-initial position and an aspect marker before the

verb-noun:

(69) i) Roedd Aled [yn mynd i'r ysgol]

       was-3s   prt go   to-the school

       'Aled was going to school.'

  ii) Mae Ceri [wedi prynu'r llyfr]

      is-3s   prt buy-the book

      'Ceri has bought the book.'

Yn in (69i) is the progressive aspect marker and wedi in (69ii),

the perfective aspect marker. (The status of all the aspect

markers is considered in detail in section 3.4). What evidence is

there that the phrase in brackets in (69) is a constituent at all?

In (70i) and (ii) we see that this phrase can occur in topic

position, a standard test for constituency:

(70) i) [Mynd i'r ysgol] roedd Aled. [7]

        go to-the school was-3s

       'Aled was going to school.'

  ii) [Wedi prynu'r llyfr] mae Ceri.

       prt buy-the book is-3s

      'Ceri has bought the book.'

  iii) Roedd John a Mair [yn dawnsio] ac [yn canu]

      was-3s   and   prt dance   and prt sing

      'John and Mair were dancing and singing.'

(70iii), from Jones and Thomas (1977:281), shows another standard

test for constituency; the phrases in question can appear as the

conjuncts in a coordination. There seems little doubt, then, that

the bracketed phrase in these examples must be a constituent of

some kind, though not necessarily a VP.

The second example of this constituent has an inflected verb

other than bod in initial position, and no aspect marker:

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(71) i) Wnaeth Aled [fynd i'r   ysgol]

         did-3s   go   to-the school

         'Aled went to school.'

    ii) Ddaru Ceri [brynu'r llyfr]

         did-3s   buy-the book

         'Ceri bought the book.'

This type of construction, which is particularly common in North
Wales, is not emphatic in any way, and has just the same meaning
as the construction with the main verb inflected in initial
position.

    Auxiliary verbs in initial position can also co-occur with an
aspect marker in the same sentence, but only if that aspect marker
is preceded by bod, which then appears in its non-finite form. In
(72), then, we find the string fod wedi, where bod has undergone
SM after the NP hi:

(72)   Ddylai   hi [fod wedi mynd i'r   ysgol ddoe]

         should-3s she be prt go   to-the school yesterday

         'She should have gone to school yesterday.'

More than one aspect marker can occur in a sentence, as long as
each one is preceded by bod:

(73)   Ddylai   hi [fod wedi bod yn mynd

         should-3s she be prt be prt go

         i'r   ysgol ddoe]

         to-the school yesterday

         'She should have been going to school yesterday.'

    The bracketed phrase with no aspect marker in (71) can also
appear in topic position, so that (71ii) would be topicalized as
(74):

(74)   [Prynu'r llyfr] ddaru Ceri.

        buy-the book   did-3s

        'Ceri bought the book.'

Note that in (71ii) we had brynu, the SM form of the verb, because

it followed an NP, Ceri, which is of course an SM trigger. In

(74) however, the verb is in initial position and hence appears in

its radical form, prynu.

Having established that the bracketed phrase in these

examples is a constituent, it remains to consider what type of

constituent it might be.

3.3.2 Categorial status

Sproat (1985) considers in detail the question of what sort

of constituent we are dealing with. The first possibility which

he considers, and rejects, is that the phrase is a PP with the

aspect marker as its prepositional head. Such a proposal has been

explicitly made in an analysis of Welsh by Awbery (1976); it would

assign the following structure to (69ii):

(75)


```
                    S
                  / | \
                /   |   \
              /     |     \
            V      NP      PP
            |       |      / \
            |       |     /   \
            |       |    P     NP
            |       |    |    /  \
            |       |    |   /    \
           Mae     Ceri wedi  prynu'r llyfr
```
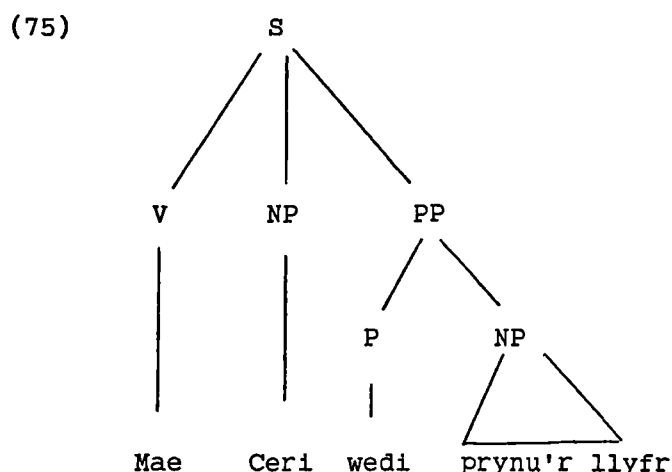
Since this suggestion stands or falls on the true status of the

aspect markers, I will leave the disussion of Awbery's proposal

till section 3.4, where the PP analysis is refuted.

A second possibility is that the constituent is an NP.
Certainly, there are similarities between this phrase and the
Welsh NP. The most salient characteristic, noted by both Sproat
(1985:183f) and Borsley (1983:60f) is the parallel agreement
process in both constituents. Nouns take possessive proclitics
and display post-head clitic doubling as in (76):

(76) fy mhen i ei phen hi eu pen nhw

    1s head me 3fs head her 3p head them

    'my head' 'her head'

    dy ben di ein pen ni

    2s head you 1p head us

    'your head' 'our head'

    ei ben o eich pen chi

    3ms head him 2p head you

    'his head' 'your head'

The same proclitics and enclitics appear with a head non-finite
verb and the proclitics trigger the same set of mutations:

(77) Roedd Aled yn fy mhoeni fi. [8]

    was-3s   prt 1s worry me

    'Aled was worrying me.'

    Roedd Aled yn dy boeni di

    Roedd Aled yn ei boeni o

    Roedd Aled yn ei phoeni hi

    Roedd Aled yn ein poeni ni

    Roedd Aled yn eich poeni chi

    Roedd Aled yn eu poeni nhw

The constituent with a head verb also has other noun-like
characteristics:

(78) i) Rwy'n   hoffi'r ci 'ma.

         am-1s-prt like-the dog here

         'I like this dog.'

    ii) Rwy'n   hoffi'r canu   'ma.

         am-1s-prt like-the singing here

         'I like this singing.'

In (78ii) the non-finite verb canu occurs in exactly the same

construction as a noun does in (i), and canu also has gender, just

like a noun: masculine, as can be seen from the lack of SM after

the determiner (y)'r. In fact the 'verb-noun' is sometimes used

in place of a noun, for example geni 'to be born' rather than

genedigaeth 'birth' in (79):

(79) i) wedi geni'r   Iesu

         after be born-the Jesus

         'after the birth of Jesus'

    ii) wedi genedigaeth yr Iesu

         after birth   the Jesus

         'after the birth of Jesus'

    The distribution of phrases with head noun and head verb is

also the same in (80):

(80) i) Dyma ddyn wrth y   drws.   (dyn)

         here man at the door

         'There's a man at the door.'

    ii) Dyma guro wrth y   drws.   (curo)

         here knock at the door

         'There was a knocking at the door.'

Both noun and verb undergo SM after dyma.

    Clearly, the non-finite verb and the noun have various

features in common. Nonetheless, both Sproat (1985) and Borsley

(1983) argue against treating the constituent containing the verb

as an NP. Borsley's position (1983:62) is hard to evaluate, but

seems to be based on circumstances in which the 'verb-noun' phrase

does not have the distribution of an NP. However, Sproat's

arguments are more specific: firstly, as he points out (1985:185)

the data in (76) and (77) are not completely parallel: the clitics

in (77) can only be interpreted as the object of the verb, so that

fy mhoeni (literally 'my worrying') cannot mean 'my worrying about

something' but only 'worrying me'. This is perfectly predictable

if the phrase is a VP, in which case it would be expected to

consist of a verb and its object. In (76), however, the clitic

can be either the logical subject or the logical object of the

noun. Sproat's examples show this clearly:

(81) i) ei   ddistrywiad o'r   dref

   'his destruction of the town'

 ii) ei   ddistrywiad gan Sion

   'its destruction by John'

(Sproat 1985:185)

 Sproat's second point concerns the contrast between the verb

and noun in unbounded dependencies. Extractions from an NP such

as llun y bachgen 'picture of the boy' require a possessive

proclitic as in (82):

(82) Dyma'r bachgen y gwelaist ti ei lun.

   here is-the boy COMP saw-2s you 3ms picture

   'Here's the boy whose picture you saw.'

(Sproat 1985:186)

This pattern is also perfectly grammatical in the case of

extraction from a VP such as gweld y bachgen 'see the boy': hence

(83i). However, the preferred colloquial construction drops the

proclitic whilst retaining the mutation, or even drops the
mutation, as (83ii) shows:

(83) i) Dyma'r   bachgen y   mae hi wedi ei weld.

          here is-the boy   COMP is she prt 3ms see

          'Here's the boy she has seen.'

     ii) Dyma'r bachgen y mae hi wedi (weld

                                    (gweld   (= i)

(Sproat 1985:187)

The pattern in (83ii) is not possible with extractions from NP:

(84)   * Dyma'r bachgen y gwelaist ti (lun

                                    (llun   (cf.(82))

(Sproat 1985:187)

Sproat suggests, plausibly I feel, that the historical change that
took place between the more literary (83i) and the colloquial
(83ii) may signal the reinterpretation of the phrase as a VP
rather than an NP.

It appears, then, that the 'verb-noun' should not be analyzed
as a noun, but as a verb, and in this case, the maximal projection
containing the non-finite verb must be a Vmax by the X-bar theory
of phrase structure rules. The non-finite verb may be the minimal
item in its phrase, for example in Wneith Ceri [VP nofio] ? 'Will
Ceri swim ?'

The conclusion that we must draw is that although an SVO
analysis (43) is not supported by the evidence (section 3.2),
Welsh nonetheless contains a VP constituent (44). In the next
sub-section we consider whether these two apparently conflicting
positions can be reconciled.

3.3.3 The origins of VP

A possible solution to the existence of a VP in a VSO

language is the notion of discontinuous constituents. This is

discussed in relation to Breton by Anderson and Chung (1977) and

for VSO languages generally by Chomsky (1981:128). Anderson and

Chung suggest that the verb and its object in a VSO structure

might form a discontinuous VP, or possibly, transformational rules

could apply to 'constituents' which are "unitary only in some sort

of semantic structure" (Anderson and Chung 1977:23). For example,

this would account for a topicalization rule which placed a verb

and its object in topic position.

In GB theory grammatical functions are structurally defined,

so that the subject NP is immediately dominated by S ([NP,S]) and

the object NP, by VP ([NP,VP]). This clearly depends on the

postulation of a VP constituent, but in VSO languages the

structure is a 'flat' [V NP NP], so that the grammatical functions

of subject and object cannot be clearly defined structurally. A

way round this problem, as Chomsky suggests, might be to indicate

verbal government of the object by superscript indices, so that

there is an 'abstract VP' indicated by coindexing (Chomsky

1981:128).

There is, however, no concrete evidence in Welsh that the

finite verb and the object form a constituent. For example, the

finite verb plus object does not form a constituent for the

purposes of topicalization, as (85i) shows, whereas the non-finite

verb _does_ form a constituent with the object, as (85ii) shows:

(85) i)   *<u>Darllenodd y   papur</u> mae Ceri.

      read-3s   the paper is

      ('Ceri <u>read the paper.</u>')

  ii) [Wedi darllen y   papur] mae Ceri.

      prt read   the paper is

      'Ceri <u>read the paper.</u>'

In other words, what we need to be able to show is that whilst
always having the inflected verb in initial position, Welsh also
has a VP constituent consisting of a non-finite verb and its
object. This is not the 'abstract VP' which Chomsky suggests, but
a concrete constituent which undergoes movement rules, as (85ii)
shows.

In chapter 1.6.2 we discussed a proposal made by Zwicky
(1984) which attempted to account for the occurrence of SM on a
direct object by the use of a 'phantom category' VP. Zwicky
suggests that SM is triggered by the inflected verb, which, at an
earlier stage of the derivation, must therefore form a constituent
with the direct object. Zwicky proposes that the Generalized
Phrase Structure Grammar mechanism of a metarule is used to handle
this analysis. However, in Zwicky's proposal the existence of a
VP is posited solely to handle the problem of mutation: how can a
mutation trigger be non-adjacent to its target? We saw in section
1.6.2 that this problem is actually an artefact of Zwicky's
analysis, and so the phantom VP consisting of a finite verb plus
its object is discredited. However, there does seem to be
evidence in favour of a VP constituent in Welsh which consists of
the non-finite verb plus direct object. The metarule mechanism
may be used to induce <u>this</u> constituent.

Such a solution is suggested for Breton by Gazdar and Sag

(1981), who propose the following metarule:

(86)   [VP V X] ===> [S V NP X]   [9]

A metarule does not have the same effect as an abstract

transformational analysis in which an underlying SVO order is

specified, and then changed to the surface VSO order. The

metarule does not specify an 'underlying' and 'surface' word

order; it merely states that for every rule in the grammar

permitting a VP to dominate V plus some other constituent(s),

there is also a rule permitting an S to dominate that verb plus an

NP plus the remaining material from the VP. In such an analysis,

we are simply claiming that where there exist structures like the

one on the left hand side of the rule, there also exist structures

like the one on the right hand side. We get the effects of a VP

constituent, which is clearly motivated for Welsh, without having

to claim a non-surfacing SVO word order.

3.4   ASPECT MARKERS

In section 3.3.2 we discussed the status of the constituent

containing the non-finite verb, and decided that it should be

analyzed as VP rather than NP. I also mentioned that a PP

analysis had been proposed by Awbery (1976), and in this section

we will examine the reasons for the initial attractiveness of this

proposal, but go on to show why it is misguided. The conclusion I

will draw in this chapter is that the particles which precede the

non-finite verb should be analyzed as aspect markers, and not

prepositions.

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Superficially, the pre-verbal particles are strikingly

similar to 'true' prepositions in many cases; both trigger the

same set of mutations, so that wedi 'after' is followed by the

radical initial, and i 'to', ar 'on', am 'for', and heb 'without'

are all triggers of SM:

(87)   wedi 'after'/PERFECTIVE ASPECT

   i)   wedi'r   Nadolig

         after-the Christmas

         'after Christmas'

  ii)   Rydw i wedi darllen y   llyfr.

         am   I PERF. read   the book

         'I have read the book.'

(88)   i 'to,for'/PURPOSIVE ASPECT

   i)   i Fangor   (Bangor)

         'to Bangor'

  ii)   Rydych chi i   gychwyn am saith.   (cychwyn)

         are-2p you PURP. start   at seven

         'You are to start at seven.'

(89)   am 'for, about'/INTENSIONATE ASPECT

   i)   am fis   (mis)

         'for a month'

  ii)   Rydw i am   brynu car.   (prynu)

         am   I INT. buy   car

         'I'm going to buy a car.'

(90)   heb 'without'/NEGATIVE PERFECTIVE ASPECT

   i)   heb fwyd   (bwyd)

         'without food'

ii) Rydw i heb   glywed y   newyddion. (clywed)

am   I NEG.PERF. hear   the news

'I haven't heard the news.'

Of this set of aspect markers, only wedi is in frequent use, and

some of the other forms are rather confined to LW. Although it

appears so far that there is identity between prepositions and

aspect markers, this is challenged by two other particles, yn and

newydd. Newydd is not a preposition at all, but an adjective

meaning 'new'. It is used as a RECENT PERFECTIVE aspect marker,

and also triggers SM:

(91)   Mi ddylai   Ceri fod newydd   fynd.   (mynd)

prt should-3s   be REC.PERF go

'Ceri should have just gone.'

The behaviour of the PROGRESSIVE aspect marker yn is the most

idiosyncratic of all the particles. Superficially it looks like

the preposition yn meaning 'in', and Comrie (1976:99f) notes that

the use of locative expressions for progressive aspect is

particularly prevalent amongst Celtic languages.

(92)   Mae Aled yn   mynd i Fangor.

is   PROG go   to Bangor

'Aled is going to Bangor.'

The range of yn is not confined to the progressive aspect,

however, as Comrie points out; it also marks non-progressive

habitual aspect, as the use of 'n shows in (93):

(93)   Mae o'n   mynd i waith bob   dydd am wyth o'r gloch.

is he-ASP go   to work every day   at eight o'clock

'He goes to work every day at eight o'clock.'

Yn can also be used with many stative verbs, as in (94):

(94)   Mae hi'n   hoffi fi.

        is she-ASP like me

        'She likes me.'

In spite of the homophony with the preposition, aspect marker

yn actually displays very different behaviour, as Comrie

(1976:100) points out. Firstly, the aspect marker is followed by

the radical initial consonant: mynd rather than *fynd in (92),

(93). Prepositional yn, on the other hand, triggers NM:

(95) i) yn Nhregaron   (Tregaron)

         'in Tregaron'

     ii) ym Mangor   (Bangor)

         'in Bangor'

    iii) yng Nghymru   (Cymru)

         'in Wales'

Furthermore, yn itself has two allomorphs in its prepositional

form, ym before bilabials, as in (95ii), and yng before velars, as

in (95iii). These forms do not occur with the aspect marker yn:

(96) i) *Mae Aled ym   mynd

         is   (yn) go

         'Aled is going.'

    ii) *Mae Aled yng   canu

         is   (yn) sing

         'Aled is singing.'

Obviously, phonetic assimilation occurs between the aspect marker

and the following verb, but this is not noted in the orthographic

forms, as (96) shows.

A further difference is that there is elision following a

vowel in the case of the aspect marker: yn becomes 'n, as (93) and

(94) show. This does not happen with prepositional yn:

(97) i) *Mae hi'n   Nhregaron.

         is   she-in Tregaron

         'She's in Tregaron.'

  ii) *Mae hi'm   Mangor.

         is   she-in Bangor

         'She's in Bangor.'

There is in fact a third morpheme yn, which does not appear

to have identity with either of the preceding morphemes, as its

mutation effects are different yet again: it triggers SM of all

mutable consonants except ll and rh. This is the yn used in the

predicate:

(98) i) Mae Bangor yn   ddinas.   (dinas)

         is   PRED city

         'Bangor is a city.'

  ii) Mae Aled yn   canu'n   dda.

         is   ASP sing-PRED good

         'Aled sings well.'

Like the aspect marker, but unlike the preposition, predicative yn

undergoes elision of the vowel after another vowel, as (98ii)

shows.

What, then, are we to make of these data? Specifically,

should the aspect marker be identified with either of the other yn

morphemes? One consideration which might influence a decision is

whether or not the aspect marker is the head of its constituent.

By X-bar theory, we would expect this to be the case if the aspect

markers were truly prepositions. This is essentially the position

taken by Awbery (1976); the aspect markers are prepositions

heading PPs. However, as Sproat (1985:182) points out, the aspect

marker yn deletes under topicalization, which should not be

possible if it is really the head of its phrase:

(99)   [(*Yn) canu'n   dda] mae Aled.

         PROG sing-PRED good is

         'Aled sings well.'

(cf.(98))

This is purely idiosyncratic behaviour, as none of the other

aspect markers delete when their phrase is topicalized, but it

seems to be good evidence that yn, at least, is not a

preposition. [10] The preposition yn certainly cannot delete when

the PP is topicalized, and neither can any other preposition:

(100) i) [PP Ym mag y   postman] y   mae'r llythyr.

          in bag the postman COMP is-the letter

          'The letter is in the postman's bag.'

   ii) *Mag y   postman y   mae'r llythyr.

          bag the postman COMP is-the letter   (cf.(100i))

In a way this is a surprising set of data -- the aspect marker yn

must delete even though there is no other overt mark of aspect, in

(99). However, the prepositional yn cannot delete in (100) even

though its presence is additionally signalled by the occurrence of

NM on the noun. The third morpheme yn does, however, delete when

the predicative phrase it is in undergoes topicalization:

(101) i) Mae Mair yn   edrych yn   ddel.

         is   PROG look   PRED pretty

         'Mair looks pretty.'

   ii) ?[Del] mae Mair yn   edrych.

         pretty is   PROG look

         'Mair looks pretty.'

(Jones and Thomas 1977:290)

The judgement here is that of Jones and Thomas, who clearly do not

find such examples too felicitious. Other speakers do, though, as can be seen from these examples from U.I.G.C. (1976):

(102) i) [Glas] oedd y   ffrog.

   blue   was   the dress

   'The dress was <u>blue</u>

ii) [Athro] fydd   e rhyw ddiwrnod.

   teacher will-be he some day

   'He'll be <u>a teacher</u> some day.'

In fact the aspect marker <u>yn</u> seems to have more in common synchronically with the predicative <u>yn</u> than with the preposition, as both delete in topic position and both undergo vowel elision, properties the preposition does not share. The predicative <u>yn</u> is not the head of its phrase either; it appears with a head adjective as in (102i) or head noun as in (102ii). I believe that the same can be said of the aspect marker <u>yn</u> too: it appears in a VP which as expected has a head verb, and <u>yn</u> is not a preposition.

   Sadler (1984) claims that none of the aspect markers form the head of their phrases, although she suggests that at least <u>ar</u> and <u>wedi</u> are in fact prepositions. <u>Newydd</u>, however, which does not have a homophonous prepositional form, is not treated as the head of an aspectual PP. It seems to me that the odd status of <u>newydd</u> and the idiosyncatic behaviour of <u>yn</u> militate against treating these two particles as prepositions, but I further believe that none of the remaining aspect markers should be treated as prepositions. The following data support this conclusion.

   When 'true' PPs are co-ordinated, the preferred pattern is as in (103i), which in fact only co-ordinates the two NPs; the co-ordination of like PPs works less well, as (103ii) shows:

(103) i) Mae Mair yn sôn am [NP y   llyfr] a [NP 'r papur].

is   PROG talk about the book   and   the paper

'Mair is talking about the book and the paper.'

ii) ?Mae Mair yn   sôn [PP am   y   llyfr]

is   PROG talk   about the book

ac [PP am   y   papur].

and   about the paper

'Mair is talking about the book and about the paper.'

However, the aspect markers allow both these patterns equally

freely, for example with wedi:

(104)   Mae Aled wedi canu a   (wedi) dawnsio.

is   PERF sing and PERF   dance

'Aled has sung and danced.'

(Sadler 1984:62)

In fact, when yn-phrases are co-ordinated the preferred pattern is

to retain the aspect marker in both conjuncts, just the converse

of the pattern with the prepositions in (103):

(105)   Roedd John a Mair yn   dawnsio ac yn   canu.

was   and   PROG dance   and PROG sing

'John and Mair were dancing and singing.'

(Jones and Thomas 1977:281)

The divergent behaviour of aspect markers and prepositions is

clearly demonstrated.

There is furthermore an argument from the distribution of the

aspect markers; synchronically they do form a homogeneous class,

and should therefore be treated as such, despite their apparently

diverse origins as prepositions or adjectives or whatever. The

diachronic behaviour of the various particles is irrelevant to

their function in modern Welsh. I therefore assume from now on

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that all the aspect markers should be treated as such, and that

none of them are synchronically prepositions.

A final question is whether or not the non-finite verb and

the aspect marker form a constituent. I believe that they do, as

we saw in section 3.3.1. This conclusion is supported by the

co-ordination data in (104) and (105), since only constituents

should be able to conjoin; and support also comes from the fact

that the entire VP can undergo topicalization:

(106)   [VP Wedi canu yn y   prifysgol] mae Aled

             PERF sing in the university is

          'Aled has sung in the university.'

(Recall that only the aspect marker yn idiosyncratically deletes

in this construction).

I will assume that the aspect marker plus non-finite verb

have the same structure in Welsh as McCloskey (1983) suggests for

the cognate construction in Irish:

(107)   V

          [-FIN]

          asp. ptc.   V
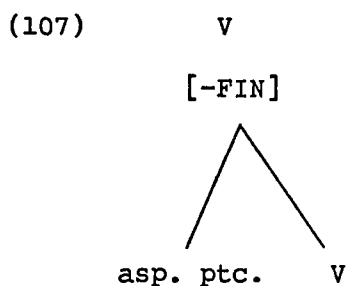
(after McCloskey 1983:39)

The only difference is that McCloskey assumes that the non-finite

verb is VN, a deverbal subcategory of N. However, I will continue

to analyze it as V in Welsh in what follows. The VP in Welsh

therefore has the following structure:

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(108)

```
                    V"
                   /  \
                 V'    \
                /  \    XP
               /    \
              V      XP
          [-FIN]
            / \
           /   \
         asp    V
```
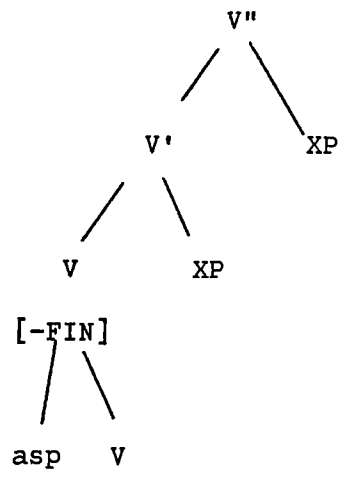
1. As Welsh is a VSO language, the *that-trace construction does not appear, since the subject follows the verb in unmarked word order.

2. It would be spurious to claim that this account of the opaque domains is any better motivated; the problem is, of course, just why NP and S should be the governing categories. This consideration leads Chomsky ultimately to reject the definition in (26).

3. In earlier work Chomsky had assumed that prepositions assign oblique Case, but in Chomsky (1981) it is suggested that English has lost the objective/oblique distinction.

4. In fact, in the base SVO analysis of Sproat (1985), the verb-fronting rule is structure-preserving, as it moves a V into an empty V slot in initial position.

5. Mair in (62ii) is a personal name and so is resistant to mutation.

6. I assume that Borsley's (1986) arguments motivating the distinction between control and raising predicates are correct. The control predicates in (66i) and (66ii) do not allow pleonastic elements such as hi 'it' in matrix subject position, as (i) and (ii) show:

(i)   *Mae hi 'n   awyddus i fod yn   braf.

        is she-PRED eager   to be PRED fine

        'It's eager to be fine.'

(ii)   *Mae hi 'n   falch o fod yn   braf.

        is she-PRED proud to be PRED fine

        'It's proud to be fine.'

The raising predicates in (66iii) and (66iv) on the other hand do

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allow dummy subjects, as (iii) and (iv) show:

(iii)   Mae hi 'n   para   i fod yn   braf.

         is   she-PRED continue to be   PRED fine

         'It's still fine.'

(iv)   Mae hi 'n   siwr o fod yn   braf.

         is   she-PRED sure to be   PRED fine

         'It's sure to be fine.'

7. Apparently idiosyncratically, the aspect marker yn deletes

under topicalization.

8. Fi is used in (77) rather than i in (76) as the verb is

vowel-final.

9. Cf. also Gazdar et al (1985:61). The metarule given in (87)

contains redundant features in the light of later work in GPSG.

For example, there is no need to specify that a VP dominates a V,

as this is the head of the phrase and is already required by X-bar

syntax.

A GPSG account of Welsh is worked in detail by Harlow (1983).

10. However, it should be noted that certain temporal

prepositions can delete in English, e.g.:

(i) I'll be leaving (on) Monday morning.

NOMINAL CATEGORIES AND SOFT MUTATION

In this chapter I will investigate further the generalization noted in chapter 1, that Noun Phrases trigger Soft Mutation. In particular, I will be concerned with the question in (1):

(1)   Which nominal categories trigger Soft Mutation ?

4.1   OVERT NOMINALS

4.1.1 The typology of nominal categories

One of the modifications to GB theory which is presented in Chomsky (1982) is the proposed reduction in the Binding theory to two principles only, Binding A and B (cf. chapter 3.1). Although Chomsky reaches no firm conclusion on this point, it is clear that these two conditions are particularly prominent in GB. The reason for this is that Binding principles A and B define the possible range of nominal categories; these fall into two categories, anaphors and pronominals.

Overt nominal categories can be classified as follows:

(2)   anaphors   pronominals

            +   -   overt anaphors

            -               +   pronouns

            +   +   ----

            -               -   R-expressions

This covers all the logical possibilities; however, no overt category which is both [+anaphor, +pronominal] is found, since it

would fall under both Binding conditions A and B. As this entails

that the category is ungoverned (cf. the discussion of PRO in

chapter 3.1.5) the theory predicts correctly that no such category

exists: if the NP was overt and ungoverned, it would not be able

to receive Case, and hence would violate the Case Filter.

The classification in (2) also generalizes to empty

categories, as in (3):

(3)   <u>anaphors</u>   <u>pronominals</u>

              +   -   NP-<u>t</u>

              -                    +   <u>pro</u>

              +   +   PRO

              -                    -   wh-<u>t</u>

Having established the typology for nominal categories, I will go

through each of the overt categories in turn in this section, and

examine their mutation effects as potential SM triggers.

4.1.2   <u>Referential NPs</u>

The type of NPs which come into this category are full

lexical NPs, for example in (4) <u>Ceri</u> and <u>y farchnad</u> 'the market'.

As can be seen in (4), these NPs trigger SM:

(4) i)   Darllenodd [NP Ceri] <u>b</u>apur.   (papur)

          read-3s   paper

          'Ceri read a paper.'

    ii)   Mae [yn [NP y farchnad]] <u>dd</u>igon o ddewis.   (digon)

           is   in   the market   enough of choice

           'There is in the market plenty of choice.'

The referential NP can also be a complex NP such as a headed

relative clause. SM is triggered by this type of NP too:

(5)   Gaiff   [NP   y   plentyn [S' ddaw

         will-get-3s   the child   (COMP)-comes-3s

         yn gynta]] gadw'r wobr.   (cadw)

         first   keep-the prize

         'The child who comes first will keep the prize.'

(U.I.G.C. 1978:243)

As we saw in chapter 1, traditional grammars and even theoretical

linguists invariably miss the generalization about such examples,

that an NP triggers SM of an adjacent mutable item. The examples

in (4) would be treated as disparate examples of SM: (4i) would be

treated as mutation of the direct object, and (4ii) as mutation

after a 'parenthesis'. The failure to make the generalization has

been made in much recent work, such as Awbery (1976), Bellin

(1984), Lieber (1983), Sproat (ms.), and P.W. Thomas (1984).

     Fife (1986:181f) makes the claim that there are exceptions to

the mutation trigger which is proposed here; these are cases in

which one NP follows another, and yet the second NP does not

undergo SM. Fife terms such examples the genitive construction:

(6) i)   cap bachgen/*fachgen

         cap boy   [+SM]

         'a boy's cap'

    ii) gwallt merch/*ferch

         hair   girl [+SM]

         'a girl's hair'

I do not believe that such examples do in fact counterexemplify

the proposed generalization that NPs trigger SM: what they do show

is that the statement is at present imprecise and should be made

more specific. To see this, we need to consider the internal

structure of the phrases in (6) in more detail, in the X-bar

syntax framework.

Chomsky (1981) proposes an analysis of English phrases such as 'the city's destruction' as NP[NP N']. In Welsh, the word-order is possessum-possessor, but otherwise, the same structure is plausible for the phrases in (6). This must, however, be translated into the X-bar syntax notation:

(7)

```
              N"
            /   \
           /     \
          /       \
        N'        N"
         |         |
        cap      bachgen
```
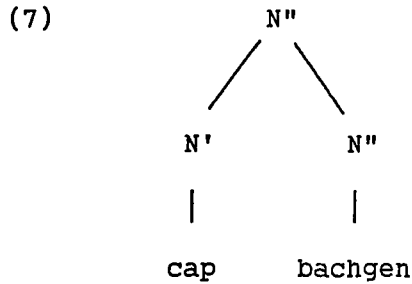
Here, the left branch, the N', is the head of the phrase, and the N" on the right branch is the modifier. We saw in chapter 2.4.2 that the marked word order Modifier + Head results in SM on the head; in (7) we have the unmarked word order Head + Modifier, and so there is no reason to expect the N" modifier to undergo SM. We can now make a much more precise statement of what sort of nominal categories trigger SM: the generalization that it is an NP which acts as a trigger is not correct, and should be revised as in (8):

(8)   The maximal projection of N, N", acts as a mutation trigger for SM. Lower X' categories do not trigger SM.

We might predict from this the existence of minimal pairs, which is exactly what we find in (9):

(9) i)   ci   cor

          dog dwarf

          'a dwarf's dog'

   ii)   corgi

          (lit.) dwarf dog

          'a cur'

In (9i) the word order is the unmarked Head + Modifier,

N" [N' N"], so that no SM is triggered; in (9ii), however, the N"

modifier precedes the head, and as predicted we find SM on the

head: gi in corgi.

With the position in (8) established we can now revise the

statements of two environments for SM which were discussed in

chapter 2.4.2. Firstly, under SM 12 we saw that N + adj (+ adj)

sequences must be analyzed as NPs, since such phrases act as

triggers for SM. We can now revise this categorically as N"

rather than NP, as in (10i). Secondly, under SM 14 we saw that

proper nouns trigger SM of a noun or adjective used in apposition:

we can now reanalyze the contrast between the phrases Llewelyn

Mawr (no SM) and Llewelyn Fawr (with SM) 'Llewelyn the Great' as

in (10ii) and (10iii). Where SM does not occur, the noun must be

analyzed as N', but where we do find SM the noun must have the

status of N":

(10) i) [N" [N" bord gron] fawr]   (cron, mawr)

                 table round big

        'a big round table'

    ii) [N" [N' Llewelyn] [Mawr]]

    iii) [N" [N" Llewelyn] [Fawr]]

        'Llewelyn the Great'

The statement in (8) also predicts correctly the pattern of

mutation shown in (11i), where only the first direct object in a

conjoined string undergoes SM. This is the expected mutation

pattern provided that we assume the structure to be as shown here

in (11ii):

(11) i) Gwelodd Wyn gi, cath, bachgen. (ci)

        saw-3s   dog cat   boy

        'Wyn saw a dog, a cat, a boy.'

(Watkins 1975:475f)

ii)

        Gwelodd   Wyn   gi   cath   bachgen
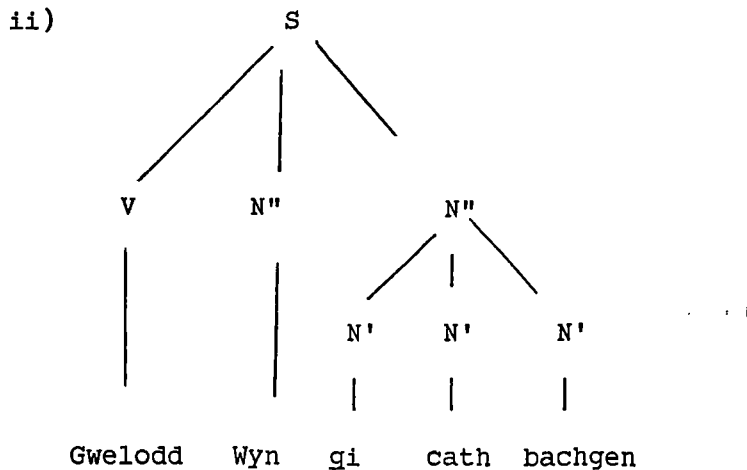
Only gi has undergone SM, as it the only category which is
immediately preceded by an N". However, the entire constituent is
clearly an N", since it will trigger SM on a following mutable
category:

(12)   Rhaid i [N" gi, cath a   bachgen] fynd.   (mynd)

        must to   dog cat and boy   go

        'A dog, a cat, and a boy, must go.'

It appears that some idiolects actually do have SM on each of the
three NPs in examples like (10) (cf. Zwicky 1984); in this case,
such speakers must evidently analyze each NP in the string as an
N" category. The alternative possibility, that for these speakers
N' is an SM trigger, cannot be correct as it would entail SM being
triggered on the modifier in examples like (9i), which is never
the case.

    Having over-ruled Fife's objection concerning NP as an SM
trigger, we must, however, note that in some examples an N"
category does fail to trigger SM; this is in the case of adverbs:

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(13)   Gwelais i [N" fi ffrind i] dydd Sadwrn diwetha.

        saw-1s I   1s friend me Saturday   last

        'I saw my friend last Saturday.'

Here, dydd has retained its radical initial consonant, but this is

entirely optional; some speakers will have SM on the adverb in

such examples. The status of adverbs as mutatees is variable: for

some speakers adverbs do undergo SM, for others not. We simply

have to conclude that adverbs are an unstable category in relation

to mutation, and that possibly a historical change is taking place

of the same kind which affected prepositions, so that they are no

longer productive as mutatees (cf. chapter 2).

4.1.3 Pleonastic NPs

    Pleonastic or non-referential NPs are non-arguments in GB

theory (cf. chapter 3.1.3) and it will be recalled that they have

no theta-role. Their purpose is to act as 'fillers' in the

syntactic structure without having inherent meaning or reference.

In Welsh these non-argument NPs nonetheless trigger SM:

(14) i) Mae [yna] lyfrau yn y cwpwrdd. (llyfrau)

        is   there books in the cupboard

        'There are books in the cupboard.'

    ii) Mae [yma] deisen i chi.   (teisen)

        is   here cake   for you

        'Here's a cake for you.'

As well as yna 'there', yma 'here', we also find acw 'yonder', but

this is often used with a referential function, meaning 'our

house' or 'at home':

(15)   Mae ycw   <u>dd</u>igon o lyfrau.   (digon)

         is yonder enough of books

         'There's plenty of books at our house.'

At any rate, is is clear that all lexical NPs (N"s) will trigger

SM, whether they are arguments or non-arguments.

4.1.4 <u>Overt pronouns</u>

       Literary Welsh had rather extensive pronominal morphology but

much of this has been lost from the dialects. The main

distinction established in traditional grammars is between

dependent and independent pronouns, and this bifurcation is also

maintained in Harlow's (1983) analysis. However, it seems that

the traditional classification is not very useful for CW, for it

is based on written forms of Welsh which may no longer be used in

speech. An example of this would be the LW form in (16i) which

has the pronoun written as <u>fi</u>, following the first person singular

verbal inflection <u>-af</u>; compare this to the CW (16ii), where the

inflection has been lost, and the pronoun is written and

pronounced as <u>i</u>:

(16) i) Gwelaf fi Aled.

         see-1s I

         'I can see Aled.'

    ii) 'Wela'   i Aled.

         will-see-1s I

         'I will see Aled.'

     The pronominal system used in CW chooses from the following

set of pronouns:

(17)   S   P

        1   i, fi, mi   ni

        2   ti, di   chi

        3(m) o,fo (NW)/ e,fe (SW)   nhw

         (f) hi

This is the basic set of pronouns but does not take into account
the large amount of dialectal and even idiolectal variation which
exists (cf. Watkins 1976 and Jones and Thomas 1977:195ff). Not
all the options in the 'singular' column can be used in all
positions. One possibility is that the different forms correspond
to a Case distinction; for example, in (18) we see that mi cannot
appear in subject position, and i cannot appear in object
position:

(18) i) Gwelais i/*mi ddynes.   (dynes)

         saw-1s I   woman

         'I saw a woman.'

    ii) Gwelodd Ceri fi/*i ddydd Sadwrn.   (dydd)

         saw-3s   me   Saturday

         'Ceri saw me on Saturday.'

In fact, though, Harlow (1983) shows that the crucial factor is
not a Case distinction. The factors which govern the appearance
of one or another form of pronoun are, however, more complex in CW
than they are in the standard LW discussed by Harlow.

    Firstly, as Harlow points out, there are syntactic factors.
The distinction traditionally made between different forms of
pronouns is between 'dependent' and 'independent' forms. Let us
look first at the first person singular forms: here i is the
dependent form and fi the independent form. The 'dependent'
pronoun i must appear in an environment where it is governed by

what Harlow (1983:80) calls an "agreeing category". In (18i),

then, the verbal inflection is an agreeing category; the number

and person of the subject is already signalled by the inflection.

The same applies to (19): in (19i) the object of an inflected

preposition takes the i form, not *mi, and the enclitic in (19ii)

is also i, because the person and number is signalled by the 1s

proclitic:

(19) i)   Mae arna i ddannodd.   (dannodd)

          is on-1s me toothache

          'I have toothache.'

    ii)   Mae hi wedi 'y ngweld i lawer gwaith. (llawer)

          is she PERF 1s see   me many times

          'She has seen me many times.'

On the other hand, i cannot occur where there is no agreeing

category, such as object position in (18ii), and in topicalized

position in (20):

(20)   Fi/*i sy'n   sefyll yr arholiad.

          me   is-PROG stand the exam

          'I'm sitting the exam.'

Likewise there is no inflection in (21), after na 'than' or a

'and', so we find fi, not *i:

(21) i)   Mae Aled yn   dalach na   fi/*i.

          is   PROG taller than me

          'Aled is taller than me.'

    ii)   Aeth   Aled a   fi/*i i weld y   ffilm.

          went-3s   and me   to see the film

          'Aled and I went to see the film.'

In (19i) we had an inflected preposition which took i; in (22) we

see that an uninflected preposition must be followed by fi or mi

but not *i:

(22) i) Rhaid i mi/fi/*i fynd.   (mynd)

must to me   go

'I must go.'

ii) Mae gyda fi/*i gar.   (car)

is with me   car

'I have a car.'

However, there are also phonetic conditioning factors

(cf. Watkins 1976:160 and Jones and Thomas 1977:198). In (19ii)

the enclitic was i, after a final consonant, but fi tends to occur

as the enclitic afer a final vowel:

(23)   Mae hi wedi 'mrifo fi.

is she PERF 1s-hurt me

'She has hurt me.'

(Jones and Thomas 1977:198)

Among the second person pronouns, selection of ti or di in subject

position seems to be governed by phonetic factors as (24) shows;

ti occurs after a -t inflection and di occurs elsewhere, where the

inflection ends in a voiced final segment such as a vowel:

(24) i) Ganaist ti neithiwr?

sung-2s you last night

'Did you sing last night?'

ii) Gani   di heno?

will-sing-2s you tonight

'Will you sing tonight?'

Selection of either o or fo (or e versus fe) as third person

subject pronouns is also phonetically conditioned; normally fo

occurs after a final vowel, as in (25i), and o after a consonantal

inflection, as in (25ii):

(25) i) Ddylai   fo <u>dd</u>im mynd.   (dim)

         NEG-should-3s he NEG go

         'He shouldn't go.'

    ii) Gwelodd o <u>f</u>achgen.   (bachgen)

         saw-3s he boy

         'He saw a boy.'

The important point to note, however, as far as the present

section is concerned, is that where possible a pronoun will

trigger SM. This is illustrated in (18), (19), (22) and (25),

where we see that whatever their syntactic role, pronouns are

always SM triggers. In (18), for example, subject and object

pronouns both trigger SM. In (19i) the prepositional object

pronoun <u>i</u> triggers SM of the noun <u>dannodd</u>; and in (19ii) the

enclitic pronoun <u>i</u> triggers SM of the determiner <u>llawer</u>.

4.1.5 Overt anaphors

So far we have seen that all overt NPs trigger SM, and so we

would also expect this to be the case with the overt anaphors,

which are reciprocals and reflexive NPs. In practice this is

rather hard to prove, as the usual word order precludes sentences

in which a mutable category follows an anaphor. For example, in

(26) the reflexive anaphor <u>eu hunan</u> 'themselves' must follow the

non-finite verb <u>gweld</u> as in (i), not precede it as in (ii):

(26) i) Disgwyliodd y   dynion weld eu hunan.

         expected-3s the men   see 3p self

         'The men expected to see themselves.'

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ii) *Disgwyliodd y   dynion eu hunan weld.

expected-3s the men   3p self   see

In (26i) weld has undergone SM after the lexical NP y dynion, and

we would expect the same to occur following the overt anaphoric NP

eu hunan in (26ii). There are a few grammatical examples of such

a construction where the anaphor precedes a mutable category,

however:

(27) i) Cawn   ni ein hynan wybod.   (gwybod)

got-1p we 1p self   know

'We got to know ourselves.'

(U.C.N.W. Welsh department grammar, p.54.)

ii) Dydy   eu diwydiant eu hunain ddim

NEG-is 3p industry 3p self   NEG

yn   llewyrus   iawn.

PRED prosperous very

'Their own industry isn't very prosperous.'

(U.I.G.C. 1978:209)

As expected, SM is triggered in such cases, on the verb in (27i)

and on the negative particle in (27ii).

4.2   CASELESS EMPTY CATEGORIES

In this section we will examine the analysis of control and

raising verbs in Welsh, particularly in the light of the paper by

Borsley (1984) which criticizes the standard GB type of account.

We saw in chapter 3.1 that the principles of GB require that

control verbs such as promise and raising verbs such as seem

should have full sentential complements. By the Extended

Projection Principle these complements must have subjects, so that

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PRO is posited as the embedded subject in a control structure, and NP-trace as the embedded subject in a raising structure. However, Borsley's (1984) paper, using evidence from Welsh, casts doubts on the validity of the GB position.

4.2.1 The VSO complement analysis

The first possibility which Borsley (1984) considers is that control and raising verbs have sentential complementizers with VSO word order, as this is the unmarked surface order in simple sentences in Welsh. The type of data under discussion is exemplified in (28), for control verbs, and (29) for raising verbs:

(28) i) Ceisiodd Emrys weld Megan.

        tried-3s   see

        'Emrys tried to see Megan.'

   ii) Ceisiodd Emrys [S' [S weld PRO Megan]]

(29) i) Dechreuodd Gwyn ddarllen llyfr.

        began-3s   read   book

        'Gwyn began to read a book.'

   ii) Dechreuodd Gwyn [S ddarllen t llyfr]

Making the usual GB assumption of S' deletion in the case of raising verbs, cf. Chomsky (1981:68), these two examples will have the structures shown in (28ii) and (29ii).

Borsley's first objection to the VSO sentential complement analysis concerns the government of the embedded subjects. As we saw in section 3.1.5 PRO is required to be ungoverned in GB theory; as a pronominal anaphor it would appear to be both bound and free in its governing category, so that Chomsky (1981:191)

resolves this dilemma by analyzing PRO as having no governing

category and therefore being ungoverned. However, Borsley claims

that this requirement is not met in the structure in (28ii)

because the subject position is governed by the non-finite verb

gweld (in its SM form). Let us assume the structure of the

embedded sentence to be as shown in (30):

(30)

```
              S'
            /   \
          /       \
        /           \
      COMP           S
       |           / | \
       |         /   |   \
       e        V   NP1  NP2
```
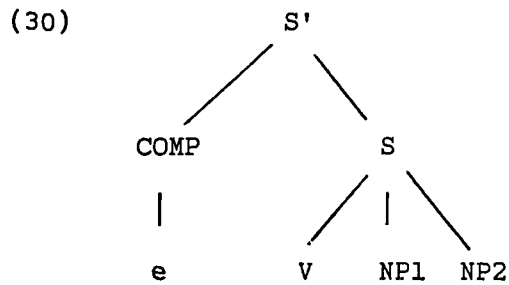
If Borsley is correct, and the verb governs the subject, NP1, then

under any definition of government it must also govern the object,

NP2. We would then have the undesirable situation that the same

verb governs both subject and object, so that there is no way of

distinguishing between the two NPs, for example for Case

assignment. As Sadler (1984:ch.2) points out, a VSO analysis of

Welsh will always be problematic for GB theory from the point of

view of Case assignment.

A further problem pointed out by Borsley is that if the NP-t

subject of (29) is governed by darllen, then the governing

category must be the embedded S. However, in Binding theory, an

NP-t is required to be bound in its governing category, yet the

trace in (29) is free in the sentential complement, so that

Binding Condition A is not met.

In fact, the ramifications of this analysis are more

extensive than envisaged by Borsley. Presumably, if the verb in

(30) governs NP1 this also entails, though, that it Case-assigns

to this position: Chomsky (1981:50) states that an NP is normally

assigned Case by a category that governs it. So could the empty

categories PRO and NP-t possibly be in Case-marked positions? The

standard GB position on the trace is that the embedded subject

position in a raising structure is not Case-marked. Therefore

NP-movement (raising) has to take place so that the Case Filter is

not violated. If, however, the subject NP in (29) originated in a

Case-marked position, then there would be no motivation at all for

NP-movement. We are forced to predict that the structure would

also be grammatical if raising did not occur; as (31) shows,

though, this is not true:

(31)   *Dechreuodd e [ddarllen Gwyn llyfr]

          began-3s   read   book

          (cf.(29))

As for PRO, if it is in a Case-marked position, then that position

should also be able to be filled by a lexical NP, which must be

Case-marked, yet this is not possible, as (32) shows:

(32)   *Ceisiodd Emrys [weld Aled Megan]

          tried-3s   see

          (*'Emrys tried Aled to see Megan.')   (cf.(28))

     All of the problems just discussed rest on Borsley's

assumption that, in a structure like (30), the non-finite verb

governs the subject. It is, however, a central tenet of GB as

presented by Chomsky (1981, 1982) that the subject is governed by

AGR in INFL as we saw in chapter 3.1.4. Yet the non-finite verbs

under discussion have no AGR, and so we would expect the embedded

subject to be ungoverned, as required, if it is PRO, or governed

by the matrix verb, as required, if it is trace. We might decide,

then, that the non-finite verb cannot govern the subject. Yet

this only leads to a further intractable problem, which is that we require the object NP to be governed by the verb, but since the two NPs are not configurationally distinct from each other (cf.(30)), then there is no way of having the verb govern only the object and not the subject.

The assumption that the tenseless embedded sentences have VSO structure is clearly problematic for GB theory. Aside from this, Borsley also discusses a problem with SM which is germane to the present chapter. As Borsley (1984:282) points out, there is no mutation of the object of the non-finite verb in the examples in (33):

(33) i) Ceisiodd Megan [ddarllen PRO papur/*bapur newydd]
          tried-3s   read   paper   new
          'Megan tried to read a newspaper.'

    ii) Dechreuodd Megan [ddarllen t papur/*bapur newydd]
          began-3s   read   paper   new
          'Megan began to read a newspaper.'

As all the overt NPs which we have examined so far in section 4.1 have triggered SM, we might expect that all the empty category NPs would do so as well. This is evidently not true of PRO and NP-trace. Obviously, the neatest possible environment for SM would be to generalize across all NP categories, overt and empty, and state that they all trigger SM. Since this is not so, perhaps the generalization is actually that only Case-marked NPs trigger SM, as suggested by Harlow (1981:fn.15). Since PRO and NP-trace are the only nominal elements which do not receive Case in GB, this solution would make a significant generalization.

Nonetheless, this hypothesis is rejected by Borsley on the grounds that the two empty categories are not Caseless in Welsh.

Borsley's argument depends on establishing a distinction between 'dependent' and 'independent' pronouns (cf. section 4.1.4). He argues that if agreement marking is associated with dependent 'Case', then the non-agreeing empty categories in embedded subject position must receive independent 'Case'. This argument is invalid for two reasons. Firstly, it is impossible to unify all the positions in which dependent pronouns appear and consider this as a special Case; in Case terms, these positions have nothing in common: subject position (cf. (18i)), object of inflecting prepositions (cf. (19i)) and enclitic position (cf. (19ii)). The positions in which the pronouns of the independent 'Case' appear are even more diverse, as we saw in section 4.1.4. It is perfectly plausible that the distinction between them is largely due to agreement marking, but not that Case is involved. Also, in CW the factors which govern the appearance of one pronoun or another are more complex, and depend on phonetic conditioning and also dialectal differences.

The second objection I have takes us back to the motivation for raising, which is so that a lexical NP can be moved into a Case-marked slot. If, as Borsley claims, the NP originates in a D-structure position which is in fact Case-marked (with 'independent Case') then NP-movement should be optional. Yet as we saw in (31) above, if raising does not occur the result is an ill-formed sentence. The conclusion we must draw, then, is that the embedded subject position in control and raising structures is not Case-marked at all.

Having established that PRO and NP-trace are indeed Caseless, we can maintain the position that only Case-marked NPs trigger SM. The only problem with this stance is that it has no explanatory

power, rather is merely stipulatory. We are left with the
unanswered question, why should only Case-marked NPs trigger SM?

4.2.2 The SVO complement analysis

The next possibility considered by Borsley (1984) is that
sentential complements have SVO word order. As Borsley points
out, an underlying NP VP analysis of Welsh has indeed been
suggested by several linguists, as we saw in chapter 3. Under
such an analysis, the data discussed in section 4.2.1 would be
analyzed as follows:

(34) i) Ceisiodd Emrys [S' [S PRO [VP weld Megan]]]

tried-3s   see

'Emrys tried to see Megan.'

ii) Dechreuodd Gwyn [S t [VP ddarllen llyfr]]

began-3s   read   book

'Gwyn began to read a book.'

Alternatively, matrix clauses might also have underlying SVO
order, in which case these examples would be analyzed as follows:

(35) i) Emrys [VP ceisiodd [S' [S PRO weld Megan]]]

ii) [NP e] [VP dechreuodd [S' [S Gwyn ddarllen llyfr]]]

Borsley assumes that if the structures were as in (35), then
verb-fronting will apply so that these examples will have the same
S-structures as in (34). In other words, he assumes that whether
matrix clauses have VSO underlying order or SVO underlying order
is a minor detail, and that either way the S-structures will be
the same.

In fact I believe that this is a particularly important point
which has serious repercussions. Borsley evidently assumes that

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VP-pruning applies in the matrix clause between the D-structures in (35) and the putative S-structures in (34). However, if all clauses have underlying SVO order, and verb-fronting is followed by VP-pruning, then the S-structure of a simple sentence would once again be the problematic flat structure of (30) discussed in section 4.2.1: [s V NP1 NP2]. In this structure, as Sadler (1984) points out, the verb governs not only the subject, NP1, but also the object, NP2, and there is therefore no way of ensuring that only NP2 receives objective Case. One way round this problem is to assume, as Sadler does, that VP-pruning does not occur, so that the S-structure is that of (36), leaving aside the question of INFL's position:

(36)

```
                 S
              /  |  \
             /   |   \
            V   NP1   VP
                     / \
                    /   \
                   V    NP2
                   |
                   t
```
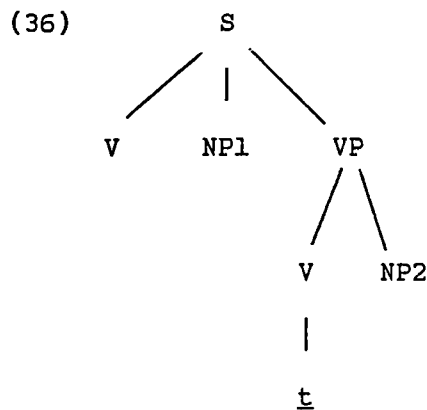
In this structure we can assume that Case-assignment is no longer a problem since the trace of the fronted verb will assign objective Case to NP2, which it now uniquely governs. If, then, we want to maintain a D-structure SVO analysis of matrix or simple sentences, the requirements of GB Case-assignment will force an analysis in which a fronted verb leaves a trace. This proposal will be discussed in detail in section 4.3.

It is clear, then, that a GB analysis for Welsh cannot be maintained at the same time as positing a VSO word order analysis; the requirements of Case-assignment are only compatible with an

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SVO analysis. However, an SVO analysis does avoid the problems

with the ECs PRO and NP-t for government and Case-assignment which

were noted in section 4.2.1. The embedded infinitival clauses

will now have the structure in (37):

(37)

```
              S'
            /    \
          /        \
        /            \
      COMP            S
       |            /   \
       |          /       \
       |        /           \
       e      NP1           VP
                           /  \
                         /      \
                       /          \
                      V           NP2
```

NP1 is now correctly ungoverned if it is PRO, and if it is trace

it will be correctly governed by the matrix verb, given the

assumption of S'-pruning. It will also be bound in the matrix S,

its governing category, as desired. NP2 is correctly governed and

assigned objective Case by the verb. The SVO analysis is

therefore promising as it obviates the theory-internal problems

for GB which the VSO analysis had.

To review the position, then, the analysis of control and

raising verbs would now be very similar to the analysis of

parallel data in English. Both simple sentences, and the matrix

and embedded clauses of control and raising structures, would have

SVO order. After verb-fronting, the structures would be not as

shown in (34), but as in (38):

(38) i) Ceisiodd Emrys [VP [V t] [S' [S PRO [VP weld Megan]]]]

         tried-3s   see

         'Emrys tried to see Megan.'

ii) Dechreuodd Gwyn [VP [V t] [S t [VP ddarllen llyfr]]]

     began-3s   read   book

     'Gwyn began to read a book.'

In both of these structures, verb-fronting has applied in the

matrix S, leaving a trace, and S'-deletion has applied in (38ii)

as is assumed for raising verbs in GB.

   We have now solved the theory-internal problems for a GB

analysis, but we still have to consider the mutation data.

Unfortunately, when this is taken into account, the SVO analysis

is challenged. If the structures in (38) are correct, then the SM

on the non-finite verbs weld (< gweld) and ddarllen (< darllen)

must be triggered by PRO and NP-t. Yet this cannot be the correct

result either, as these examples show:

(39) i) Mae Gwyn yn   gobeithio [PRO prynu/*brynu ci]

         is   PROG hope   buy   dog

         'Gwyn hopes to buy a dog.'

    ii) Mae Gwyn wedi digwydd [t colli/*golli ci]

         is   PERF happen   lose   dog

         'Gwyn happened to lose a dog.'

Here, control and raising verbs have occurred in periphrastic

constructions, and there is inexplicably no SM on the embedded

verb following PRO or trace in either example.

   The second problem concerns the prepositional complementizers

discussed in chapter 3.2.5. (cf. Borsley 1986). Assuming that

these items are indeed in COMP, then they appear in such

structures as (40):

(40) i) Mae'r ci yn   awyddus [S' i [S PRO fwyta/*bwyta]]

         is-the dog PROG eager   to   eat

         'The dog is eager to eat.'

ii) Mae Aled yn   falch [S' o [S PRO _fynd_/*mynd gyda chi]]

is   PROG proud   to   go   with you

'Aled is proud to go with you.'

iii) Mae Aled yn   para [S' i [S _t_ _weithio_/*gweithio]]

is   PROG continue to   work

'Aled is still working.'

In each case, the non-finite verbs in the embedded clauses have

clearly undergone SM, a fact which must be explained. The

preceding item is always either PRO or NP-trace, and yet we know

that these ECs cannot trigger SM, by the data in (39). However,

the prepositions i, o, do trigger SM, so we might propose that the

correct environment for the SM in (40) should actually be as in

(41):

(41) i) i $\left(\begin{Bmatrix} \text{PRO} \\ \underline{t} \end{Bmatrix}\right)$ _

ii) o (PRO) _

As an environment for mutation, however, this would violate the

well-motivated Trigger Constraint discussed in chapter 1.6, which

requires all mutation triggers to immediately precede their

mutatees. Optional material such as PRO or trace is not permitted

to intervene between trigger and mutatee.

We have also yet to account for the mutation in the control

and raising structures in (38). A possible response to this

problem is suggested by Borsley (1984). We could claim that all

the material between the matrix subject and the mutated verb is

part of the environment for SM. In Borsley's analysis this

consists of an empty COMP node (which would be deleted in raising

structures) and the empty embedded subject NP. However, we have

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shown that only an SVO analysis is consistent with a GB account of

Case-assignment, so that the extended environment for SM would

also have to include the trace of verb-fronting:

(42)   NP [V e] ([comp e]) [NP e] __

The problem that Borsley envisages with such a proposal is that it

prevents a unified treatment of various data. The SM in such

examples as (38) is traditionally considered to be an instance of

the same mutation process shown in (43):

(43)   Prynodd   Ceri lyfr.   (llyfr)

          bought-3s   book

          'Ceri bought a book.'

If we are forced to assume the environment in (42) to explain the

SM in control and raising structures, the example in (43) could

not be part of the same process, since it does not fit this

environment: there is no empty category NP in (43). However, the

environment shown in (42) could not be adopted for Welsh since it

also fails to meet the Trigger Constraint proposed in chapter 1.6:

only the immediately preceding item is a legitimate mutation

trigger in Welsh, not a string of phrasal and empty categories as

proposed in (42). Of course, there is the possibility that the

Trigger Constraint is incorrect, and that it should be

reformulated; this seems unlikely though since all other triggered

environments for mutation do meet the Constraint, as we saw in

chapter 2.

Borsley (1984) suggests a second response to the problem

posed by (42): perhaps all the material between the matrix subject

and the mutated verb is invisible to mutation rules. If this is

so then we would now be able to claim that the SM in (38) is

triggered by an immediately preceding NP, the matrix subject,

although whether such a proposal actually meets with the requirements of the Trigger Constraint is doubtful. Borsley's own objection to this position is that it is undesirable to state that some NPs are invisible to mutation rules, but not others. However, we could over-rule this objection by claiming, contra Borsley, that PRO and NP-t are Caseless, and that only Case-marked NPs participate in mutation.

What seems to me to be the more worrying problem is the theoretical undesirability of an analysis which claims that PRO, NP-trace, verbal trace and empty COMP must all exist, yet must all be invisible to mutation rules. If this is so, then surely the existence of all these invisible items is called into question. Borsley's (1984) analysis takes exactly this stance, and instead, argues for a bare VP complement analysis for control and raising verbs. Instead of the structures in (38), then, Borsley suggests the following analysis:
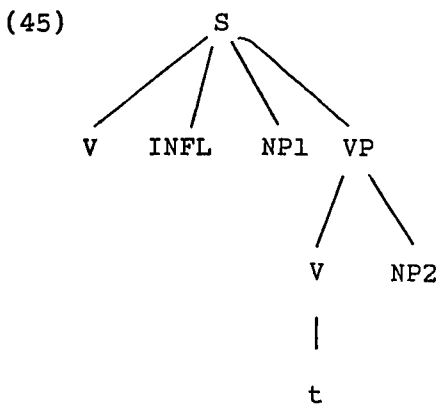
(44) i) Ceisiodd Emrys [VP weld Megan]

        tried-3s   see

        'Emrys tried to see Megan.'

   ii) Dechreuodd Gwyn [VP ddarllen llyfr]

        began-3s   read   book

        'Gwyn began to read a book.'

Such an analysis enables the simplest statement of mutation to be maintained: the SM on the non-finite verbs weld and ddarllen in (44) is triggered by the subject NP. This also enables a unified treatment of these examples, and the example in (43), since the SM in both is now clearly in the same environment. Furthermore, the structures in (44) allow the mutation to be treated in a way which is entirely consistent with the Trigger Constraint: the SM is
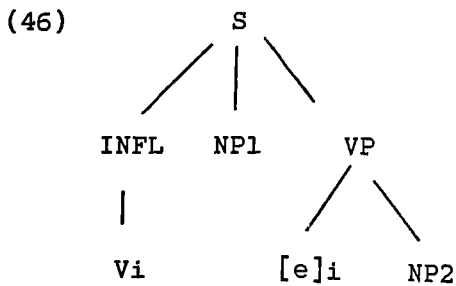
triggered by the immediately preceding NP.

4.3 TRACES OF NON-NOMINAL ELEMENTS

As we saw in chapter 3.2, analyses of Welsh in a GB framework
have typically assumed an underlying SVO word order with a rule of
verb-fronting to derive the surface order. The major proposals
have been by Sadler (1984), Koopman (1984) and Sproat (1985).
These authors propose the following structures:

(45)
```
                    S
            /    /  |  \  \
           /    /   |   \  \
          V   INFL  NP1  VP
                        /  \
                       /    \
                      V     NP2
                      |
                      t
```

(Sadler 1984:50)

(46)
```
                 S
            /    |    \
           /     |     \
         INFL   NP1    VP
          |           /  \
          |          /    \
         Vi       [e]i    NP2
```

(Koopman 1984:218)

(47)

```
                    S
        ／   ／  |   ＼
      ／   ／    |     ＼
    ／    ／     |       ＼
  Vj + INFLi   NP1   INFL'
                      ／  ＼
                    ／      ＼
                  VP        [t]i
                 ／ ＼
               ／     ＼
             [t]j    NP2
```
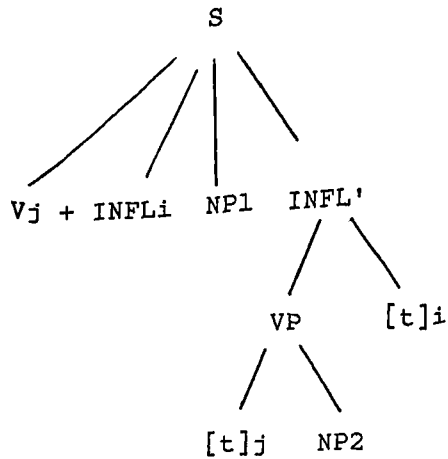
(Sproat 1985:202)

In addition to verb-fronting, Sproat, as we saw in chapter 3.2.5,
assumes a rule of INFL-fronting; this precedes the V-fronting rule
and is in fact the motivation for it.

In the work of all three authors, V-fronting (and
INFL-fronting in Sproat's paper) is clearly claimed to be a major
movement rule, and therefore like all instances of move-@ it must
leave a trace. It is the properties of the verbal trace with
regard to mutation which form the topic of this section.

As chapter 2 shows, the vast majority of mutation rules are
triggered by lexical categories, but in the present chapter we
have seen that the phrasal category NP is a trigger for SM. This
proposal is clearly dependent on the structural configuration: an
NP must be in the position immediately preceding the mutatee for
mutation to be assigned. In the structures (45) through (47) the
subject NP, NP1, immediately precedes the verb in D-structure or
the verbal trace at S-structure. The first question to consider
is at what stage in the derivation mutation rules are applied. If
mutation rules apply before movement rules, then the subject NP
should trigger SM on the verb before verb-fronting applies. Then
the fronted verb would always appear in its SM form, as, for

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example, in (48):

(48)   Welodd Aled gi.   (Gwelodd)

        saw-3s   dog

        'Aled saw a dog.'

This is indeed perfectly grammatical, but the SM is usually

considered to be due to the pre-verbal particles fe or mi, which

do not always surface in spoken Welsh. In LW particularly, the

verb is normally found in its radical form, as gwelodd. Yet if

mutation rules precede movement rules, then this non-mutated form

is not predicted to be possible.

    The alternative is that the transformational component

precedes the rules of triggered mutation, so that the latter

operate on S-structures. This proposal is more plausible, since

it would allow the inflected verb in (48) to appear in its radical

form also, as is the case in LW. Support for this position also

comes from topicalization:

(49)   Ci/*gi (a)   welodd Mair.

        dog   COMP saw-3s

        'Mair saw a dog.'

Here, the object NP is topicalized, but does not appear in its SM

form, unlike (48) where SM is obligatory: gi rather than ci. If

we follow Stump (1984) and assume that structures like (49) are

derived from a VSO structure, then the movement rule must have

applied before the mutation rule, as SM is triggered on the object

in (48) but not on the topicalized NP in (49). I will assume,

then, that the movement component precedes the mutation component.

    We now have to consider how the typical SVO analysis would

handle the mutation on the object gi in (48). In the structures

(45) through (47) we cannot claim that SM is triggered by an

immediately preceding NP, as we can in the VSO analysis. What, then, is the trigger for SM in this case? Various possible explanations can be considered. Firstly, we might follow Borsley's (1984) suggestion for PRO and NP-t (cf. section 4.2.2) and suggest that the verbal trace which intervenes between the subject NP and the mutatee, NP2, is part of the environment for SM. This would mean that gi in (48) has undergone SM in the environment:

(50)   NP [V e] __

Such a statement would indeed generalize to the majority of instances of SM which we have assumed in section 4.1 to be triggered by overt NPs. In effect, it merely adds non-phonetic material to the already proposed environment, NP__.

Unfortunately, not all of the cases discussed in section 4.1 fit the environment in (50), however. Recall the example in (51i), which we now must assume has roughly the structure in (51ii):

(51) i)   Cawn   ni ein hunain wybod.   (gwybod)

          got-1p we 1p self   know

          'We got to know ourselves.'

    ii)   Cawn ni [VP [V e] [NP ein hunain] wybod]

The mutated non-finite verb wybod is not in the environment in (50); it is immediately preceded by an (object) NP, not by the verbal trace and (subject) NP.

It might be that the verbal trace in (50) is optional, and occurs in the environment for SM in simple VSO sentences such as (48), but not in (51). If this were true, we could once again generalize the environments for the SM in both these examples. However, if we adopt this solution, we would be claiming that this one environment alone allows optional material to intervene

between the mutation trigger and mutatee. The Trigger Constraint

of chapter 1.6 would be violated by such a statement, which is

highly undesirable. Furthermore, there is no way that the

environment in (50) can account for the SM which occurs in the

control and raising structures discussed in section 4.2. Recall

that a structure such as (52i) has the environment for SM shown in

(52ii):

(52) i) Dechreuodd Gwyn [VP [V t] [S t [VP ddarllen llyfr]]]

        began-3s   read   book

        'Gwyn began to read a book.'

   ii) NP [V e] ([comp e]) [NP e] __

In (52) the S' has been deleted so the COMP node is missing, but

as we saw in 4.2, the rest of the environment is crucial for SM to

be correctly triggered. Since this does not match the environment

shown in (50), there is no way of unifying an account of the SM

which occurs in (48), (51) and (52i).

    A second possibility which we might consider to try to save

the SVO analysis of Welsh is that the verbal trace in (50) is

itself an SM trigger. This would account for the SM on the object

in (48) as follows:

(53)   Gwelodd Aled [V e] gi.   (ci)

        saw-3s   dog

        'Aled saw a dog.'

However, the verbal trace does not immediately precede the mutatee

in (51) nor in (52), so once again a unified treatment of the

three examples is impossible. Yet if we follow the suggestions

made at the end of section 4.2.2, we can make a generalized

statement of the environment for SM in each of these three cases:

a VSO analysis which does not set up infinitival complements for

control and raising verbs would allow the straightforward

statement that an NP triggers SM in every case. The NPs are _Aled_

in (48), _ein hunain_ in (51) and _Gwyn_ in (52).

The one remaining possibility is a suggestion which cannot be

directly disproved by data from Welsh, but is, I feel, the most

theoretically undesirable solution. Recall the discussion in

section 4.2.2 of a suggestion of Borsley's that the Caseless items

PRO and NP-trace do not trigger SM. Although Borsley rejected

that solution, I in fact argued that PRO and NP-t are Caseless in

Welsh, and so a generalization could be made that only Case-marked

empty categories trigger SM. This solution is obviously not

directly applicable to verbal traces, since verbs do not receive

Case-marking. However, Koopman (1984:139ff) suggests that

V-movement is forced by the Case Filter (cf. 3.1.6) just as

NP-movement is. In NP-movement, the subject NP originates in a

Caseless position and must move to be assigned Case. Koopman

suggests that the counterpart to this in terms of V-movement is

that the fronted verb must move to a position in which it can

assign case to an otherwise Caseless NP. In her analysis, the

subject NP is assigned nominative Case when it is governed by a

verbal INFL; a non-verbal INFL would not be 'strong' enough to

assign Case. [1] Thus the Case Filter is satisfied by movement

which permits a Case-assigner to assign Case.

This is an interesting suggestion, and one which is crucial

to Koopman's proposal that NP-movement and V-movement (as in (46))

reflect one and the same process. She refers to this type of

verb-movement as the "NP-type of V-movement", and claims the

following parallelisms between the two constructions:

(54)   NP-movement

　　　i.   movement forced by the Case filter

　　　ii. movement from an A-position to an A-position

　　　iii. movement from a theta-position to a

　　　　　 non-theta-position

　　　V-movement

　　　i.   movement forced by the Case Filter

　　　ii. movement from a V-position to a V-position

　　　iii. movement from a theta-assigning position position to

　　　　　 a non-theta-assigning position

(Koopman 1984:141)

(A V-position is the equivalent of an A-position for nouns).

It seems to me, though, that the supposed symmetry breaks down in (i): under NP-movement, the NP cannot be assigned Case in its D-structure position, so must move to avoid a violation of the Case Filter. In V-movement, however, the verb _is_ in a Case-assigning position in D-structure: it assigns objective Case to the object NP. When fronting occurs, the verb moves into another Case-assigning position.

This presents two theory-internal problems. Firstly, can the same verb assign objective Case in its D-structure position and nominative Case in its S-structure position? Koopman assumes that the object NP gets Case from the verbal trace which "acts like a lexical verb" (1984:142) in this respect. Even if this solution is accepted, there is a second, more serious, problem. If an NP in a passive or raising structure does not move, _it_ will violate the Case Filter by being Caseless. However, if verb-movement fails, the verb itself does not violate the Case Filter at all. Failure of V-fronting may indirectly result in a Case Filter

violation, but in fact it seems to me that the Case Filter does
not directly force verb-movement.

It may be that the only solution consistent with GB theory is
indeed to allow the verbal trace to be invisible to mutation
rules. Nonetheless, such a solution is not consistent with the
account of the operation of mutation which we have assumed since
chapter 1. In chapters 1 and 2 we saw that the mutation trigger,
where there is one, must always immediately precede its target.
Recall Lieber's (1983) version of the Trigger Constraint (52) in
chapter 1.6.1. Projected mutation must always be triggered by a
contiguous item, and triggers cannot be separated from their
targets, or else the autosegmental convention forbidding the
crossing of association lines would be violated. Mutation
triggers are predicted to be 'strictly local', in Lieber's terms,
and any structure such as the following is ill-formed:

(55)   * x   y   [+cont] p   q   r   t   u

           | | | | | | |

           c   v   c   v   c   c   v
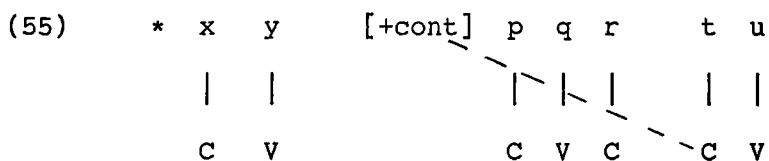
(Lieber 1983:169)

A verbal trace may, in GB terms, be claimed to be invisible
to mutation rules, so that the subject NP in the structures (45)
through (47) can 'get to' the mutatee across the trace. However,
the V-trace is present at S-structure, and therefore prevents an
account of the mutation in strictly local terms. The mutation
environment would be as follows:

(56)   [s   V   NP1   V-t NP2]

                          [+SM]
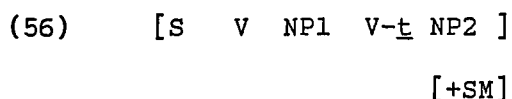
The mutation trigger is NP1 here, but the presence of the verbal
trace leads to the crossing of association lines, so violating the

convention shown in (55). This constraint is presumed to be universal, and there is no reason to suppose this is incorrect since all other cases of triggered mutation in Welsh do meet its requirements. Elsewhere in Welsh mutation triggers always immediately precede their targets, as we saw in chapter 1.6.

We therefore have a very powerful argument against the verb-fronting analyses shown in (45) through (47): they prevent a straightforward account of the mutation processes in Welsh. A base-generated VSO analysis, on the other hand, allows a simple account of mutation which is consistent with the autosegmental requirement that triggers must immediately precede their targets.

4.4 THE EMPTY CATEGORY Pro

4.4.1 Pro as null subject

Having examined the properties of the [+anaphor] ECs PRO and NP-trace in section 4.2, and the verbal trace in 4.3, we now go on to look at the [-anaphor] category pro. Literary Welsh is clearly a pro-drop language in the sense of Chomsky (1981, 1982); this parameter is discussed extensively in connection with LW by Sadler (1984). In LW, then, we find examples such as (57):

(57)   Gwelodd pro ddynes.   (dynes)

saw-3s   woman

'He/she saw a woman.'

The SM of ddynes is triggered by the EC pro. Chomsky (1981:256) relates the pro-drop parameter to a general principle which he assumes to be at work in all languages: Avoid Pronoun. It is this principle which accounts for the contrast in this pair of

examples:

(58) i) John[i] would prefer [PRO[i] going to the movie]

    ii) John[i] would prefer [his[j] going to the movie]

The unmarked case, by the Avoid Pronoun principle, is (i), where

<u>John</u> and PRO co-refer; in (ii), however, there is a strong

preference for disjoint reference between <u>John</u> and the pronoun.

PRO seems to occur by default unless some 'extra' information is

needed.

    In LW, the Avoid Pronoun principle is active very generally,

as Thomas (1982) reports:

(59) "In varieties of formal and literary Welsh, the

post-possessum personal pronoun [e.g. <u>i</u> in <u>fy het i</u> 'my hat', MOT]

is often deleted as a mark of 'good' style, as in <u>fy het</u>, leaving

the possessive adjective as the only marker of person and

possession."

(Thomas 1982:215)

Clearly, in LW, the principle operates not only in the null

subject construction in (57) but also in other environments such

as clitic doubling.

    Colloquial Welsh, on the other hand, retains pronouns very

generally, partially due to the reduction of inflectional contrast

in finite verbs, as Thomas points out. For his idiolect, for

example, the past tense paradigm of <u>gweld</u> 'to see' is as shown in

(60):

(60)   CW: weles i 'I saw'

              welodd ef/hi   'he/she saw'

                    ⎧ti   'you(2s) saw'
                    ⎪
              welso ⎨ni   'we saw'
                    ⎨
                    ⎪chwi   'you(2p) saw'
                    ⎪
                    ⎩hwy   'they saw'

(Thomas (ibid.))

The same paradigm in LW is shown in (61):

(61)   LW: 1s gwelais   1p gwelsom

              2s gwelaist   2p gwelsoch

              3s gwelodd   3p gwelsant   [2]

It appears that LW, which represents in many respects an earlier

form of the modern spoken language, could utilize the Avoid

Pronoun principle, since it had the 'rich enough' inflectional

system discussed in chapter 3.1.2. With the disintegration of the

inflectional contrasts, the pronoun has become indispensable.

Thomas actually makes a similar point, but interprets cause and

effect rather differently; he assumes that obligatory retention of

pronouns has led to the abandonment of the inflectional system:

(62) "Since the appropriate subject pronoun must accompany the

finite verb in all but a few grammatically conditioned contexts in

the vernacular, the inflection is redundant."

(Thomas 1982:215)

    We might predict that Welsh will cease to be a pro-drop

language altogether, as seems likely from present usage. Bouchard

(1983:146f) discusses the same phenomenon in the history of

French; in Old French the rich verbal inflection allowed pro-drop.

The orthography of modern French still shows the inflection but it

is phonologically opaque (cf. 'Je mange, tu manges, il mange, ils

mangent' from <u>manger</u> 'to eat', all phonetically identical).

Modern French, as a consequence, is not a pro-drop language.

Where <u>pro</u> does appear however, it clearly triggers SM. Wherever a finite verb can be followed by a [+pronominal, -anaphoric] overt category, in other words a pronoun, it can also potentially be followed by a [+pronominal, -anaphoric] empty category, <u>pro</u>, instead. In each case, the NP will trigger SM. Even in CW, <u>pro</u> rather than an overt pronoun is sometimes the unmarked case. For example, in the imperative construction, an overt pronoun is sometimes used for emphasis, although normally it would be absent just as in English:

(63) i) Gwranda   di ar hyn

         listen-IMP-2s you on this

         'You listen to this!'

(Jones and Thomas 1977:347)

    ii) Eistedd   di <u>f</u>an   yma.   (man)

         sit-IMP-2s you place here

         'You sit down here.'

(Rhys Jones 1977:152)

In (63ii) an overt pronoun <u>di</u> has triggered SM on <u>fan</u>; in (64), the more usual imperative construction, there is an empty category NP <u>pro</u> in place of this pronoun, and as predicted, it triggers SM:

(64)   Gwnewch   <u>pro</u> <u>d</u>eisen i   de.   (teisen)

         make-IMP-2p   cake   for tea

         'Make a cake for tea.'

This contrasts with the negative imperatives discussed briefly in chapter 1.1. Recall that in CW negative imperatives are formed by using what is arguably a fossilized particle <u>paid</u> (2s) or <u>peidiwch</u> (2p). This is never an SM trigger, as (65i)

shows. In the current analysis this is entirely predictable,

though, since most informants disallow an overt pronoun in

negative imperatives, as (65ii) shows:

(65) i) Peidiwch mynd allan.

          don't-2p go   out

          'Don't go out.'

      ii) *Peidiwch chi fynd allan.   (mynd)

          don't-2p you go   out

If an overt pronominal category is not allowed, then in the

present analysis we predict that an empty pronominal category will

not be allowed either. This appears to be the correct result;

since there is no SM on mynd in (65i), then clearly the EC subject

pronoun pro is absent from such examples. We thus have a neat

contrast between the positive imperatives such as (63) and (64)

where either pronoun or pro is allowed, and the negative

imperatives in (65) where neither pronoun nor pro is allowed, as

is shown by the lack of mutation in (65i).

    In chapter 1.1 we also looked briefly at the impersonal

passive construction as illustrated in (66). As this example

shows, SM is not found in this construction either:

(66)   Gwelir   llawer o bobl.   (*lawer)

          are-seen many   of people

          'Many people are seen.'

Once again this is entirely predicted by the current account:

since an overt NP is impossible after the inflected verb, then pro

will also be impossible, hence the lack of any SM trigger. An

agent phrase, if there is one, is found not after the verb, but

following the patient, as a gan 'by' phrase:

(67)   Gwelir   llawer o bobl   gan Aled.

         are-seen many   of people by

         'Many people are seen by Aled.'

This straightforward account of the lack of mutation on llawer is

contested by Fife (1986:182). Fife claims that there must after

all be an EC subject, pro, in the impersonal passive, for the

purposes of subcategorization and theta-role assignment. This is

a strange contention, since agentless passives in English do not

have an EC subject: as we saw in chapter 3.1.3, a theta-role is

assigned to the trace, and then transmitted to the moved NP in

this case:

(68) i) [NP e] are seen [many people]

     ii) [Many people] are seen t

Verbs with passive morphology are standardly assumed in GB to

subcategorize for objects as is required by the Projection

Principle (cf. 3.1.2), and they also assign a theta-role to the

object. In Welsh, no movement occurs in the impersonal passive

construction, but there is no reason to suppose that the verb in

(66) does not subcategorize for the object, llawer o bobl, and

also assign a theta-role to it. The claim that an EC subject is

present is entirely spurious.

What we have in the case of the imperatives and in the

impersonal passive construction is a neat generalization that

where an overt pronoun occurs, then the corresponding EC, pro, can

also occur, and that either of these nominal categories triggers

SM. [3]

Let us look next at examples where the subject position is

empty of phonetic material, and the sentence contains an overt

anaphor. As we saw in chapter 3.1.5 an anaphor must be bound in

its governing category: what, then, is the A-binder in these examples?

(69) i) Taflasant _pro_ eu hunain i'r   dwr.

         threw-3p   3p self   to-the water

         'They threw themselves into the water.'

(Williams 1980:61)

     ii) Gwelsoch _pro_ eich gilydd.

          saw-2p   each other

          'You saw each other.'

There is a possibility that the binder in such examples could be AGR, the agreement features of the verbal inflection. AGR is considered by Chomsky (1981) to be a nominal element; in fact it is identified with PRO. However, Chomsky (1981:212) rejects the possibility that AGR could be a binder: it is not available for this role because it is a lexical category (N) rather than an NP. In (69), then, the only available A-binder is _pro_.

Support for this view of AGR comes from the impersonal passives illustrated in (66) and (67); if AGR were to be analyzed as an NP, then we would expect to find SM on the patient in these examples, since the impersonal passives do have an AGR element. Since SM is not triggered by AGR in such cases, we can reinforce Chomsky's claim that AGR is neither an NP nor a possible binder.

Finally in this sub-section it should be noted that _pro_ does not always have specific definite reference. It can also be used pleonastically, as pointed out by Chomsky (1982:79), and as these examples show:

(70) i) Mae'n bwrw cyllell a ffyrc.

    [S Mae <u>pro</u> yn   bwrw cyllell a   ffyrc]

       is   PROG throw knives and forks

    'It's raining cats and dogs.'

  ii) Mae'n siwr o fwrw glaw.

    [S Mae <u>pro</u> yn   siwr o fwrw glaw]

       is   PRED sure to throw rain

    'It's sure to rain.'

4.4.2 <u>Pro in preposition phrases</u>

We turn now to discussion of a phenonemon common to all the Celtic languages, the inflected prepositions. A large set of prepositions in Welsh inflect to agree with their pronominal objects, in the following way:

(71) i) Curais   i wrth y   drws.

    knocked-1s I at   the door

    'I knocked at the door.'

  ii) Curais   i wrtho.

    knocked-1s I at-3ms

    'I knocked at it.'

(71i) displays the canonical form of the preposition, as the object is a full NP, but the form <u>wrtho</u> in (71ii) is inflected for person, number, and, since it is the third person singular form, gender. McCloskey and Hale (1983) argue for Irish, and Anderson (1982) argues for Breton, that the inflection is not simply a phonological cliticization of the pronominal object with the lexical preposition. The same is true of Welsh. There are certainly sub-regularities from paradigm to paradigm, as McCloskey

and Hale also point out: for example wrth/wrtho; at/ato; dan/dano.
(At 'to', dan 'under'). However, even though there are more
regularities in Welsh than in Irish or Breton, many prepositions
have a unique paradigm, particularly in CW. [4]

As we saw in section 4.1.4, Welsh allows an overt pronoun to
follow the inflected preposition also:

(72)   Curais   i wrtho fo.

          knocked-1s I at-3ms 3ms

          'I knocked at it.'

Interestingly, this doubled construction is disallowed by both
Irish and Breton. It occurs freely in Welsh, however, and in fact
is the preferred pattern in CW. We saw in section 4.1.4 (19) that
the pronoun triggers SM; it also turns out that SM is triggered
where there is an inflected preposition without an overt
pronominal object. In (73) we have an inflected form of i 'to':

(73)   Rhoddais i iddi   lyfr.   (llyfr)

          gave-1s   I to-3fs book

          'I gave her a book.'

How should such forms be analyzed, and what is responsible for
triggering the SM on lyfr? Following Borsley (1986) and McCloskey
and Hale (1983;1984) I will claim that examples like (73) contain
the EC NP pro, and it is this which triggers the SM. (73) thus
has this structure:

(74)   Rhoddais i iddi pro lyfr.

Attempts have been made to identify the class of prepositions
which inflect with the class of prepositions which trigger SM;
cf. for example Griffen (1975); Willis (1986); and Sproat (ms.).
There is certainly considerable overlap between these two classes,
and it would be a nice generalization if we could say that the

relationship was therefore a causal one. Were this the case, it would be plausible to claim that the inflected preposition itself triggers the SM in (74), and there would less justification for positing a non-surfacing empty category, pro. This is essentially Sproat's approach; he sees the inflected prepositions as prefixes, and wants to incorporate them into a system where SM is expected following a prefix.

Unfortunately, either if-then statement relating the two classes of prepositions turns out to be false:

(75)   If a preposition triggers SM, then it inflects.

(76)   If a preposition inflects, then it triggers SM.

(75) will be falsified just in case there are some prepositions which trigger SM, but do not inflect: in modern Welsh hyd 'along', though formerly an inflecting preposition, has lost its inflectional paradigm. It fails to appear in the list of inflecting prepositions in either Jones and Thomas (1977) or U.I.G.C. (1976). Hyd does, however, trigger SM.

(76) will be falsified just in case there are some prepositions which inflect but do not trigger SM: yn 'in' has an inflected paradigm but triggers not SM but NM, and rhag 'from' and rhwng 'between' both inflect but are followed by the radical initial. In the light of these exceptions it would clearly be unsatisfactory to claim that the inflected prepositions themselves are responsible for the SM.

Harlow (1981) analyzes examples such as (71ii) as having an unspecified empty NP after the inflected preposition; his 'null pronoun' is what we would identify as pro in the framework of Chomsky (1982). The empty NP is licensed in Harlow's system under the Empty Category Principle, which allows the null pronoun just

in case it is properly governed. In terms of the more recent

framework, prepositional inflections can be said to govern _pro_,

since they contain AGR. On the other hand, as Harlow points out,

the set of uninflected prepositions do not license _pro_, and the

sentence is ungrammatical unless there is an overt pronoun, or

lexical NP:

(77)   Siaradais i â   *(hi) neithiwr.

         talked-1s I with her   last night

         'I talked to her last night.'

Borsley (1986) also assumes that the empty NP in the pro-drop

cases such as (71ii) must be _pro_. Given the principles of GB, I

believe this is uncontroversial. Borsley further claims that the

prepositions occur in their inflected form when followed by a

pronoun, _pro_ or wh-trace, but not when followed by a full NP, as

(78) shows:

(78)   *Curais   i wrtho'r   drws.   (cf. (71i))

         knocked-1s I at-3ms-the door

         ('I knocked at the door.')

It turns out though that before a wh-trace we find not only the

inflected form of prepositions, which Borsley reports; but also,

in CW, the canonical form of the preposition is allowed as well:

(79) i) Beth wyt   ti'n   poeni am _t_?

         what are-2s you-PROG worry about

         'What are you worrying about?'

(Jones and Thomas 1977:310)

    ii) y   dre   mae Mair yn   cerdded i _t_

         the town is-3s   PROG walk   to

         'the town Mair is walking to'

(Jones and Thomas 1977:294)

iii) y   dyn yr   oeddwn i'n   dadlau am   y   gêm efo t̲

the man COMP was-1s I-PROG argue   about the game with

'the man I was arguing about the game with'

(Jones and Thomas 1977:181)

Both a̲m̲ and i̲ have inflected forms, but the canonical forms are

perfectly acceptable in colloquial speech. E̲f̲o̲ is not one of the

inflecting set of prepositions, but CW allows (79iii) without a

pronoun in the extraction site.

In an analysis like that of Harlow (1981) [5] there is no way

of accounting for these data from CW; they are simply predicted

not to occur. Harlow handles relative clauses and other unbounded

dependencies by a rule of Relative Deletion which leaves an empty

NP in the deletion site. The rule is licensed under the ECP.

Such an analysis predicts that (79i) and (ii) would only be

grammatical if the prepositions were inflected: a̲m̲d̲a̲n̲o̲,̲ ̲i̲d̲d̲i̲, so

that AGR governed the 'deleted' pronoun. Furthermore, (79iii)

should only be permissible with an overt pronoun: e̲f̲o̲ ̲f̲o̲, but not

an empty NP as in this example, since the non-inflecting

preposition e̲f̲o̲ has no AGR.

In fact, Literary Welsh, from which Harlow draws his data, is

a very conservative dialect. Harlow relies upon data which

reflect an earlier state of affairs to that of modern spoken

Welsh, and indeed in this previous period of the language

preposition stranding was disallowed. Harlow's analysis, in which

the presence of AGR in inflected prepositions licenses both

pro-drop and his rule of Relative Deletion, makes correct

predictions for Literary Welsh.

Modern colloquial Welsh, however, has undergone a change of

some kind since preposition stranding is now possible, as (79)

shows. Chomsky (1981) suggests that the wh-trace in such examples
is not properly governed by the preposition; this is a consequence
of restricting the class of proper governors to the [+N] or [+V]
lexical categories, which excludes prepositions since they are
[-N, -V]. If this is the correct solution, then some other way
must be found to account for grammatical cases of preposition
stranding. This would seem to be desirable, since stranding is a
rare and marked phenomenon universally. If some languages
apparently allow proper government by a preposition, thus
fulfilling the ECP (cf. chapter 3.1), then why should other
languages disallow the same situation, thus effectively
prohibiting preposition stranding? Rather than conclude that
prepositions are proper governors in some languages but not in
others, Chomsky (1981:292ff) looks for an alternative explanation.

One possible analysis is that of Hornstein and Weinberg
(1981). They propose a syntactic rule of Reanalysis, informally
(80):

(80) "In the domain of VP, a V and any set of contiguous elements
to its right can form a complex V."

(Hornstein and Weinberg 1981:60)

For example, a PP dominated by a VP as in (81i) could be
optionally reanalyzed as (81ii):

(81) i) Mae Mair [VP [V yn   cerdded] [PP i'r   dre]]

         is-3s   PROG walk   to-the town

         'Mair is walking to the town.'

    ii) Mae Mair [VP [V yn cerdded i'r dre]]

If Reanalysis occurs, the prepositional object becomes the object
of the complex verb, and is thus assigned objective Case. This
objective NP can freely undergo movement rules, hence examples

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like (79i). On the other hand, PPs which are immediate

constituents not of VP, but of S, cannot undergo Reanalysis, and

their objects are assigned oblique Case. Hornstein and Weinberg

rule out movement of an oblique NP by a filter which stars an

oblique trace left by such movement. This prevents examples like

(82), where the PP is claimed to be outside VP, so that

wh-movement leaves an oblique trace:

(82)   *What time did John arrive [PP at t]

If such an analysis is viable, then the parameter for

preposition stranding is the rule of Reanalysis (80). This is

claimed to be a highly marked rule of grammar, which is why

stranding is rare: most languages have no Reanalysis rule and

therefore disallow stranding.

Hornstein and Weinberg's analysis relies crucially on

Case-assignment following Reanalysis, and on the *[NP e oblique]

filter. It is not clear to me that such an analysis has any

greater explanatory power than one which relies on the ability or

inability of prepositions to be proper governors. The Hornstein

and Weinberg solution would, however, have empirical support if it

could be shown that in a variety of languages VP PPs but not S PPs

allow preposition stranding.

4.4.3 Pro-drop and agreement

Following on from section 4.4.2 I will treat the inflection

which appears on certain prepositions in Welsh as another

instantiation of AGR, parallel to person/number inflections on

verbs. Thus the data in (83) is seen as essentially similar to

that in (84):

(83) i) cysgais   i   ii) cysgais pro

         slept-1s I   slept-1s

         'I slept.'   'I slept.'

   iii) cysgodd hi   iv) cysgodd pro

         slept-3s she   slept-3s

         'She slept.'   'He/she slept.'

(84) i) ata   i   ii) ataf pro [6]

         to-1s me   to-1s

         'to me'   'to me'

   iii) ati   hi   iv) ati   pro

         to-3fs her   to-3fs

         'to her'   'to her'

The main difference between pro drop in inflected verbs, as in
(83ii) and (iv), and pro drop in inflected prepositions, as in
(84ii) and (iv), is that only prepositional AGR can recover the
feature of gender. So (83iv) can mean either 'he slept' or 'she
slept', whereas the prepositional AGR has gender marking in the
third person singular: ati (3fs) versus ato (3ms); (84iv) then
translates unambiguously as 'to her'.

An interesting question to consider is exactly what
conditions must exist in a language for pro drop to be possible.
According to the 'Taraldsen generalization' discussed by Chomsky
(1982), languages with an insufficiently rich agreement system,
such as English and French, do not allow pro drop. However, the
presence of a rich agreement system is not the only consideration,
since, as Huang (1984) points out, there exist languages such as
Korean, Japanese and Chinese which have no verbal concord, yet
allow pro drop very freely. In fact, the Taraldsen generalization
only seems to be true of languages which have verbal morphology:

English and French <u>do</u>, but it has become too 'impoverished' to

allow pro drop, although in earlier stages of both languages, null

subjects were allowed. Languages like Chinese, on the other hand,

do not rely on morphology to recover the features of <u>pro</u>; this

appears to be the true parametric variation. Leaving such

languages aside, though, let us examine which features of AGR will

potentiate pro drop in languages <u>with</u> rich agreement systems.

One suggestion cited by Huang (1984) is that the crucial

feature of a 'rich enough' AGR is person marking. Welsh is

particularly interesting as regards features of AGR, because,

whilst it has person marking, number agreement is restricted to

pronominal NPs. If the subject of a verb is a full lexical NP,

the verb always appears in its third person singular form, whether

the NP is singular or plural:

(85) i) Gwelodd y   dyn y   ci.

    saw-3s   the man the dog

    'The man saw the dog.'

  ii) Gwelodd /*gwelson y   dynion y   ci.

    saw-3s   saw-3p   the men   the dog

    'The men saw the dog.'

However, where the subject is a plural pronoun as in (86), verbal

number concord is obligatory:

(86) i) Gwelson nhw'r   ci.

    saw-3p   they-the dog

    'They saw the dog.'

  ii) *Gwelodd nhw'r   ci.

    saw-3s   they-the dog   (cf. (i))

As we saw in (83), pro drop is permitted in such cases (at least

in LW) but with the following proviso: if the verbal inflection is

singular, then the null subject must also be interpreted as singular:

(87)   Gwelodd <u>pro</u> y   ci.

        saw-3s   the dog

    .   'He/she saw the dog.'

        *('They saw the dog.')

With a overt subject NP, then, the 3s inflection co-occurs with both singular and plural nouns; but in (87), with <u>pro</u> as subject, the 3s verbal morphology <u>cannot</u> recover a plural null subject. When <u>pro</u> is the subject, it can only be regarded as plural if there is overt number marking on the verb, as this LW example shows:

(88)   Gwelasant <u>pro</u> y   ci.

        saw-3p   the dog

        'They saw the dog.'

Given the data in (85), we might have expected that person marking alone could also determine a plural null subject, but (87) shows this not to be so.

    A parallel set of data in Breton is discussed by Stump (1984). For example, (89) is analogous to (87) in Welsh:

(89)   Levriou a   lenn   <u>pro</u>.

        books   prt reads-3s

        'He/she reads books.'

        *('They read books')

The form <u>lenn</u> in Breton usually represents the third person singular inflected form of the verb. However, Stump proposes that in the case of pro drop examples such as (89), the verb appears not in an inflected form but in an 'analytic' form lacking any inflection for person and number. Not surprisingly, such a form

which lacks AGR could not determine a plural subject in (89).

Stump's analysis could also apply to Welsh, so that we might consider that _gwelodd_ in (87) also represents the analytic form. For such an analysis to be viable in either language, it would be necessary to adduce independent evidence for the existence of an inflectionless analytic form. In fact, though, the third person singular and the so-called analytic forms are morphologically identical in both languages, so that there seems to be no no independent justification for Stump's analysis.

The set of facts discussed above are, however, consistent with a simpler explanation. In Welsh, though not Breton, an inflected verb and a pronominal subject can co-occur; in other words, pro drop is not obligatory, as (86) shows. As we saw, in this case number marking is compulsory with an overt pronoun, a category which in terms of the syntactic feature system of Chomsky (1982:78) is [-anaphor, +pronominal]. If number marking is obligatory with an _overt_ category bearing such features, it is likely that Welsh will also require number marking with an _empty_ [-anaphor, +pronominal] category, namely, _pro_. Given Chomsky's feature system, we would expect _pro_ and overt pronouns to behave in a similar manner, since they share both features, and this prediction is borne out by the data in (86) through (88). R-expressions (lexical NPs) on the other hand are a [-anaphor, -pronominal] category, and so we would not expect their behaviour to closely parallel that of _pro_. Given the lack of subject-verb number agreement in (85), this prediction is again borne out. The facts in Breton are also consistent with such a proposal; the main difference between the two languages is simply that the effects of the pro-drop parameter are more far-reaching in Breton: pro drop

is an absolute requirement, so that overt pronominals cannot
co-occur with AGR.

4.4.4 Pronoun retention in Colloquial Welsh

In this section I will examine the factors which affect

pronoun retention or alternatively, pro-drop, in CW. Clearly,

there is no monolithic colloquial form of Welsh, and in fact,

since Welsh-speaking communities are often quite isolated, there

are important differences between dialects. Nonetheless, there

are major differences between the formal varieties of Welsh which

I have referred to as LW, and the situation in dialects in

general, which I refer to as CW. The major areas of

differentiation between the two varieties were reviewed in the

Introduction. In this section I look at the distribution of

pronouns and pronominal clitics in the two varieties. The

following questions are considered:

(90) What factors influence pronoun retention in CW?

(91) Is pro ever preferred to an overt pronoun in CW?

(92) Does pronoun retention have any role to play in LW?

Linguists working exclusively on LW have tended to treat

Welsh as a purely pro-drop language, but Celticists looking at

more informal varieties have noted that in fact there is much

variation in this area:

(93) "The very substantial gap between literary and colloquial

Welsh ... is well exemplified in the form, function and syntax of

the personal pronoun."

(Watkins 1976:146)

As we have seen throughout section 4.4, the EC pro occurs in

positions other than just subject position in LW: it occurs in

other contexts associated with agreement morphology. The null

subject construction is illustrated in (94) and other environments

for <u>pro</u> are shown in (95), (96) and (97):

(94)   Gwelais i/<u>pro</u> gi.

         saw-1s I   dog

         'I saw a dog.'

(95)   Soniais   amdano   fo /<u>pro</u>

         spoke-1s about-3ms him

         'I mentioned him.'

(96)   ei chi hi /<u>pro</u>

         3fs dog her

         'her dog'

(97)   ei weld o /<u>pro</u>

         3ms see him

         'seeing him'

As McCloskey and Hale point out:

(98) "the conditions which govern the appearance or non-appearance

of the ... pronoun in these situations seem largely to have to do

with register. The pronoun is rarely expressed in the standard

literary language, rarely omitted in more colloquial varieties."

(McCloskey and Hale 1984:519)

I also reported in section 4.4 the comment by Thomas (1982:215)

that an overt pronoun is frequently deleted as a mark of 'good'

style in the clitic doubling constructions in (96) and (97). LW,

then, is indeed a pro-drop language, preferring <u>pro</u> to an overt

pronoun in all possible syntactic contexts where person, number

and sometimes gender has independent morphological expression.

This agreement morphology appears as a verbal inflection in (94),

a prepositional inflection in (95), and as a proclitic in (96) and (97).

In CW, on the other hand, the situation is more complex. An overt pronoun rather than pro is probably the norm, but this is conditioned by various factors. Firstly, in all dialects there have been extensive changes in the verbal morphology; as we saw in section 4.4.1 LW has a clear paradigm of person and number agreement, whereas CW typically does not. In the absence of the 'rich enough inflectional system' of the Taraldsen generalization, an overt pronoun is essential in subject position.

Secondly, dialects differ in their adherence to the 'standard' set of mutation triggers (cf. chapter 2); as we have seen, SM is often generalized to environments previously the domain of NM and AM, and in other instances NM and AM simply disappear, to be replaced by the radical initial consonant. Since these ongoing changes often result in different age groups within the same community using different strategies, the clitic-doubled forms of constructions such as (96) and (97) are highly functional in expressing person/number/gender features. For example, in LW the proclitic ei (3fs) triggers AM, as in (96), ei (3ms) triggers SM, as in (97), and the homophonous eu (3p) is followed by the radical initial. However, in the West Glamorgan dialect described by Watkins (1976), ei (3fs) retains the radical initial for younger speakers. Here, clitic doubling has a clear function in distinguishing 'her dog' from 'their dog':

(99) i)   ei   ci   hi

          3fs dog her

          'her dog'

ii) eu ci nhw

   3p dog them

   'their dog'

However, whilst these two factors of morphological change and
changes in mutation patterns might result in ambiguity were it not
for pronoun retention in CW, disambiguation is not the deciding
factor for clitic doubling. In both LW and CW, the homophonous
forms _ei_ (3ms/3fs) and _eu_ (3p) may be followed by a non-mutable
initial consonant, in which case ambiguity could clearly arise.
Yet even in this situation disambiguation is not a sufficient
condition for pronoun retention in LW:

(100) i) ei   fflat

      3ms/3fs flat

      'his/her flat'

  ii) eu fflat

      3p flat

      'their flat'

Clitic doubling is actually most likely to occur in LW to carry
stress in emphatic constructions: the proclitic cannot receive
stress, so an enclitic must perform this function:

(101) i) *EI fflat hi

      3fs flat her

  ii) ei fflat HI

      3fs flat her

      '_her_ flat'

Conversely, in CW disambiguation is not a necessary factor for
pronoun retention. In the particular dialect discussed by Watkins
(1976), there is one environment where an overt pronoun rather
than _pro_ is always preferred: that is, following an inflected

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preposition. Yet the agreement morphology of these inflectional

forms is still completely intact, unlike the verbal morphology,

which has become opaque. It might therefore seem that an overt

pronoun would be redundant in this type of construction; however,

Watkins cites the following examples, where pro rather than a

pronoun results in ungrammaticality in this dialect:

(102) i) Geso   i e trwyddi   *(hi).

         got-1s I it through-3fs her

         'I got it through her.'

     ii) 'Ych   chi'n   'wilio amdanoch *(chi) eich hunan.

         are-2p you-PROG chat about-2p you   yourselves

         'You are talking about yourselves.'

(adapted from Watkins 1976:161)

So despite the fact that the overt pronoun appears to have no

vital function, pro-drop is not available in this environment in

at least one dialect. Nor does the West Glamorgan dialect

discussed by Watkins have pro as the subject of inflected verbs,

although Watkins does point out that the null subject would be

considered as non-dialect rather than ungrammatical (1976:164).

On the other hand, in the same dialect, pro rather than an

overt pronoun is sometimes obligatory. This is in the enclitic

position in possessive constructions. For example, in the idiom

for 'the three of us, we three', ein tri, an overt pronoun is

ungrammatical in post-head position (and with other numerals):

(103)   Awn   ni'n tri   (*ni)

         will-go-1p we-1p three us

         'The three of us will go.'

Other idioms behave similarly in this regard: ein gilydd, eich

gilydd etc.: '(we) together/each other', '(you) together/each

other':

(104)   Ethon   ni 'da'n   gilydd (*ni)

         went-1p we with-1p other   us

         'We went together.'

and also 'yn hunan, dy hunan etc., 'myself, yourself':

(105)   O'n   i'n   hunan (*i)

         was-1s I-1s self   me

         'I was alone.'

(103, 104, 105 adapted from Watkins 1976:162)

Actually, the form gilydd illustrated in (104) might in any case

not be expected to take an enclitic; it derives from the word

cilydd 'fellow', but in modern Welsh it is fossilized in its SM

form. Ein gilydd, eich gilydd, for example, are set phrases,

although neither ein (1p) nor eich (2p) are proclitics which

trigger SM. As set phrases, it is less surprising that they have

been fossilized without the enclitic.

    Pro also seems to be preferred to an overt pronoun in

post-head position when referring to close relatives:

(106) i) 'y   mam

         'my mother'

     ii) 'y   mrawd

         'my brother'

The enclitic is typically used for contrastive emphasis in this

construction:

(107)   'y mam   i

         1s mother me

         'my mother (not yours)'

    Redundancy does appear to be the main factor for the use of

pro rather than an overt pronoun in the following case:

(108)   'Dwi wedi colli yn llyfr pro/ i

         am-I PERF lose 1s book   me

         'I've lost my book/ MY book.'

(Jones and Thomas 1977:171)

Both Jones and Thomas and Watkins (1976:162) note that when the

possessive proclitic is co-referential to the subject of the

clause, then pro rather than the pronoun is the unmarked case.

The enclitic, if present, is used for contrastive emphasis. If

the subject is not co-referential to the proclitic, then an

enclitic is found without emphatic function:

(109)   Mae o wedi colli yn llyfr i.

         is he PERF lose 1s book me

         'He's lost my book.'

(Jones and Thomas 1977:171)

An overt pronoun is also found when the possessive construction is

in an embedded clause, as (110) shows, and in chapter 7 we will

see that this extends into unbounded dependencies in CW.

(110) i) 'Wedes i wrth John [bod 'i gap e   'da fi]

         said-1s I to   be 3ms cap him with me

         'I told John I had his cap.'

   ii) 'Wedws hi [bod John wedi colli 'i chap hi]

         said-3s she be   PERF lose 3fs cap her

         'She said that John had lost her cap.'

(adapted from Watkins 1976:162)

There is no emphasis in the appearance of the enclitic in (110),

even though in (ii) the subject of the main clause is

co-referential with the possessive proclitic. I suggest that this

is because the 3fs proclitic is too far away from the

co-referential NP hi 'she' for the latter to be perceptually

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salient; there is an intervening clause boundary between _hi_ and the proclitic. This is enough to ensure that an enclitic pronoun appears.

To summarize, we have seen in this section that the conditions which govern the appearance of _pro_ or an overt pronoun in CW are complex; the situation is by no means as straightforward as it is in LW, which is clearly a pro-drop language. It appears that the Avoid Pronoun principle of Chomsky (1981:256) is not universal, since it is not a strong feature of CW. We have seen that in some cases pronoun retention is unavoidable, owing to the breakdown of the verbal inflections, but in other cases CW retains overt pronouns even where they are syntactically redundant, such as in (102), the objects of inflected prepositions.

4.5   THE STATUS OF INFLECTIONAL MORPHOLOGY

I turn in this section to an examination of the inflection on prepositions and on inflected verbs, which we have up to now simply assumed to be AGR. An alternative account by Anderson (1982) is discussed, and rejected, in section 4.5.1, and we then move on to a discussion of a competing analysis by Stump (1984).

4.5.1   The Incorporation analysis

In the discussion so far, I have presented the standard GB account of the pro-drop parameter, where the possibility of a null subject is licensed by the agreement marking on the verb. This assumption is also made by McCloskey and Hale (1983;1984) in their discussion of another Celtic language, Irish.

McCloskey and Hale consider that inflectional morphology is
best represented by what they term the Agreement Analysis:

(111) <u>Agreement Analysis</u>

"... the inflected forms of lexical categories are inserted
fully-formed at lexical nodes at phrase structure."

(McCloskey and Hale 1984:524)

Under such an analysis, <u>pro</u> is taken to occupy an A-position
throughout the derivation, and it triggers agreement on inflected
verbs, which are inserted into the structure in accordance with
(111).

This assumption contrasts with the view of inflection taken
by Anderson (1982), in a discussion of Breton morphology; his
alternative approach is termed the Incorporation Analysis by
McCloskey and Hale. Before outlining the mechanics of Anderson's
proposal, I will examine the motivation for it.

Anderson's analysis is motivated by the obligatory status of
pro drop in Breton with both inflected verbs and inflected
prepositions. Irish behaves similarly, as McCloskey and Hale
show: both languages in fact conform to what has been termed the
Complementarity Principle by Stump (1984). This is stated as a
language-specific condition:

(112) "Within a clause, overt argument noun phrases never appear
with concording personal affixes."

(Stump 1984:292)

This principle is true of both inflected verbs and prepositions in
Breton and Irish, though not of course in Welsh. In Irish, for
example, the preposition <u>le</u> 'with' has this canonical form, and
the third person plural inflected form <u>leofa</u>. The inflected form
cannot appear with an overt object, whether lexical or pronominal,

giving the pattern in (113):

(113) i) leofa   (*iad)

          with-3p them   'with them'

     ii) *leofa Máire

          with-3p Mary

    iii) le   Máire

          with Mary   'with Mary'

(McCloskey and Hale 1984:507)

The parallel data from Welsh is shown in (114), where it is seen

that this time, (i) is grammatical, even with an overt pronominal

object, although (ii), with a lexical object, is also

ungrammatical:

(114) i) ganddyn (nhw)

          with-3p them   'with them'

     ii) *ganddyn Mair

          with-3p Mary

    iii) gan Mair

          with Mary   'with Mary'

     Anderson (1982) proposes the following account to handle the

facts of the Complementarity Principle: the agreement morphology

on verbs and prepositions in Breton is not AGR, but rather should

be identified with an independent pronominal NP. This will occupy

the D-structure A-position of subject of the verb or object of the

preposition. Anderson proposes that this pronominal NP is moved

by a local transformation into the agreement position on the verb

or preposition; that is, the pronominal is actually removed and

incorporated into the verb or preposition, which explains why an

overt pronoun cannot also appear in the A-position. The

obligatory status of pro drop in Breton and Irish is predicted by

the fact that the agreement morphology _is_ the pronoun.

Anderson's account is not directly transferable to Welsh, as of course obligatory pro drop does not occur in Welsh. We might, however, extend the Incorporation Analysis to Welsh by assuming that the incorporation rule leaves a trace, which could be spelled out as an optional resumptive pronoun.

It seems clear, though, that languages like Welsh, where an overt pronominal does co-occur with the inflection, do not offer any support for the Incorporation Analysis. At least one dialect of Irish has data like that in Welsh, which encourages McCloskey and Hale to reject the Incorporation account in favour of the competing Agreement Analysis. It is also reported by Huang (1984) that Pashto offers no support for the Incorporation account, since in that language full lexical subjects can co-occur with inflected verbs.

The Incorporation Analysis is criticized on general grounds by Jensen and Stong-Jensen (1984) and at length by Stump (1984) in his treatment of Breton. I will examine the details of Stump's analysis in section 4.5.2. Jensen and Stong-Jensen point out that Anderson's account requires stipulations (agreement morphology must be pronominal) and language-specific rules (the movement rule for incorporation). The Agreement Analysis, on the other hand, simply considers the agreement markers to be affixes, derived, or sometimes listed, in the lexicon. Stump notes that the Incorporation Analysis allows elements which are D-structure NPs to be realized as either NPs (when they are lexical) or personal inflections (when they are pronominal) at S-structure. Again this is highly language-specific, and there is no principled explanation for why this should happen in Breton but not, say,

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English. Anderson's account also presupposes that personal

inflections are derived from different sources in different

languages: in Breton, they come from D-structure pronouns, but

presumably they would be lexically derived in English. This has

the appearance of a stipulated solution, rather than illustrating

true parametric variation.

In view of these objections to the Incorporation Analysis on

theoretical grounds, and since anyway it does not receive any

support from the data in Welsh, I will assume that it is not the

correct account of agreement in Welsh. Instead, I believe that an

Agreement Analysis offers a more principled account of the facts.

4.5.2   A version of the Agreement Analysis: Stump (1984)

In this section I will discuss in detail the analysis of

Breton by Stump (1984). Since Breton is a language closely

related to Welsh, and with rather analogous data, it will be

interesting to consider whether or not Stump's proposals can also

be applied to Welsh.

Stump considers the unmarked surface word order in Breton to

be SVO in affirmative clauses, as in (115):

(115)   Ar   vugale   a   lenn   (*lennont) levriou.

          the children prt read-3s (read-3p) books

          'The children read books.'

(Stump 1984:292)

In modern Breton such constructions appear to place no emphasis on

the initial constituent. In Welsh, the parallel construction is

usually considered to be an example of topicalization, but as I

have already pointed out, the construction is very frequently

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found and not highly marked:

(116)   Y   plant   (a)   ddarllenodd (*ddarllensan') y   llyfrau

         the children prt read-3s   (read-3p)   the books

   'The children read the books.'

Note that in both Breton and Welsh, the verb takes the third

person singular inflection, and does not agree in number with the

plural NP 'the children'. Stump assumes that this is because

Breton obeys his Complementarity Principle, (112) above, so that

an overt NP cannot co-occur with a fully inflected verb form. The

important point here is that as stated by Stump, the

Complementarity Principle only holds within a clause, so that it

is crucial to Stump's analysis that (115) represents a single

clause with the initial NP inside S, not outside it in topic

position. However, the validity of the Principle appears to be

undermined by negative examples such as (117):

(117)   Ar   vugule   ne   lennont (*lenn)   ket levriou

         the children neg read-3p (read-3s) not books

         'The children don't read books.'

Here, the verb unexpectedly has to agree in number with the

initial NP, so if the Complementarity Principle is to be

maintained, then Stump must find some way of distinguishing

between the superficially similar data in (115) and (117).

    The analysis Stump suggests differentiates between the

affirmative and negative examples in the following way: firstly,

Stump points out that (117) is not an unmarked negative; unlike

(115), it is highly emphatic in interpretation. This fact paves

the way for a solution in which (115) and (117) are treated in

radically different ways. The affirmative in (115) is treated as

a simple sentence, the particle a forming a constituent with the

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verb at S-structure, as follows:

(118)

```
        V
       / \
      /   \
     a     V
           |
         lenn
```
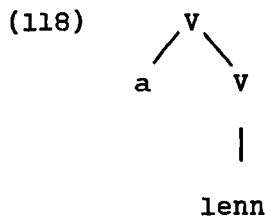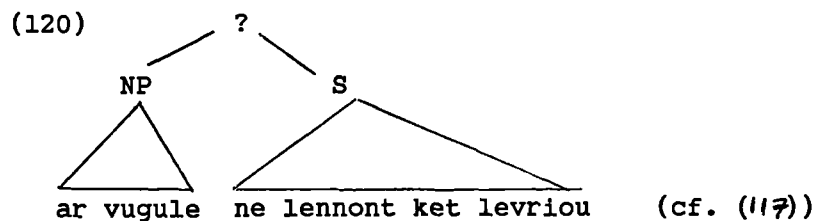
(from Stump 1984:295)

Stump is thus pursuing a verb-second analysis of Breton

S-structure, and one where the pre-verbal particle a has no

independent status. Under these assumptions only one constituent

appears before the verb in (115), namely the subject NP. Stump

proposes that Breton has a language-specific requirement that no

more than one constituent can appear in preverbal position, and he

handles this with a surface filter:

(119) *[s X Y ... V ...], where X and Y are constituents and S is

minimal.

(Stump 1984:296)

Clearly, this filter would be violated by any construction which

was a simple sentence with two constituents in pre-verbal

position. This observation is the key to Stump's treatment of

negative clauses; he crucially has to assume that the negatives in

fact have the initial NP outside S, as in (120):

(120)

```
            ?
          /   \
         /     \
       NP       S
      / \      / \
     /   \    /    \
    /_____\  /_____\
  ar vugule  ne lennont ket levriou     (cf. (117))
```

(Stump 1984:296)

The motivation for such a structure is Stump's claim that the

negative particle ne does not form a constituent with the verb; so

unlike in (118), ne is claimed to have independent status. If

this is so, then the verb-second account of Breton can only be maintained if the NP _ar vugale_ is not inside S; otherwise the filter in (119) would be violated by the appearance of two pre-verbal constituents in S, _ne_ and _ar vugale_.

The negative and affirmative clauses are now fully differentiated in that the negatives have a presentential subject NP (in topic position?) whilst the affirmatives consist merely of a simple clause with SVO order. Since the Complementarity Principle only holds within a clause, it is not applicable to negatives like (117), since here the NP is not inside the same clause as the verb. So if we share Stump's assumptions, then the appearance of number concord in (117) does not threaten the Complementarity Principle.

Unfortunately, as I will show, there are theoretical problems and internal inconsistencies within Stump's analysis which I believe make it untenable. The first major problem with Stump's analysis lies in the hypothesized distinction between the structures of affirmative and negative clauses. Recall that it is vital that affirmative clauses have only one constituent before the verb, so that the Complementarity Principle can be maintained; and on the other hand it is vital that negative clauses have two pre-verbal constituents, so that the subject NP is pushed outside S, and the Complementarity Principle need not hold. No independent evidence for this analysis is offered by Stump at all. The affirmative particle _a_ _must_ form a constituent with the verb in (115), but the negative particle _ne_ must not form a constituent with the verb in (117): however, since Stump does not offer any diagnostic data which would support the hypothesized constituent structure, the only possible conclusion is that his proposal is ad

hoc.

In fact, apart from the difference in emphasis between the two constructions, the distinction between affirmatives and negatives seems to be minimal. As Stump himself points out, in nonstandard Breton dialects the negatives can parallel the concord pattern of the affirmatives, so that rather than (117) we find (121):

(121)   Ar vugale   ne lenn   (*lennont) ket levriou̬.

         the children neg read-3s (read-3p) not books

         'The children don't read books.'

(Stump 1984:fn. 2)

Presumably here, Stump would have to say that the negative particle ne does form a constituent with the following verb, since the Complementarity Principle appears to hold in this case. But once again, there is no independent support for this.

Another problem with Stump's analysis is that it relies crucially on a surface filter, (119), which forces the subject NP in negative clauses to be in a presentential position. Superficially, it does not seem unnatural for a language to allow one and only one constituent in preverbal position. But when there is no independent assessment of the constituency facts, as in this case, then the filter becomes a mere convenience.

4.5.3   Stump (1984) and Welsh

It might be supposed that since Breton and Welsh are closely related, then Stump's analysis should be applicable to Welsh as well. In this section I will examine this possibility, and will conclude that in fact Welsh does not support Stump's proposals.

Let us first compare affirmative and negative clauses in
Welsh. As I have mentioned, the data that Stump handles in Breton
has a parallel in Welsh topicalized constructions. Relative
clauses in Welsh have the same structure; these will be examined
in detail in chapter 6 and 7. We have already seen that the
affirmatives have the same lack of verbal concord with a plural NP
as they do in Breton; the salient example was:

(122)   Y   plant   (a) ddarllenodd (*ddarllensan') y llyfrau

         the children prt read-3s   (read-3p)   the books

         'The children read the books.'

The negatives in LW also follow the standard Breton pattern of
plural agreement:

(123)   Y   plant   na ddarllenasant (*ddarllenodd) y llyfrau.

         the children neg read-3p   (read-3s)   the books

         'The children didn't read the books.'

However in CW we find, interestingly, that the distinction has
disappeared, exactly as Stump reports to be the case in
nonstandard Breton dialects (cf. (121)). So in these examples
there is no plural inflection on the verbs, even though the
subject NP is plural:

(124) i) Mae'r plant   (nad) aeth   ddim ar drip yr ysgol

         is-the children neg went-3s not on trip the school

         wedi cael mynd adre'n gynnar.

         PERF get go   home-in early

         'The children who didn't go on the school trip have been

              allowed to go home early.'

(U.I.G.C. 1976:78)

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ii) Fe gawson ni hen ddigon o'r   plant   (na) fwytodd

prt got-1p we old enough of-the children neg ate-3s

ddim o'u   fwyd.

not of-their food

'We had quite enough of the children who didn't

eat their food.'

(U.I.G.C. 1978:243)

In these examples we find the third person singular inflections on

the verbs after the negative particle in each case: <u>aeth</u> in (i)

and <u>fwytodd</u> in (ii). It is clear that in dialects of both Breton

and Welsh the distinctions between the negatives and the

affirmatives have been eroded, since number agreement is not found

in the colloquial language.

Recall that Stump treats the affirmative clauses by

base-generation of SVO structure, but considers the negatives to

involve an NP in presentential position. Can these proposals be

applied to Welsh? Unlike colloquial Breton, CW is unambiguously a

VSO language [7]; it therefore seems unlikely that the correct

analysis of the affirmative structures is to treat them as simple

SVO clauses. In the present work I assume roughly the analysis of

Harlow (1981) and Sadler (1984), where both negative and

affirmative clauses of this type are regarded as topicalizations

(or relative clauses, as in (124)). The fairly standard analysis

in GB since Chomsky (1977) has been base-generation of the

topicalized constituent in a presentential position, accompanied

by wh-movement to COMP, leaving a trace in the A-position within

S. An example such as (116) is therefore analyzed as in (125):

(125)   Y   plant   [S' (a) [S ddarllenodd t̲ lyfrau]]

      the children   COMP   read-3s   books

      'The children read books.'

Of course in Stump's analysis, such examples do not involve movement at all, but are base-generated as simple sentences. In the above analysis I have assumed that the particle a̲ of LW (which is usually absent in CW) is in fact a complementizer, and that there is a wh-trace in the subject position in S. There is good evidence in Welsh that this is the correct position. We have seen throughout the present chapter that NPs trigger SM: both overt NPs and also the empty category pro. In (125) we also find SM on the object NP, so that we have lyfrau (< llyfrau). Clearly, the only possible mutation trigger here is the fourth empty category NP, wh-trace. This category is examined in detail in chapter 5, but for now I merely note that if we followed Stump's base-generated SVO analysis of such examples, then the occurrence of SM in (125) would be inexplicable. There would be no wh-trace, and the mutation would have to be handled by some ad hoc mechanism.

Stump does seem to assume that movement has taken place in the derivation of the negative clauses; at least he proposes that the NP is in a presentential A'-position. A movement account can also be shown to be the correct conclusion for Welsh, since once again we find that there is a wh-trace which triggers SM in such examples. So in (126) the SM on lyfrau is triggered by the trace:

(126)   Y   plant   [S' na   [S ddarllenasant t̲ lyfrau]]

      the children   NEG-COMP   read-3p   books

      'The children didn't read books.'

SM triggered by the variable is also found in (124), on the negative particle ddim (<dim) in both examples.

In Breton, examples involving what Stump calls the presentential object of an inflecting preposition also have the same agreement pattern as negatives. (127) exemplifies this, for the preposition _da_ 'to' has to appear in its third person singular inflected form:

(127)   Per [ez eus marvet ur vuoc'h dezhañ t̲]

          prt is died   a cow   to-3ms

          'A cow died on Per.'

(Stump 1984:311)

Again Stump must assume here that the NP _Per_ is in a presentential A'-position, since otherwise the Complementarity Principle will be violated by the co-occurrence within the same clause of an overt NP and an inflectional affix. Welsh has parallel data, as (128) shows, although as we saw in section 4.4.2 preposition stranding is also possible in CW.

(128)   Y   dre [y   [mae Mair yn   cerdded iddi   t̲]]

          the town COMP is   PROG walk   to-3fs

          'Mair is walking to the town.'

In the present analysis, such examples will once again be treated as topicalizations, with a base-generated NP in presentential position, and wh-movement to COMP leaving a trace in the A-position.

To summarize the position so far, we have seen that Stump differentiates between negative clauses and prepositional objects on the one hand, and affirmative clauses on the other. In Welsh, I have shown that there are good grounds for considering all these construction types as instances of topicalization: firstly, because of the rather marked nature of the construction, and secondly because the evidence from mutation shows that there is a

trace in both negative and affirmative clauses. It is certainly

true, though, that in LW the appearance of number inflections

matches the pattern of standard Breton; that is, number agreement

is found in negatives and on inflected prepositions, but not in

affirmatives. In the final section I will examine exactly how

Stump handles the necessary distinction between the two

construction types. That is, what are the special properties of

negatives and prepositions? There is a second question which is

also so far unanswered. The Complementarity Principle (112)

permits but does not stipulate concord in these two constructions:

what, then, causes the obligatory appearance of inflections in

just these cases?

4.5.4 Conclusions

As noted above, Stump analyzes negatives and prepositional

object clauses as having a presentential constituent and a trace

in S. An example of the latter construction is shown in (127).

Negatives such as (117) above are given the structure shown in

(129): [8]

(129)   Ar   vugale   [S ne   lennont ket t levriou]

          the children   neg read-3p not   books

          'The children don't read books.'

(Stump 1984:311)

Recall that under the ECP discussed in chapter 3.1, traces have to

be properly governed. The general supposition in GB theory is

that in the case of pro-drop languages, AGR is 'rich enough' to

act as a proper governor. What Stump suggests for Breton is that

traces in this language are only properly governed if AGR joins

with some other element in the clause:

(130) "When AGR is a component of the complex INFL [NEG] or P, AGR

joins with some other component of this complex to effect

government of the argument position which it encodes."

(Stump 1984:320)

In Breton, then, there must be a language-specific condition that

traces will only be properly governed by an AGR which is combined

with either a negative or a preposition; this is the special

property of negatives and prepositions which sets these

constructions apart from affirmatives. Now we can see why the

appropriate inflection has to appear on the preposition in (127)

(dezhan not *da) and on the verb in (129) (lennont not *lenn): if

AGR is missing, the traces in these constructions would be

ungoverned and so would constitute an ECP violation. In this

analysis, AGR is considered to be a necessary though not

sufficient governor. We now have an answer to the second question

posed at the end of section 4.5.3: the Complementarity Principle

merely permits inflections on the preposition in (127) and verb in

(129), but the requirements of the ECP ensure that these

inflections actually appear.

The main problem with Stump's analysis is that many features

have to be stipulated in order to account for the correct

distribution of the inflections. Firstly, we have to assume the

existence of a language-specific filter in Breton (119) which

allows at most one constituent to appear before a verb in a

clause. The purpose of this filter, it will be recalled, is to

sanction the vital distinction Stump makes between

affirmative-particle plus verb sequences and negative-particle

plus verb sequences. The former are analyzed as a single V

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constituent, and of course the filter will not prevent one NP from

appearing before this V. The structure of affirmative clauses is

therefore as in (131):

(131)   [S [NP Ar vugale] [V a   lenn] levriou]

                 the children   prt read   books

         'The children read books.'

Here, the subject NP is inside S. In the case of the negative

clauses, however, the structure is as in (129); the negative

particle is claimed not to form a constituent with the verb, but

must be analyzed as a separate constituent. The subject NP is

therefore forced into a presentential position in order to avoid

violating filter (119). No independent evidence for the different

constituent structure of the two particle-plus-verb sequences is

offered by Stump.

The effects of the Complementarity Principle are bought in

Stump's analysis by further stipulations: firstly he proposes that

Breton has the language-specific requirement that AGR only governs

a null element, that is, trace or pro, but AGR does not govern

overt NPs. This accounts for the fact that in (131), where there

is an overt subject NP in the same clause as the verb, no number

concord can appear on the verb: if it did, then that AGR would

govern an overt element. However, this solution in itself

requires a second assumption: the verb form lenn in (131) must be

analyzed as an analytic form, containing no AGR. Let us examine

each of these assumptions in turn.

It is reasonable to assume that there exists parametric

variation in the area of AGR and its governee. Stump (1984:316)

points out, for example, that Italian allows AGR to co-occur with

any overt NP. In his account, Welsh allows pronominal NPs but not

full lexical NPs to be governed by AGR. The relevant data are

shown in (132):

(132) i) Darllensan' nhw'r   llyfr.

        read-3p   they-the book

        'They read the book.'

    ii) Darllenodd y   dynion y   llyfr.

        read(-3s) the men   the book

        'The men read the book.'

Note the contrast between the third person plural inflection on

the verb in (i), and the form in (ii), which does not agree in

number with the subject. In the parallel data in Breton and

Irish, no overt NPs, including pronouns, can co-occur with a verb

form displaying number agreement; cf. McCloskey and Hale (1984).

   Stump's second assumption is not so plausible. His account

relies crucially on the claim that verb forms which lack number

agreement also lack AGR: that is, the form lenn in (131) has to be

analyzed as containing no AGR, since it co-occurs with an overt NP

within a single clause. Appealing though this account is, it

suffers from the problem that the so-called analytic verb forms in

Breton are identical to the third person singular inflected forms

in every case. So lenn, for example, also occurs in (133), where

it must be analyzed as an inflected form, i.e. with AGR, in order

to govern pro:

(133)   Levriou [S [a   lenn]   pro]

         books   prt reads-3s

         'He/she reads books.'

(Stump 1984:310)

   Applying Stump's analysis to Welsh is equally problematic.

The form darllenodd in (132ii) would have to be seen as analytic

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[9]. However, once again this form is identical to the third

person singular inflected form which occurs in (134), a form which

as before must contain AGR in order to govern pro.

(134)   Darllenodd pro y   llyfr.

         read-3s   the book

         'He/she read the book.'

No paradigm in either Breton or Welsh distinguishes between

inflected and analytic verb forms. There is therefore no

independent justification for treating the verbs which lack number

agreement as analytic, especially given that exactly the same

forms have to be analyzed as containing AGR in pro-drop

constructions.

     Irish, on the other hand, does distinguish between analytic

and synthetic forms, as McCloskey and Hale (1984) show. Each

verbal paradigm has an analytic form which cannot occur with pro,

but which co-occurs with overt NP subjects; the synthetic forms

disallow overt NP subjects but allow pro. It appears fairly

clear, then, that in Irish the parameter is set so that the

governee of AGR is indeed null, as Stump suggests.

     However, it seems equally clear that Stump's account of

Breton (and by extension, Welsh) cannot be maintained, since these

languages do not have overt analytic verb forms. The conditions

which govern the appearance of number agreement in Breton and

Welsh can be described easily enough, but it would be nice to

discover that some principle(s) of Universal Grammar could predict

just those patterns which actually occur in the two languages. I

believe, though, that any attempt to account for these patterns by

postulating arbitrary distinctions of constituent structure and

verbal paradigms, and by postulating language-specific filters, is

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essentially misguided.

1. Note that Koopman's configuration for nominative Case assignment differs from the version in Chomsky (1981), where NP is nominative if governed by AGR. Koopman's version is motivated by instances in Italian which have nominative NPs not governed by AGR or Tense but by infinitives.

2. Apart from the lack of contrast, the other differences in the CW forms are caused by vowel reduction, and the CW verb also exhibits SM even though the triggering particle (_mi_ or _fe_) is not present.

3. Anderson (1982:583) suggests accounting for the lack of mutation in examples such as (66) in a different way: he considers that the criterion for mutation is objecthood, and that the impersonal passives fail to assign objective Case. He likens this to the account of passives in Chomsky (1981) where object Case assignment undergoes absorption. However, this account is stipulatory in that it makes a special case of the impersonal passives, whereas the lack of mutation is already predicted in the above account by the fact that these verbs cannot be followed by an overt NP or _pro_.

4. Other prepositions include a stem augment in their inflected forms, eg. _am_ 'for': _amdano_ 'for-3ms', where _-dan-_ is the augment. Yet others display a vowel change as well as, or instead of, the inflectional suffix, eg. _gan_ 'with': _gennyf_ 'with-1s'.

5. For a full discussion of Harlow (1981) see chapter 6.

6. Whereas (84i) is a CW form, (84ii) represents LW: hence the _-f_ suffix on the inflection. Final _-f_ is generally lost in CW, cf. _y dre'_ 'the town' for LW _y dref_.

7. On word order in Breton see Stephens (1982).

8. Actually Stump assumes movement of the fronted constituent

itself, in the case of both negatives and prepositional object

constructions e.g. (127), rather than the base-generation account

I assume here. However, I will not treat this distinction as an

important feature in the discussion which follows.

9. In fact this suggestion is first made for Welsh by Harlow

(1981); this analysis is discussed in detail in chapter 6.

In this chapter I examine in detail the fourth empty category

NP, the variable or wh-trace. We saw in chapter 4 that although

pro can be shown to be a trigger for SM in Welsh, the other two empty

categories, PRO and NP-trace, do not trigger SM. It will be

demonstrated in the present chapter that wh-trace does indeed

trigger SM, and that furthermore it occurs in a more extensive set

of contexts than has previously been assumed. This conclusion is

arrived at through an examination of the colloquial language: the

data in question only occur in CW, so that previous analyses,

concentrating on LW, have failed to notice the full extent of the

distribution of wh-trace.

5.1   VARIABLES AS SM TRIGGERS

It was first pointed out by Harlow (1981:fn.15) that the NPs

which trigger SM are just those which in GB theory are

Case-marked. This suggestion is also taken up by Borsley (1984),

who shows that in constituent questions, a wh-trace in subject

position will trigger SM:

(1)   Pwy [S' a   [S ddarllenodd t bapur?]]   (papur)

         who   COMP   read-3s   paper

         'Who read a paper?'

(Borsley 1984:283)

As we saw in chapter 4.5.3, a wh-trace in relative clauses also

triggers SM:

(2)   y   dyn [S' a   [S welodd t̲ ᵍar newydd]] (car)

         the man   COMP   saw-3s   car new

         'the man who saw a new car'

as does the trace in a topicalized construction:

(3)   Ceri [S' a   [wnaeth t̲ f̲ynd i Fangor]]   (mynd)

                 COMP did-3s   go   to Bangor

         '<u>Ceri</u> went to Bangor.'

In each example, the complementizer a̲ is not usually present in

CW, but is found overtly in LW.

From these data we can conclude that like <u>pro</u>, the other

Case-marked EC of GB theory, wh-traces trigger SM wherever

possible. In practice, this is only easily testable in the case

of extractions from subject position; with extractions from object

position, the only mutable category likely to be found following

the trace is an adverb:

(4)   y   dyn [S' a   [S welodd Mair t̲ d̲doe   ]] (doe)

         the man   COMP   saw-3s   yesterday

         'the man who saw Mair yesterday'

The adverb <u>ddoe</u>, 'yesterday', is indeed in its SM form in (4), but

as we saw in chapter 2, adverbs are typically fossilized in their

SM forms, so are not a reliable indicator of whether or not a

preceding item is an SM trigger.

The occurrence of SM in unbounded dependencies, following the

wh-trace, appears to be used to resolve ambiguity in certain

constructions. As an aid to parsing, it could therefore be said

to be functionally motivated. This point will be taken up again

in chapter 7. Ambiguity arises as in (5) because in a VSO

language, the subject and object NPs are sisters:

(5)   y   bachgen (a) welodd y   ddynes

         the boy   COMP saw-3s the woman

         'the boy who saw the woman'

         'the boy who the woman saw'

In (5), there is no way of telling whether the position

relativized on is the subject or the direct object; in other

words, whether the construction is that of (6i) or (6ii).

(6) i)   y   bachgen (a)   welodd t y   ddynes

         the boy   COMP saw-3s   the woman

         'the boy who saw the woman'

    ii) y   bachgen (a) welodd y   ddynes t

         the boy   COMP saw-3s the woman

         'the boy who the woman saw'

This ambiguity can, however, be resolved by using a paraphrase

with an inflected form of gwneud 'do' with a non-finite main verb.

These sentences are identical in meaning to the pair in (6) but

avoid its problems:

(7) i)   y   dyn (a) wnaeth t weld y   ddynes   (gweld)

         the man COMP did-3s   see the woman

         'the man who saw the woman'

    ii) y   dyn (y) gwnaeth y   ddynes ei weld

         the man COMP did-3s   the woman 3ms see

         'the man who the woman saw'

In (i) we find SM on the main verb following the wh-trace, which

signals extraction from subject position.

   If the NP y ddynes 'the woman' in (6) had been indefinite, it

would also be able to undergo SM following a wh-trace in subject

position, which again would avoid the ambiguity problem:

(8) i) y   bachgen (a) welodd t ddynes   (dynes)

        the boy   COMP saw-3s   woman

        'the boy who saw a woman'

    ii) y   bachgen (a) welodd dynes t

        the boy   COMP saw-3s woman

        'the boy who a woman saw'

In (ii), dynes does not follow a wh-trace, so retains its radical

initial.

    I suggest, then, that there is a plausible functional

explanation for the appearance of SM after a variable: it is

available as a device to mark the extraction site, which can

otherwise be unclear in a VSO language.

5.2   EXTENDING THE ROLE OF WH-TRACE

    In this section I will discuss a variety of constructions

which illustrate the role of wh-traces as triggers for SM.

Previous work has not considered the crucial significance of this

role, and has also overlooked constructions which are found only

in CW, rather than LW. In particular, I will examine the evidence

for pre-head extraction sites in unbounded dependencies.

5.2.1 A-positions. I: Extractions from NP and VP

    In this section I examine constructions which involve NPs

extracted from within NP and within VP. First of all, let us go

over the basic data before any movement has occurred:

(9) i)   Roedd hi'n   ferch   y   dyn.

was-3s she-PRED daughter the man

'She was the man's daughter.'

ii) Roedd hi'n   gweld y   dyn

was-3s she-PROG see   the man

'She saw the man.'

(9i) illustrates a full NP object of an NP, and (9ii), a full NP

object of a non-finite verb. Pronominal objects in both cases are

expressed by a proclitic element in pre-head position, which

agrees with the object NP in person, number, and in the 3s forms,

gender:

(10) i) Roedd hi'n   ei ferch   (o)

was-3s she-PRED 3ms daughter him

'She was his daughter.'

ii) Roedd hi'n   ei weld (o)

was-3s she-PROG 3ms see   him

'She saw him.'

Optionally, in post-head position we also find an enclitic

pronoun, as these examples show; I assume that when this pronoun

fails to appear on the surface, we have another instance of the EC

pro. As McCloskey and Hale (1984) demonstrate, the Celtic

languages all have pro in more positions than just subject, and

for this reason, they suggest (1984:521) the use of the term Null

Argument Parameter rather than Null Subject Parameter to describe

the appearance of pro. The major difference between Irish, which

McCloskey and Hale investigate, and Welsh, is that in Irish pro

drop is obligatory in all constructions where agreement features

are present (cf. also chapter 4.5). This means that in Irish, the

constructions which parallel (10) must obligatorily delete the

enclitic pronoun. In Welsh, clitic doubling is freely available

in these constructions.

As (10) illustrates, the proclitics (or possessive

determiners) take the same form with a noun as head as they do

with a head verb; in each case, they trigger the same set of

mutations, as we saw in chapter 2. The relevant information is

repeated here:

(11)   S   P

     1 fy (NM)   ein ⎫
     2 dy (SM)   eich ⎬ No mutation   : ⏐
     3M ei (SM)   eu ⎭

     3F ei (AM)

The question to be decided in this section is, what is the

position subcategorized for by the head of the NP or VP? In other

words, what is the A-position of GB theory? Recall from chapter 3

that NPs found in A-positions have a grammatical function such as

subject, object, etc.:

(12) "An A-position is one in which an argument such as a name or

variable may appear in D-structure; it is a potential

theta-position."

(Chomsky 1981:47)

The verb gweld 'see' in Welsh, for example, subcategorizes for an

object, and assigns a theta-role to that object, which is

therefore in an A-position. In (9), y dyn 'the man' is clearly in

an A-position, but is the A-position always post-head?

The data in (10) present an interesting problem here, as both

pre-head and post-head positions may be filled when the object NP

is pronominal. Most previous analyses have made the claim that

the post-head position is also the A-position in such data as

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(10): the enclitic o would therefore be in an A-position. This is

essentially the view taken by McCloskey and Hale (1984:511ff) in

their discussion of the parallel phenomenon in Irish; as they

point out, this assumption is entirely consistent with Irish

typology, where heads are initial in their dominating categories.

We have already noted in chapter 2 that the unmarked word order in

Welsh is head-modifier, as these examples show:

(13) i)   ci   bach

          dog small

          'a small dog'

     ii) ci   Gwyn

          dog

          'Gwyn's dog'

     iii) ci   bach [NP y   meddyg]

          dog small   the doctor

          'the doctor's small dog'

On the other hand, the assumption that nouns and verbs

subcategorize for pronominal objects in post-head position is open

to challenge: in Irish, an overt enclitic is obligatorily absent,

and in Welsh, as (10) shows, the post-head position is only

optionally filled by an overt pronoun, whereas the pre-head

agreement form is obligatory.

The basic tenet of analyses which opt for the post-head

position as A-position is that an empty category in this position

is licensed by the presence of agreement morphology in the form of

the overt proclitic. Harlow (1981) is the earliest analysis to

take this view. Relative clauses in Harlow's paper are handled

not by wh-movement, as is the standard position in Chomskyan

grammar, but by a rule of Relative Deletion: this deletes a

pronoun co-indexed with the head NP (cf. chapter 6 for

discussion). The pronoun to be deleted -- i.e. the position

relativized on -- is taken to be in the post-head position:

(14)   y   llyfr [S' yr   oeddwn i'n   *(ei) ddarllen _]

         the book   COMP was-1s I-PROG 3ms   read

         'the book that I was reading'

(Harlow 1981:228)

In LW, the proclitic is obligatory as shown, and in wh-movement

constructions no clitic doubling is permitted:

(15)   *y llyfr yr oeddwn i'n ei ddarllen ef (=(14))

Harlow's analysis, in an early GB framework, is essentially

adopted by both Stump (1984) and Sproat (1985); the latter, in a

more recent GB framework, sees the proclitic as an agreement

marker, which, he claims, prevents clitic doubling in (15) by

locally A'-binding any pronoun appearing in the post-head

extraction site (Sproat 1985:192).

     Even Borsley (1984), who is not working in a GB framework,

argues that the item in post-head position is fundamental:

(16) "We can say that a non-finite verb is preceded by a clitic

whenever it is followed by a pronoun [cf. (10ii)] or a

phonologically null NP, a phonologically null NP being either pro

or a wh-movement trace [cf. (14)]."

(Borsley 1984:299)

     Standard GB theory accords with the analyses mentioned:

proclitics are not in an A-position. This is the view taken by

Chomsky (1981:275ff) and reiterated by Chomsky (1982:64ff, 87f).

In simple sentences the post-head position containing the EC pro,

or an overt pronoun, is taken to be the A-position, satisfying the

theta-marking properties of the verb. The proclitic is therefore

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in an A'-position, although Chomsky (1982) does suggest that the theta-role is transmitted from the post-verbal EC to the proclitic. Borer (1983), in her work on Hebrew in the same framework, suggests that if proclitics are in an A-position, then constructions which involve clitic doubling (ei weld o in (10ii)) give rise to problems with the Projection Principle (Borer 1983:35). Evidently Borer assumes that both pre- and post-head positions would be A-positions, and she is clearly right to point out that a verb cannot subcategorize for both positions. In formal terms, this would be a violation of the GB Theta-Criterion (cf. chapter 3.1.3) which requires that each argument bear one and only one theta-role, and each theta-role be assigned to one and only one argument.

For Welsh, the analysis I will suggest involves no violation of the Theta-Criterion, and is entirely consistent with the Projection Principle. As we will see, the evidence points to a conclusion that dialects or idiolects, and also various constructions, differ with respect to the A-position selected; that is, either pre- or post-head.

The conclusion arrived at by Borer, however, is that proclitics do not fill the argument position which is the complement of the head. Rather, she sees proclitics as features on the head which must be co-indexed with the post-head NP, her A-position. Under this analysis, clitic-doubling constructions have the structure shown in (17):

(17)   Xn
                              /   \
                       /   \
              [x X, cl[i]]   NP[i]

              [x cl[i], x]
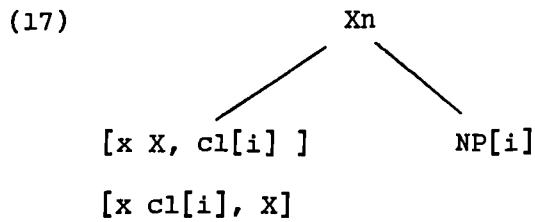
(Borer 1983:63)

This is basically the same position as McCloskey and Hale

(1984:513) take in their discussion of Irish.

   Let us now explore an alternative stance taken by Sadler

(1984:ch.5), who is also working within a GB framework. Sadler

claims that in simple sentences where a non-finite verb has a

pronominal object, such as (10), the proclitic is in fact in an

A-position. As she points out in a footnote:

(18) "This amounts to claiming that the V subcategorizes for a

pronominal element in this position."

(Sadler 1984:168)

Such a claim accords with the notion in traditional Welsh grammar

that the doubled clitic optionally found in post-head position is

merely a 'confirming pronoun' (rhagenw ategol). I believe that

Sadler's suggestion is plausible because the pre-head position is

obligatorily filled by an overt clitic in LW, whilst clitic

doubling is permitted, but optional, in simple sentences. This

also leads to a straightforward account of (19) in LW:

(19)   Mae Nerys yn   *(ei) hoffi ef/pro.

         is   PROG 3ms   like   him

         'Nerys likes him.'

With the proclitic omitted, (19) is ungrammatical in LW because

the Projection Principle has been violated: the subcategorization

requirement that a transitive verb has for a direct object has not

been met. In other words, the A-position is not filled. Borer's

claim that proclitics are not in an A-position is invalidated by this data from LW, as only the presence of a proclitic can satisfy the Projection Principle.

5.2.2 A-positions. II: the situation in Colloquial Welsh

Having examined various theoretical points, let us now move on to a discussion of the CW data, which as usual is more complex and problematical than the corresponding constructions in LW.

I will look first at the cases where the head of the construction is a noun, as in (10i). Here, data from both CW and LW support the proposal that the pre-head position is the A-position. Firstly, in unbounded dependencies an overt proclitic is obligatory in either variety of Welsh; (20) illustrates this:

(20) i) Pwy (y)   gwelaist ti *(ei) lun?

         who COMP saw-2s   you 3ms   picture

         'Whose picture did you see?'

    ii) Dyma'r   bachgen (y)   gwelaist ti *(ei) lun.

         here-the boy   COMP saw-2s   you 3ms   picture

         'Here's the boy whose picture you saw.'

(Sproat 1985:186f)

As we will see, this is not at all the case with pronominal objects of verbs in CW. Although Sproat cites this data, he does not consider that the pre-head position may be the A-position; in fact he claims that the (post-head) extraction site in (20) must be locally bound, and that this is the function of the proclitic. I propose the following alternative view, namely that the pre-head position is the extraction site, and the proclitic is a resumptive pronoun.

Secondly, and again unlike the situation with a head verb, it

is rare to find only the post-head position filled by an overt

pronoun. Generally, dialects seem to follow the strategy of LW

(cf. (10i)) where the proclitic is obligatory as a possessor, and

the enclitic optional; this is shown in (21i). A secondary

strategy reported by Watkins (1976) occurs in child language,

where the proclitic is absent and an independent pronoun fills

post-head position, rather than the usual 'confirming' pronoun;

this is seen in (21ii):

(21) i) 'Yn ngap i yw   'wnna.

         1s cap me is-3s that

         'That's my cap.'

    ii) Cap fi yw   'wnna.

         cap me is-3s that

         'That's my cap.'

(adapted from Watkins 1976:157)

In (ii), it is not the case that the proclitic merely fails to

show up on the surface, for if this were so, then the mutation on

cap (here, NM) would remain. But the head noun actually retains

the radical initial.

The strategy illustrated in (21ii) is certainly not prevalent

in the dialect discussed by Watkins (the West Glamorgan dialect)

and in fact he reports that its use is considered to be

'substandard' and 'infantile'. On the other hand, even older

generations sometimes use the construction in their spontaneous

speech. Jones and Thomas (1977) also mention this construction;

they point out that the non-standard example in (22i) is

syntactically parallel to the standard form in (22ii):

(22) i)   Syniad fi oedd   o.

          idea   me was-3s it

          'It was my idea.'

    ii)   Syniad John oedd   o.

          idea   was-3s it

          'It was John's idea.'

(Jones and Thomas 1977:171)

Genitives are head-initial, therefore have possessed-possessor

order, where the possessor is a full lexical NP, as (22ii) shows.

Jones and Thomas also say that (22i) is 'substandard', but report

that it is frequently found in the speech of young children.

Possibly what is happening is that the head-initial strategy as

shown in (22ii) is generalizing to environments which standardly

contain a proclitic.

     Other examples of the non-standard strategy in use include

the following nominal constructions:

(23) i)   ar ein bwys   (ni)

          on 1p weight us

          'near us'

    ii)   ar bwys   ni

          on weight us

          'near us'

   iii)   yn eich lle   (chi)

          in 2p   place you

          'instead of you'

    iv)   yn lle   chi

          in place you

          'instead of you'

(adapted from Watkins 1976:156)

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In this data, (i) and (iii) represent the LW and standard
construction with a pre-head clitic in A-position and an optional
enclitic. The corresponding dialect forms in (ii) and (iv) have
no proclitic, and the post-head pronoun is obligatory; in these
examples the post-head position must be the A-position.

Watkins also cites the use of an idiom for referring to
family members; this appears to be another example of a post-head
A-position:

(24) i) Dai ni

          us

         'our Dai'

     ii) Ifan chi

          you

         'your Ifan'

(Watkins 1976:157)

These rather marginal data seem to indicate that in at least some
constructions, the A-position subcategorized for by a head noun is
in fact the post-head position; however, in the majority of
instances it is the pre-head position which is obligatorily
filled.

I turn now to the situation with head verbs. This is
apparently in a state of flux, and seems to be subject to much
dialectal if not idiolectal variation. In the dialect
investigated by Watkins, pronominal objects of non-finite verbs
are normally found in post-head position, just like full NP
objects. Pre-head A-position seems to have virtually died out in
these constructions, in this particular dialect: (cf. (10ii)
above).

(25) i)   Oedd   John wedi gweld e.

          was-3s   PERF see   him

          'John had seen him.'

    ii)   Mae   e wedi bwrw fe.

          is-3s he PERF hit   him

          'He's hit him.'

    iii) Galla i weld chi.

          can-1s I see   you

          'I can see you.'

(adapted from Watkins 1976)

These data are particularly interesting because they prove that

the pre-head position is actually empty, rather than it merely

being the case that the proclitic is deleted in the colloquial

language. Normally, when particles delete in Welsh, their

mutation effects remain; for example, the SM-triggering

pre-sentential particles fe, mi are optional, but the mutation

triggered by them is typically present:

(26)   ⎧Fe⎫ welais i'r   ci.   (gwelais)
        ⎨ ⎬
        ⎩Mi⎭

        prt saw-1s I-the dog

        'I saw the dog.'

In (25i) and (ii) the overt proclitic, if present, would be the

SM-triggering form ei (3ms). If this proclitic were 'really'

present, but just missing from the CW surface forms, we would

predict that the SM would still show up on the verbal head:

(27) i)   Oedd   John wedi ei weld e.   (gweld) (cf. 25i)

          was-3s   PERF 3ms see   him

          'John had seen him.'

    ii)   Mae   e wedi ei fwrw fe.   (bwrw)   (cf. 25ii)

          is-3s he PERF 3ms hit   him

          'He's hit him.'

(27) shows the SM forms of the verbs following the overt

proclitic. The verbs do not appear in their SM forms in (25i) and

(ii), which proves that the proclitic has never been present in

the derivation.

In (25iii), however, the verb does appear in its SM form:

weld rather than gweld. But in fact this entirely confirms the

point, for if the proclitic were 'really' present, then SM would

not be the expected form, since the 2p proclitic eich is followed

by the radical initial:

(28)   Galla i eich gweld chi.   (cf. 25iii)

          can-1s I 2p   see   you

          'I can see you.'

The proclitic is clearly absent in (25iii) and the verb now

immediately follows an overt SM trigger, the subject NP i; hence

weld not *gweld. Since, as we saw in chapter 1.6, the Trigger

Constraint operates in Welsh so that mutation effects do not skip

positions, then the SM here could only be triggered by i if the

pre-head position were empty.

Examples from other dialects present a more equivocal

position. Jones and Thomas (1977) have the following example from

colloquial North Welsh:

(29)   Roedd y   ffilm mor dda,

         was-3s the film so   good

         mi es   i weld o ddwy waith.   (gweld)

         prt went-1s I see it two   time

         'The film was so good, I went to see it twice.'

(Jones and Thomas 1977:190)

Once again, an overt proclitic is absent and there is an overt

enclitic. However, it is impossible to tell here whether the

mutation on the head, weld, is triggered by the subject NP i or by

a 'deleted' 3ms proclitic ei, which also triggers SM [1].

     Pilch (1971) also cites examples which have no overt

proclitics; the verb licio 'like' in (30i) does not have a mutable

initial, but in (30ii) weld is the SM form, which means that the

3ms proclitic ei must have been present earlier in the derivation

to trigger SM. The data are from the Aberystwyth area:

(30) i) er   bo' fi ddim yn   licio fe

         although be me NEG PROG like   it

         'although I don't like it'

    ii) ...bo' chi wedi weld e

         be you PERF see   him

         '...that you had seen him'

(adapted from Pilch 1971)

The data we have examined so far seem to show above all else that

there is no standard position in Welsh dialects; sometimes there

is clear evidence that the pre-head position is empty, and in

other cases, equally clear evidence that it contains a

non-surfacing proclitic particle. Possibly, such contradictory

findings indicate most clearly that there is a state of ongoing

change in this area in CW. As we would expect, some dialects turn

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out to be more conservative than others, and retain the LW

pre-head A-position for pronominal objects. From informant work,

I believe that as is usually the case, Northern Welsh dialects are

the more conservative: Northern informants prefer the pre-head

A-position, although they typically report that one does hear the

other type of data. It is often considered by such informants to

be a sub-standard construction. I suggest that other (probably

Southern) dialects which utilize a post-head A-position are doing

so under the influence of English. Bilingualism with English, or

the constant presence of English, does seem to influence Welsh

syntax; such causative factors are also suggested by Price (1984)

in connection with the appearance of preposition-stranding in

Welsh. Stranding is statistically unexpected, and is not a

typological feature of the Celtic family, but the co-existence of

Welsh and English seems to have led to its innovative use in some

Welsh dialects. Once again, Southern dialects are apparently the

innovators, not surprisingly, since the influence of English has

been greatest in these areas.

5.2.3 A-position in CW unbounded dependencies: extractions from VP

I turn now to an examination of wh-movement constructions, in

which there is clear evidence that at least some dialects,

probably the majority, utilize the pre-head position as the

A-position.

Recall that the standard LW construction has an overt

proclitic, which, I claim, is in the extraction site. It is

therefore in the A-position and I have claimed that it acts as a

resumptive pronoun:

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(31)   y   car (y) mae   John yn   ei olchi

        the car COMP is-3s   PROG 3ms wash

        'the car that John is washing'

In CW, the proclitic is typically absent, but aside from this,

dialects seem once again to divide into two groups. One dialect

group evidently has post-head position as the A-position and hence

extraction site, for no mutation at all occurs on the head verb.

This indicates that the pre-head position is simply not

subcategorized for, since not only the proclitic but also its

mutation properties are absent:

(32)   y car mae John yn golchi   (=(31))

(Jones and Thomas 1977:294)

The other dialect group evidently retains the LW pre-head

extraction site, since the verb still displays what is apparently

the mutation effect of the missing proclitic:

(33) i) y car mae John yn olchi   (golchi) (=(31))

(Jones and Thomas 1977:294)

    ii) Be' wyt   ti wedi dorri?   (torri)

         what are-2s you PERF break

         'What have you broken?'

(Jones and Thomas 1977:309)

    iii) Tŷ   mae e'n   beintio.   (peintio)

         house is-3s he-PROG paint

         'He's painting a house.'

(U.I.G.C. 1976:75)

    iv) y   gwaith fydda   i ddim yn   gallu ddysgu (dysgu)

         the work   NEG-will-1s I NEG PROG able learn

         'the work that I won't be able to learn'

(U.I.G.C. 1978:243)

In each case the overt proclitic, if present, would be the 3ms

form _ei_, agreeing with the masculine singular head nouns: _beth_,

t$\hat{y}$, and _y gwaith_. _Ei_ (masc) triggers SM, and the three verbs here

all appear in their SM form. All that appears to be happening in

these examples is that the agreement features of the proclitic

remain even though the proclitic is deleted. However, dialects

which have this type of data also display a fascinating

construction which is illustrated in (34):

(34) i) Ydych chi wedi clywed y   g$\hat{a}$n

         are-2p you PERF hear   the song

         bydda   i'n   ganu?   (canu)

         will-be-1s I-PROG sing

         'Have you heard the song I'll be singing?'

(U.I.G.C. 1976:79)

     ii) Cot bydd   e'n   gael?   (cael)

         coat will-be-3s he-PROG get

         'Will he be getting _a coat_?'

(U.I.G.C. 1976:75)

     iii) Pum punt   mae   e wedi _dalu_.   (talu)

          five pounds is-3s he PERF pay

          'He has paid _five pounds_.'

(Rhys Jones 1977:397)

     iv) Ble   mae'r gath wyllt

         where is-the cat wild

         dydyn   nhw ddim yn gallu _ddal_?   (dal)

         NEG-are-3p they NEG PROG able catch

         'Where is the wild cat which they can't catch?'

(U.I.G.C. 1978:243)

What these examples all have in common is that the NP associated

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with the wh-movement in each case is _feminine_. That is, the heads
of the relative clauses in (34i) and (iv): _y gan_ 'the song' and _y_
gath 'the cat'; and the topicalized NPs in (34ii) and (iii): _cot_
'coat' and _pum punt_ 'five pounds'. Now, we have seen that overt
proclitics, when present, always agree with the features of the
head NP, or topicalized NP. We would therefore predict that these
cases should have the features of the 3fs proclitic _ei_, which
triggers not SM but AM. In fact, though, as (34) clearly shows,
when the proclitic is absent we find not AM but SM on the
non-finite verbs: _ganu, gael, dalu, ddal_.

The effects of this phenomenon are so strong that native
informants will typically reject the examples in (34) if AM is
placed on the verb, unless of course there is an _overt_ 3fs
proclitic to trigger the AM. [2] This gives the pattern in (35):

(35) i) ...y gan bydda i'n *(ei) _ch_anu   (canu) (=(34i))

ii) Cot bydd e'n *(ei) _ch_ael.   (cael) (=(34ii))

iii) Pum punt mae e wedi *(ei) _th_alu.   (talu) (=(34iii))

Previous analyses have not taken such data into account, and
could not predict its occurrence: if the proclitic is merely
'deleted', its associated mutation effects ought still to show up
on the surface. Yet this is clearly not the case with the
SM-displaying verbs in (34). Furthermore, alongside these data
where the NP in topic position or the head of the relative clause
is feminine, there are also examples where it is plural. Once
again, we find the unexpected appearance of SM on the non-finite
verbs:

(36) i) Pa   hadau mae e'n   blannu?   (plannu)

         what seeds is   he-PROG plant

         'What seeds is he planting?'

(U.I.G.C. 1978:90)

    ii) Sut   lenni   mae   Sian wedi brynu?   (prynu)

         what-sort curtains is-3s   PERF buy

         'What sort of curtains has Sian bought?'

(U.I.G.C. ibid.)

    iii) Llyfrau mae   e'n   ddarllen.   (darllen)

         books   is-3s he-PROG read

         'He's reading books.'

(Rhys Jones 1977:227)

SM is unexpected here because the overt proclitic which would

agree with the plural nouns hadau, lenni, llyfrau is eu (3p) which

is followed by the radical initial. Where this proclitic is

overtly present, there is indeed no mutation on the verbs:

(37) i) Pa hadau mae e'n eu plannu? (=36i)

    ii) Sut lenni mae Sian wedi eu prynu? (=36ii)

    iii) Llyfrau mae e'n eu darllen.   (=36iii)

An analysis such as that of Harlow (1981) would predict that the

non-finite verbs in (36) should undergo no mutation, since the 3p

proclitic is not a mutation trigger, yet once again the SM forms

are preferred by native speakers to the corresponding data with

the radical initial.

    How, then, can we account for the unexpected occurrence of SM

in (34) and (36)? Intuitively, we might suppose that these data

simply point to the further spread of SM. This is not unusual;

recall from chapter 2 that SM is generalizing to environments

previously the domain of NM, such as fy 'my' and yn 'in' in some

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dialects. In such cases, the change is easily described: instead
of being lexically marked as NM triggers, certain items are
starting to trigger SM, which as I discussed can be considered as
the unmarked form of mutation. The 'deleted' proclitics of (34)
and (36), on the other hand, apparently fail to leave behind their
agreement features. But why should this result in SM appearing on
the verbs?

The answer to these problems takes us back to the question of
the A-position in these constructions. Recall that it was Sadler
who first proposed that the pre-head position is the A-position in
constructions like (38):

(38)   Mae Aled yn   ei weld.

        is   PROG 3ms see

        'Aled sees him.'

The motivation for this suggestion is that the proclitic is
obligatory in LW in such examples, and must therefore be in the
A-position. Sadler (1984:ch.5) extends this proposal to unbounded
dependencies such as (39):

(39)   Beth mae   Tom yn   ei ddarllen?

        what is-3s   PROG 3ms read

        'What is Tom reading?'

(Sadler 1984:158)

The proclitic is in the only A-position subcategorized for by
darllen, and the post-verbal position is an A'-position. Sadler
(1984:160) makes the point that examples such as (39) cannot
involve movement from post-head position: wh-movement moves a
constituent from an A-position to an A'-position in COMP, not from
an A'-position to an A'-position. If post-head position cannot be
the extraction site, Sadler sees the situation in terms of two

options. Either movement must be from the proclitic position, which _is_ an A-position, or alternatively no movement takes place in such constructions as (39).

Rather by default, Sadler chooses the latter option. She rejects the possibility that movement might take place from the pre-head A-position on the grounds that a trace cannot appear in this position. However, Sadler is working on the conservative LW dialect, which has to have an overt proclitic in pre-head position. She had certainly not taken into account data from CW such as (34) and (36). The conclusion I draw from this data is that a trace can indeed appear in the pre-head position. This claim can be justified as follows: firstly, unlike in the LW data discussed by Sadler, the proclitic is not obligatorily present in CW, as (33), (34) and (36) show. Secondly, the head verb displays SM whatever the agreement features of this 'deleted' clitic are. This is not at all unexpected if we consider that the pre-head extraction site contains a wh-trace, as follows:

(40) i) y   car [S' COMP [S mae John yn   t̲ o̲lchi]]   (golchi)

         the car   is   PROG   wash

         'the car that John is washing'

    ii) Cot [S' COMP [S bydd   e'n   t̲ g̲ael?]] (cael)

         coat   will-be-3s he-PROG   get

         'Will he be getting a coat?'

    iii) Pa   hadau [S' COMP [S mae   e'n   t̲ b̲lannu]] (plannu)

         what seeds   is-3s he-PROG   plant

         'What seeds is he planting?'

We already know from section 5.1 that wh-traces trigger SM, and here we simply have further data which reinforce that position. In Welsh dialects, unlike the conservative LW, the A-position and

extraction site can either be filled or empty. If it is empty, it contains a wh-trace, as (40) shows, or it may be filled (in more conservative dialects?) by a resumptive pronoun -- the overt proclitic. I suggest that where the overt proclitic does occur, not surprisingly it carries with it its own mutation-triggering properties. When it is absent, then SM is triggered by the immediately preceding category, the wh-trace. This is what is happening in (33), (34) and (36); none of these examples have an overt proclitic, and all display SM triggered by the wh-trace. In the varieties of CW w ich have such data, the SM which appears on the head verb has a useful function: it serves to signal the extraction site.

The one remaining piece of data to consider is that illustrated in (41); this exemplifies the alternative dialect variety (cf. (32)) which has no mutation on the non-finite verb and no proclitic. I suggested that such varieties choose a post-head A-position, and the pre-head position is not subcategorized for:

(41)   y car   [S' COMP [S mae   John yn   golchi t̲]]

         the car   is-3s   PROG wash

         'the car that John is washing'

The lack of mutation on the verb is therefore expected, since it is preceded by neither a proclitic nor a trace; the wh-trace follows the verb, in the A-position.

As we will see in the final section, the available distinction between pre-head and post-head extraction sites is actually exploited in CW for functional purposes.

5.3 A-POSITION IN "CAEL" AND "WEDI" CONSTRUCTIONS

An interesting set of data presented by Pilch (1971)
illustrates the possibility of utilizing the difference between a
pre-head and post-head A-position. In CW this distinction is
exploited with two lexical items, creating examples where the two
possible A-positions are found in complementary distribution. All
the constructions involve the pronominal objects of non-finite
verbs. Either the proclitic position is filled, and the enclitic
position is obligatorily empty, or else the enclitic is present,
but the proclitic is not.

The first item is cael (literally, 'get'). Firstly, there is
the so-called cael passive construction; this has pre-head
A-position and no possibility of clitic doubling:

(42) i) Cath   ei fwyta (*fe).

       got-3s 3ms eat   he

       'He was eaten.'

  ii) Cath   rhywun ei niweidio (*fe)?

       got-3s someone 3ms hurt   he

       'Was anyone hurt?'

(adapted from Pilch 1971:156)

  iii) Mae   e wedi cael ei gnoi (*e).

       is-3s he PERF get 3ms bite he

       'He's been bitten.'

(adapted from Watkins 1976:162)

As these examples show, and as these authors also point out,
clitic doubling results in ungrammaticality in such cases. The
proclitic, on the other hand, is obligatorily present.

Cael is also used in another construction very similar to the English 'get to' idiom. In this case, the pre-head position is typically empty but a pronoun is obligatorily present in the post-head A-position:

(43) i) Cath pro fwyta fe.

         got-3s   eat   it

         'He got to eat it.' (cf. (42i))

    ii) Fe gei   di fwyta fe.

         prt get-2s you eat   it

         'You may eat it.'

    iii) Gobeithio ca'   pro gweld chi eto. [3]

         hopefully get-1s   see   you again

         'Hopefully I'll get to see you again sometime.'

(adapted from Pilch 1971:156)

Note that (42i) and (43i) are minimal pairs, differentiated only by the two possibilities for A-position, pre- and post-head. Pilch in fact cites several such examples.

The second lexical item is wedi (lit. 'after'). We saw in chapter 3.4 that wedi is the perfective aspect marker. It can appear in a passive construction which is parallel to the cael passives in (42) in that it obligatorily takes a pre-head A-position. However, as Pilch (1971) points out, in this instance the proclitic itself is usually absent, although the particular mutation effects associated with each clitic still show up on the head:

(44) i) Mae   e wedi ∅ weld (*o) ugeiniau weithiau.   (gweld)

         is-3s he PERF   see him scores   times

         'He has been seen scores of times.'

ii)   crys   wedi ∅ fudreddi (*fe)   (budreddi)

      shirt PERF dirty   it

      'a soiled shirt'

iii) pwyllgor ag   aelodau wedi ∅ dewis (*nhw)

      committee with members PERF choose them

      'a committee with elected members'

iv)   Mae   Mrs. Jones wedi ∅ chladdu (*hi).   (claddu)

      is-3s   PERF bury   her

      'Mrs. Jones has been buried.'

(adapted from Pilch 1971:156)

In (44i) and (ii) we find SM on the non-finite verbs, since an

overt proclitic would be ei (3ms), agreeing with a masculine

singular noun, and this proclitic triggers SM. In (44iii) the

verb dewis retains its radical initial, as it is associated with

the 3p proclitic eu, referring to aelodau 'members', which

triggers no mutation. In (44iv) the verb has undergone AM, from

the proclitic ei (3fs), associated with the feminine singular noun

'Mrs. Jones'.

But why should it be that if these constructions do indeed

select for a pre-head A-position, the proclitic is not overtly

present? We can certainly prove that it is covertly present,

because of the mutation effects on the verbs, but I suggest that

its absence is not syntactically but phonetically motivated. The

proclitics which would have been present in (44) are ei (3ms), ei

(3fs) and eu (3p): all these are pronounced as /i/ in most

dialects. This /i/ follows the word wedi, /wedi/, also ending in

/i/, and so the proclitic coalesces with the preceding vowel.

The other use of wedi is as an aspect marker in active

sentences. Here, at least in the Aberystwyth area dialect

investigated by Pilch, the A-position for pronominal objects is
post-head:

(45)   Mae   e wedi weld e   ugeiniau weithiau.

         is-3s he PERF see him scores   times

         'He has seen him scores of times.'

(adapted from Pilch 1971:156)   (cf. (44i))

In this example we find an enclitic, compared with (44i) where the
enclitic was obligatorily absent. Pilch claims that only the
enclitic is used in these constructions, although in fact there is
also SM on the verb (weld < gweld), which he does not mention.
This is presumably triggered by a deleted 3ms proclitic, so
perhaps the most salient difference between the two wedi
constructions is not the appearance of an overt proclitic, but the
permissibility or otherwise of the enclitic.

It is clear, then, that varieties of CW rather neatly exploit
the two possibilities for either pre-head or post-head
subcategorization, in order to disambiguate potentially ambiguous
constructions.

The wedi constructions are also discussed by Sproat
(1985:190ff), who restricts his attention to LW data. For
example, (46) is ambiguous in LW:

(46)   Y   mae'r   milwyr   wedi eu taro.

         prt is-3s-the soldiers PERF 3p beat

         'The soldiers have beaten them.'

         'The soldiers have been beaten.'

(Sproat 1985:190)

LW always retains the overt proclitic, here eu; compare the first
reading with (45), the CW form with a 'deleted' proclitic.
However, in LW, just as in CW, the passive reading cannot have an

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enclitic:

(47)   Y   mae'r   milwyr   wedi eu taro nhw.

          prt is-3s-the soldiers PERF 3p beat them

          'The soldiers have beaten them.'

          *('The soldiers have been beaten.')

(Sproat 1985:195)

In Sproat's analysis, this problem is solved by assigning an

entirely different structure to each of the readings in (46). The

first, active, reading is straightforwardly analyzed as containing

a bare VP (cf. chapter 3.3):

(48)   Y mae'r milwyr [VP wedi eu taro nhw]   (=(47))

On the other hand, the passive reading of both the cael and the

wedi constructions is analyzed by Sproat as having a biclausal

structure: under such an analysis, the passive reading of (46)

appears as:

(49)   Y   mae'r   milwyr [S' O[i] [S wedi eu[i] taro e[i]]]

          prt is-3s-the soldiers   PERF 3p   beat

          'The soldiers have been beaten.'

(after Sproat 1985)

Note that Sproat considers the post-verbal position to be occupied

by an empty category; he argues that this position can never be an

overt enclitic because it would be A'-bound by an operator (the

null operator in COMP and probably also the enclitic eu).

Clearly, then, Sproat considers the A-position subcategorized for

by the verb to be post-head, so that the proclitic is in an

A'-position: as we saw in section 5.2.1 this is the standard GB

view of proclitics.

     Although Sproat's analysis does differentiate the two

constructions, it does so only by the ad hoc assignment of

S'-structure to the passive reading, as opposed to the
VP-structure of the active reading. The S' is proposed merely to
provide an operator in COMP. But we are not told why an enclitic
should not be A'-bound by this operator; in other words, what
non-ad hoc reason is their for the obligatory absence of an
enclitic in (49)?

In fact, clitic doubling is not usually found in LW at all,
because stylistically LW always prefers pro to an overt pronoun.
So the presence of an enclitic, which would disambiguate the two
readings, is not an available option. I suggest that in LW, both
readings have pre-head A-position, but in CW a reanalysis of the
two constructions has occurred. My suggestion is as follows: wedi
passives subcategorize for a pronominal object in pre-head
position, and the post-verbal position is not subcategorized for,
and therefore contains neither an enclitic nor an empty category:

(50)   Y   mae'r   milwyr   [VP wedi eu taro] (cf. (49))

        prt is-3s-the soldiers   PERF 3p beat

        'The soldiers have been beaten.'

The active reading, on the other hand, utilizes the post-head
position as the A-position, giving the following structure:

(51)   Y   mae'r   milwyr   [VP wedi (eu) taro nhw] (cf. (48))

        prt is-the soldiers   PERF 3p beat them

        'The soldiers have beaten them.'

The proclitic, which is not always overtly present, is therefore
in an A'-position.

5.4 CONCLUSION

To conclude this chapter, let us consider the theoretical
implications of the analysis I have proposed in section 5.3. I
suggested that cael and wedi appear in constructions which are
differentiated by the direction of subcategorization: the cael and
wedi passives subcategorize for pre-head A-position, whereas the
cael 'get to' and the wedi perfective constructions select
post-head A-position. This is interesting because it is generally
assumed in GB theory that subcategorization is 'fixed' in one
direction only, in each language. Chomsky (1986:86ff;103) sees a
major task of the language learner as being to learn the
"selectional properties" of heads of constructions, in terms of
what sort of complements the head can take. For example, a child
leaning the verb persuade in English has to discover the following
s-selection (semantic selection) properties: it requires a goal
and a proposition, as in 'persuaded Ceri to buy a house'. These
lexical properties are considered to be the only information which
must be learnt about a predicate, providing the child has already
discovered the value of the head-complement parameter
(head-initial for English). Given the X-bar system, this
parameter is set in one direction, as the following passage by
Chomsky makes clear:

(52) "...does the head precede its complements, as in English-like
languages, so that we have the constructions N-complement,
V-complement... [etc.]; or does it follow them, as in
Japanese-like languages, so that we have the corresponding
constructions complement-N, complement-V... [etc.]."

(Chomsky 1986:82f)

However, Comrie (1981:7f) has argued that this parameter-setting notion which the X-bar system presupposes in fact makes incorrect predictions when a variety of languages are considered. The relative order of specifiers and heads, for example, is very often not fixed: in Malay, as Comrie points out, the determiner follows the noun, whereas auxiliaries precede the verb; whilst in Japanese, the determiner precedes the noun but auxiliaries follow the verb. This 'mixed' word order is apparently much more typical of the SOV languages (including Japanese) than the fixed schema predicted by the X-bar system.

Chomsky (1986:83) does allow that there are also more complex cases than the situation described in (52), but it is not clear whether these might include the existence of directionally-specified subcategorization constrasts, as we apparently have in Welsh.

I suggest, then, that there are two situations where the fixed parameter notion of subcategorization makes incorrect predictions. One is the situation described by Comrie, where heads do not all subcategorize in the same direction within a language. The other situation is that illustrated by the Welsh data in section 5.3, where a verbal head may subcategorize in either direction, giving the contrasts between constructions outlined in that section. Neither situation is predicted to be possible if we adhere to a rigid interpretation of the X-bar schema; it therefore appears that the schema must be relaxed somewhat in order to account for the wider variety of data found in languages other than English.

<u>FOOTNOTES</u>

1. Technically, <u>y ffilm</u> is feminine, and should therefore have the 3fs proclitic <u>ei</u> which triggers AM. However, dialectal and idiolectal gender variations are common, and the use of the masculine enclitic <u>o</u> (3ms) shows that in this case <u>y ffilm</u> is considered to be masculine.

2. In fact Jones and Thomas do cite an example where they state that the 3fs proclitic (which is an AM trigger) is optional, and they give the impression that the mutation which remains is AM rather than SM:

-i)   y   gyllell dwi   wedi (ei) cholli (colli+AM)

         the knife   (COMP)-am-1s PERF 3fs   lose

         'the knife which I have lost'

(Jones and Thomas 1977:180)

They say about such cases that "the pronoun itself is not always consistently realized, although its mutating effect is retained." (ibid.)

3. Note that in (43iii) the verb <u>gweld</u> appears in its radical form, rather than its SM form <u>weld</u>. This suggests the presence of a non-overt proclitic, here <u>eich</u> (2p) which is not a mutation trigger. In this case a non-overt proclitic is probably also responsible for the SM in (43i) and (ii): here, <u>ei</u> (3ms), an SM trigger. However, there is no way of proving this as the verb <u>fwyta</u> in both examples follows an SM trigger: the NPs <u>pro</u> in (43i) and <u>di</u> in (43ii). Since, though, the verb <u>gweld</u> in (43iii) also follows <u>pro</u>, but has not undergone SM, I will assume that it is the non-overt presence of the proclitic <u>eich</u> which blocks the SM effects of <u>pro</u>; by the Trigger Constraint of chapter 1.6, only contiguous items can act as mutation triggers.

CHAPTER SIX

THE ANALYSIS OF WELSH UNBOUNDED DEPENDENCIES

In this chapter I will be concerned with unbounded

dependencies (specifically, relative clauses) in Literary Welsh.

I will discuss two accounts of these constructions written in a

Chomskyan framework: Harlow (1981) is based on an early GB model,

whereas Sadler (1984) is nearer to the position of Chomsky (1981).

Both analyses are concerned solely with the data found in LW;

however, as we saw in chapter 5, and as we will also discuss in

chapter 7, the data found in CW is often very different.

In chapters 4 and 5 I proposed that relative clauses and

other unbounded dependencies are derived by the transformational

rule of wh-movement, and that the EC NP in such constructions is

therefore always a wh-trace. This proposal runs counter to the

analyses of both Harlow and Sadler: as we will see, Harlow

suggests a Relative Deletion (rather than movement) account for

all relative clauses; and Sadler proposes that only a-relatives

are derived by alpha-movement, but that y-relatives involve no

movement at all. In what follows I show that both accounts are

problematic in that they are not supported by the Welsh data.

In 6.1 I present the data from LW which forms the basis for

the two GB analyses. In 6.2 I consider the analysis of Harlow

(1981), first outlining his proposals in 6.2.1; in 6.2.2 I present

a critique of this analysis, and consider whether it makes the

correct predictions for LW data, or not. In 6.2.3 I present some

alternative proposals in a somewhat later GB framework than that

of Harlow (1981), showing that a straightforward account of

relative clauses can be given under the assumption that their derivation always involves wh-movement.   Section 6.3 considers the later account by Sadler (1984).

6.1   RELATIVE CLAUSES IN LITERARY WELSH

In LW two different complementizers are used in relative clauses and other unbounded dependencies: a and y. The first, a, appears primarily when the NP relativized on is either:

(1) The subject of an inflected, VSO clause in a simple sentence
or:

(2) The direct object of an inflected, VSO clause in a simple sentence.

These positions are exemplified in (3) and (4) respectively:

(3)   y   ddynes a   welodd __ y   ci

         the woman COMP saw-3s   the dog

         'the woman who saw the dog'

(4)   y   ci   a   welodd y   ddynes __

         the dog COMP saw-3s the woman

         'the dog that the woman saw'

Such examples are termed 'immediate dominance dependencies' by Harlow (1983); the position relativized on is immediately dominated by the matrix S node. As these examples illustrate, they contain a gap in the relativization site, which I will henceforth mark with t as a wh-trace. The gap strategy is also used when the subject of periphrastic clauses is relativized, and again we find a in COMP:

(5)   y dyn a   oedd t̲ yn siarad dwli

         the man COMP was-3s   PROG talk   nonsense

         'the man who was talking nonsense'

However, even though LW tends to retain complementizers, a̲ is

often absent before the inflected form of b̲o̲d̲ 'to be', in examples

such as (5). The mutation triggered by a̲ remains, though, as this

example with SM shows:

(6)   y   dyn (a) f̲y̲dd   t̲ yn   dod adref   (bydd)

         the man COMP will-be-3s PROG come home

         'the man who will be coming home'   ! !

So far we have seen b̲o̲d̲ in the past tense (5) and the future tense

(6); if the present tense is used, however, then a̲ has to be

omitted and a different form of b̲o̲d̲ is used from that found in the

present tense in simple sentences:

(7) i)   *y   bachgen mae   t̲ wedi canu heno

         the boy   is-3s   PERF sing tonight

         ('the boy who has sung tonight')

    ii) y   bachgen sydd t̲ wedi canu heno

         the boy   is-3s   PERF sing tonight

         'the boy who has sung tonight'

The relative form s̲y̲dd (or s̲y̲'̲) is found only in unbounded

dependencies.

    The complementizer y̲ occurs in the second relativization

strategy, when the NP relativized on is within the matrix S, but

not immediately dominated by the S node. Y̲ also occurs in all

types of long distance dependencies. In y̲-relatives in simple

sentences the extraction site is marked not by a gap, but by an

agreement element which may be a proclitic, a prepositional

inflection, or a pronoun. Such overt methods of signalling the

extraction site are consistent with the predictions made by the

Keenan and Comrie (1977) Accessibility Hierarchy (cf. chapter 7):

because these NP positions are lower down on the hierarchy, they

are therefore less accessible for relativization. The objects of

non-finite verbs exemplify the construction type. There is good

evidence that the verb plus the NP do indeed form a constituent in

(8), as this string can for example topicalize or be co-ordinated

(cf. chapter 3.3); the NP y ddynes is therefore not immediately

dominated by S, but by VP:

(8)   Yr hoffwn   [VP weld [NP y   ddynes]]

         prt would-like-1s   see   the woman

         'I would like to see the woman.'

The corresponding relative clause has the 3fs proclitic ei before

the non-finite verb gweld, agreeing with the feminine head NP:

(9)   y   ddynes yr   hoffwn   ei gweld

         the woman COMP would-like-1s 3fs see

         'the woman that I would like to see.'

As we saw in chapter 5, the same set of agreement elements also

occurs in extractions from possessive NPs (or more precisely, N"

extractions from N", cf. chapter 4.1.2):

(10) i) Gwerthais [N" gap [N" y   bachgen]]

         sold-1s   cap   the boy

         'I sold the boy's cap.'

    ii) y   bachgen y   gwerthais ei gap

         the boy   COMP sold-1s   3ms cap

         'the boy whose cap I sold'

In the relative clause in (10ii), the 3ms proclitic ei is found,

triggering SM.

Agreement elements also occur when the object of an inflected preposition is relativized:

(11) i) Curais   wrth y   drws.

knocked-1s at   the door

'I knocked at the door.'

ii) y   drws y   curais   wrth<u>o</u>

the door COMP knocked-1s at-3ms

'the door that I knocked at'

<u>Wrth</u> in (11ii) has the 3ms inflection -<u>o</u>, agreeing with the masculine head noun, <u>y drws</u>. Not all prepositions have an inflected form, though, in which case an independent pronominal element appears in the extraction site. An example of such a preposition is <u>â</u> 'with':

(12) i) Cystadlais â'r   eneth.

competed-1s with-the girl

'I competed with the girl.'

ii) yr eneth y   cystadlais â   <u>hi</u>

the girl COMP competed-1s with her

'the girl who I competed with'

The 3fs pronoun <u>hi</u> occurs in the extraction site in (11ii), agreeing with the feminine head noun <u>yr eneth</u>.

In the case of subject and direct object NPs relativized from embedded sentences, the complementizer <u>y</u> is used; so (3), a subject relative in a simple sentence, contrasts with the long distance subject relative in (13):

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(13)   y   ddynes [S' y   dywedodd Aled

       the woman   COMP said-3s

       [S' y   gwelodd t y   ci]]

          COMP saw-3s   the dog

       'the woman who Aled said saw the dog'

Both clauses here have the y complementizer, since y can also be a

non-relative complementizer, just like 'that' in English. This is

its function in the higher clause. In the relative clause note

the gap in the extraction site, just as in the case of the

immediate dominance dependencies in (3) and (4). There is,

however, an interesting contrast between subject extractions from

a simple sentence and long distance extractions: the contrast

concerns number agreement on the verb. Firstly, in simple

sentences the verb does not agree in number with a plural subject

NP:

(14)   Gwelodd y   dynesau'r ci.

       saw-3s   the women-the dog

       'The women saw the dog.'

The verb has the 3s inflection -odd here, and not the 3p

inflection -sant, which would be ungrammatical. This is also true

of subject dependencies in matrix clauses:

(15)   y   dynesau a   welodd t y   ci

       the women   COMP saw-3s   the dog

       'the women who saw the dog'

Again, the plural inflection on the verb would be ill-formed.

However, when the subject dependency is in a subordinate clause,

the verb does display number agreement:

(16)   y   dynesau y   dywedodd Aled

         the women   COMP said-3s

         [S' y   gwelsant t y ci]

             COMP saw-3p   the dog

         'the women who Aled said saw the dog'

Recall the earlier statement that y in simple sentences co-occurs

with an agreement element rather than a gap marking the extraction

site. In (16), there is a gap, but the verb displays number

agreement as well. It seems to me that in processing terms, the

verbal agreement is required in (16) to help keep track of the

long distance dependency, since such relatives are comparatively

hard to process. The head NP is more clearly signalled as the

antecedent if the verb agrees in number with it. In the case of

(15), though, the agreement is simply redundant.

     Object position in long distance dependencies is an even less

accessible position, and in this case we find that the extraction

site is marked by a resumptive pronoun. So (17) contrasts with

(4):

(17)   y   ci [S' y   dywedodd Aled

         the dog   COMP said-3s

         [S' y   gwelodd y ddynes ef]]

             COMP saw-3s   the woman him

         'the dog that Aled said that the woman saw'

This example has the 3ms pronoun ef in the extraction site.

     Long distance dependencies into positions other than subject

and direct object continue the strategies found in simple

sentences, in each case displaying some sort of agreement element.

So (9) is parallel to (18):

(18)   y   ddynes [S' y   dywedodd Aled

         the woman   COMP said-3s

         [S' yr   hoffwn   ei   weld]]

             COMP would-like-1s 3ms see

         'the woman that Aled said that I'd like to see'

So far we have seen the operation of affirmative relative

clauses in LW. Let us now turn to look at negative clauses.

First of all, in simple sentences, as in affirmative clauses,

there is no verbal concord with a plural subject NP (cf. (14)):

(19)   Ni   welodd y   dynesau'r ci.

         NEG saw-3s the women-the dog

         'The women didn't see the dog.'

The verb has the singular inflection once again. However,

negative relative clauses display a contrasting pattern from

affirmative relatives. In negative subject dependencies in LW we

find that there is verbal concord; compare (15), with no concord,

to (20), where the verb agrees in number with the plural subject:

(20)   y   dynesau na   welsant t y   ci

         the women   NEG-COMP saw-3p   the dog

         'the women who didn't see the dog'

This seems to indicate that in terms of the Keenan/Comrie (1977)

Accessibility Hierarchy (cf. chapter 7), negative clauses are less

accessible to relativization, since the extraction site is made

more prominent by verbal concord here. The special patterns of

pronoun retention in negative relatives confirms this hypothesis.

In subject dependencies, as (20) shows, there is no pronoun

retention. However, in object position in immediate dominance

dependencies we find the possibility of a pronoun in the

extraction site. Compare (4) with (21):

(21)   y ci na   welodd y   ddynes _(ef)_

         the dog NEG-COMP saw-3s the woman   it

         'the dog which the woman didn't see'

The 3ms pronoun _ef_ here is entirely optional though; it is only

obligatory in long distance dependencies, just as in the case of

the affirmative in (18).

(22)   y ci y   dywedodd Aled

         the dog COMP said-3s

         [S' na   welodd y   ddynes _ef_]

         NEG-COMP saw-3s the woman   it

         'the dog that Aled said that the woman didn't see'

In LW, then, negative relatives apparently require the extraction

site to be signalled more clearly than do affirmatives, and this

is achieved by verbal concord and pronoun retention.

6.2   HARLOW (1981)

6.2.1 Outline of the analysis

     The main task envisaged by Harlow (1981) is to account for

the two major patterns found in LW relative clauses: the _a_ plus

gap pattern found in immediate dominance dependencies such as (3)

and (4), versus the _y_ plus agreement strategy found in (9),

(10ii), and (11ii).

     Harlow handles the data in Welsh by adapting a

transformational rule suggested by McCloskey (1979:28);

McCloskey's analysis is concerned with the analogous set of data

found in Irish relative clauses. He considers these to be derived

by a rule which deletes a pronoun co-indexed with the head NP,

rather than by wh-movement as has been the usual assumption in

extended standard theory since Chomsky (1977). Relative Deletion

handles the contrast between the gap versus agreement strategy by

deleting a pronoun provided that various conditions are fulfilled.

The conditions are formulated so that only the desired relatives

will display the deletion or 'gap' pattern. This transformation

can be minimally altered to account for the Welsh data:

(23)   Relative Deletion

SD   X   NPj [Y   NPk   Z]   W

                    [+Pro]

        1   2   3   4   5   6

SC   1   2   3 $\emptyset$ 5   6

Conditions:

i.   j=k

ii. obligatory if term 4 is subject or object of its clause

iii. blocks if term 4 is neither subject nor object of its clause

(after McCloskey (1979)/Harlow (1981)

Although in fact this rule does not account for the full set of

data I presented in section 6.1, it makes the correct predictions

for affirmative relatives in non-long-distance dependencies,

giving the effect of the cut-off point in the Accessibility

Hierarchy below which the 'gap' strategy is not permitted in LW.

Taking the rule in (23), Harlow's analysis is an attempt to

account for the data but to dispense with the stipulatory and

language-specific conditions on the transformation.

Harlow proposes that the Empty Category Principle discussed

in chapter 3.1.4 is responsible for the effects of the Relative

Deletion rule. Recall that the ECP requires an empty NP to be

properly governed [1]. The ECP of Chomsky (1981, 1982) is

intended to apply only to traces. However, Harlow's analysis,
written in a rather earlier GB framework than Chomsky (1981),
attempts a unified treatment of all empty categories, including
pro, by having a rule of pronoun deletion which applies wherever
its output would not violate the ECP. The rule of Relative
Deletion is merely one manifestation of the more general rule.
Let us see first of all how Harlow treats the null subject
construction as exemplified by (24):

(24) i)   Gwelodd ef y   llyfr.

          saw-3s   he the book

          'He saw the book.'

   ii)   Gwelodd pro y   llyfr

          saw-3s   the book

          'He/she saw the book.'

The pro-drop construction in (24ii) is licensed under the ECP in
the following way: in null subject languages such as LW or
Italian, the element AGR in INFL will be indexed. This will not
happen in non-pro-drop languages such as English or French. The
indexed AGR can then co-index the empty subject NP in (24ii). If
this co-indexing is taken to be a fulfilment of proper government,
cf. note 1, then a null subject will not violate the ECP:

(25)   [S Gweld [INFL AGR[i]] [NP e[i]] y llyfr]

Note that co-indexing must only apply between AGR and a null
subject, since otherwise null pronouns would be allowed in object
position also, creating ungrammatical output:

(26) i)   Gwelais i ef.

          saw-1s I it

          'I saw it.'

ii) *Gwelais i [NP e]

      saw-1s   I

Harlow handles the distinction between null pronouns in subject

and object position by having AGR govern only the subject and not

the object NP; therefore an empty category in (26ii) will not be

licensed under the ECP as it would be ungoverned.

As we saw in chapter 5, various constructions in Welsh allow

optional clitic doubling; (27) shows the pronominal object of a

non-finite verb, the proclitic ei, and also has an optional

enclitic ef. The possessive construction in (28) is similar, but

-with a head noun rather than verb, and the proclitic acting as a

possessive determiner. Again, the enclitic position is optionally

filled by ef. In (27ii) and (28ii) we see that in terms of

Harlow's analysis, pronoun deletion licensed under the ECP occurs

in these data, with the proclitic acting as the co-indexed AGR:

(27) i)   Mae   hi wedi ei ddarllen (ef).

          is-3s she PERF 3ms read   it

          'She has read it.'

   ii) Mae hi wedi ei[i]   ddarllen [NP[i] e]

                    AGR-3MS

(28) i)   Gwelais i ei fab (ef).

          saw-1s   I 3ms son him

          'I saw his son.'

   ii) Gwelais i ei[i]   fab [NP[i] e]

                    AGR-3MS

Prepositions in Welsh display an interesting contrast between

those which allow deletion of their pronominal objects and those

which do not. Pro-drop is allowed where the preposition has an

inflected form:

(29) i) Disgwyliodd hi   wrtho (ef).

         expected-3s she at-3ms him

         'She waited for him.'

    ii) *Disgwyliodd hi   wrth [NP e]

         expected-3s   she at

In (29i) the pronominal object ef is optional as the preposition

occurs in its 3ms inflected form wrtho. The citation form in

(29ii), wrth, is ungrammatical. In Harlow's analysis, the

prepositional inflection is an AGR form which allows an empty NP

to occur, and to be properly governed under the ECP:

(30)   Disgwyliodd hi wrth-o[i]   [NP[i] e]

                         AGR-3MS

Other prepositions have no AGR form, and consequently deletion of

the pronominal object is impossible:

(31) i) Cystadlais i a   hi.

         competed-1s I with her

         'I competed with her.'

    ii) *Cystadlais i a [NP e]

In (31ii) an empty NP is not properly governed as there is no AGR

form, so violating the ECP.

It now remains to see how the ECP interacts with the Relative

Deletion rule in Harlow's analysis. In the data we examined in

(24) through (31), the pronoun deletion rule was optional as long

as its output was licensed under the ECP. For unbounded

dependencies, Harlow (1981:228) states that Relative Deletion is

obligatory, provided that the requirements of the ECP are met. In

non-immediate dominance dependencies, such a conclusion can be

easily justified. Firstly, in constructions where clitic doubling

is optional in simple sentences, such as (27) and (28), it is

ungrammatical in LW relative clauses; a gap is required in

post-head position:

(32) i) y   papur y   mae   hi wedi ei ddarllen (*ef)

        the paper COMP is-3s she PERF 3ms read   it

        'the paper which she has read'

    ii) y papur y mae hi wedi ei[i]   ddarllen [NP[i] e]

                        AGR-3MS

(33) i) y   dyn y   gwelais ei fab (*ef)

        the man COMP saw-1s   3ms son him

        'the man whose son I saw'

    ii) y dyn y gwelais ei[i]   fab [NP[i] e]

                    AGR-3MS

Harlow (1981:228) treats the post-head position as satisfying term

4 of the Relative Deletion rule (23), so that this is the

'extraction' (here, deletion) site. Just as in the case of (27)

and (28), the proclitic is analyzed as an AGR form which is

co-indexed with, and properly governs, the resulting empty NP

position.

    The second construction type which appears to involve

obligatory Relative Deletion is the relativization of the object

of inflecting prepositions:

(34) i) y   dyn y   disgwyliodd hi wrtho (*ef)

        the man COMP expected-3s she at-3ms   him

        'the man that she waited for'

    ii) y dyn y disgwyliodd hi wrth-o[i]   [NP[i] e]

                        AGR-3MS

Once again, the empty NP position in the deletion site is properly

governed by the co-indexed AGR on the preposition, so that the ECP

is not violated. Where the preposition does not have an inflected

form, however, Relative Deletion is not possible:

(35)   y   ddynes y   cystadlais a   *(hi)

        the woman COMP competed-1s with   her

        'the woman that I competed with'

The preposition a does not have AGR, so Relative Deletion would

create an ungoverned empty category, thus violating the ECP.

It appears, then, that the obligatory rule of Relative

Deletion, combined with the ECP, makes correct predictions about a

variety of LW relative clauses.

Let us now turn to the situation in immediate dominance

dependencies such as (3) and (4). It is clear that a gap strategy

must be operating in these cases, so Relative Deletion must have

applied. However, it is not clear why a null object should be

ungrammatical in a simple sentence, (36), but obligatory in a

relativization on direct object position, in (37):

(36)   Gwelodd hi *(ef).

        saw-3s she   it

        'She saw it.'

(37)   y   ci a   welodd y   ddynes (*ef)

        the dog COMP saw-3s the woman   it

        'the dog that the woman saw'

We have already seen that instances such as (36) violate the ECP

if the object is empty, because AGR on the verb is not available

as a proper governor for object position; yet the empty object

position in (37) must evidently be properly governed, since

Relative Deletion has applied.

The solution suggested by Harlow is that the complementizer a

is available as a proper governor in (37). The following

assumptions must be made:

(38)   COMP --> NP (y)

        NP in COMP may be lexically filled by a.

(Harlow 1981:234)

If a is an NP it can be co-indexed with the direct object position

which it governs, therefore allowing Relative Deletion to be

well-formed under the ECP:

(39)   y ci [S' a[i] [S welodd y ddynes [NP[i] e]]]

This conclusion depends on the proposal that government is

fulfilled either through minimal c-command by an X-level category

(lexical government) or through co-indexing, cf. Chomsky

(1981:250). In Harlow's analysis, the latter situation must

obtain, as in (39).

    Turning to the case of dependencies into subject position, it

seems that government of the empty subject NP comes from two

sources. In (40) for example:

(40)   y   ddynes a   welodd [NP e] y   ci

         the woman COMP saw-3s   the dog

         'the woman who saw the dog'

the verbal AGR is available as a proper governor for subject

position, but there is also a in COMP; there appears to be a

situation of double government. Harlow resolves this problem by

maintaining that in relative clauses such as (40), there is in

fact no AGR in INFL, so government in such cases only comes from a

in COMP. That is, (40) should be analyzed as (41i) and not as

(41ii):

(41) i) y ddynes [S' a[i] [S welodd [NP[i] e] y ci]]

    ii) y ddynes [S' a [S welodd[i] [NP[i] e] y ci]]

                            AGR-3MS

Evidence for this position comes from the pattern of subject-verb

agreement discussed in section 6.1 above. Firstly, in simple

sentences, the verb takes the 3s inflection with a full lexical NP

subject, whether this is singular or plural:

(42)   Gwelodd y   ddynes/y   dynesau'r ci.

          saw-3s the woman /the women-the dog

          'The woman/the women saw the dog.'

Pronominal subjects and the null subject pro, however, require

number agreement:

(43) i) Gwelodd ef/pro y   ci.

          saw-3s   he   the dog

          'He saw the dog.'

    ii) Gwelsant hwy/pro 'r gi.

          saw-3p   they   the dog

          'They saw the dog.'

Recall that in subject relativization, the pattern is that of

(42): a plural head NP requires a singular inflection:

(44)   y   dynesau a   welodd t y ci

          the women   COMP saw-3s   the dog

          'the women who saw the dog'

Harlow argues that in cases like (43), AGR is available as a

proper governor, and so pro-drop is allowed; (42) is seen as

having no AGR, however, as is evinced by the lack of number

agreement. (44) also has no AGR, but since a in COMP is available

as a proper governor, then Relative Deletion applies without

violating the ECP. This analysis brings to mind the very similar

proposals made by Stump (1984), in his analysis of Breton; as we

discussed in chapter 4.5, Stump considers verbs such as the

analogues of those in (42), (44), to be 'analytic' forms, lacking

AGR.

In the case of long distance dependencies into subject and direct object position, the complementizer a̱ is not available as a proper governor. However, when the subject of an embedded clause is relativized, the verb adjacent to the relativization site displays number agreement, as we saw in section 6.1. Thus, (44) contrasts with (45), where the verb appears in its 3p form gwelsant:

(44)   y   dynesau y   dywedodd Aled

           the women   COMP said-3s

           [S' y   gwelsant t̲ y   ci]

              COMP saw-3p   the dog

           'the women who Aled said saw the dog'

In Harlow's analysis, the plural inflection is said to be an AGR form, and so Relative Deletion can apply and the resulting empty category will be properly governed. Recall, however, that AGR is not considered to be available as a proper governor for the object position. Since the complementizer a̱ is not found in long distance dependencies either, Relative Deletion cannot apply in the case of object relatives, as (46) shows:

(46)   y ci y   dywedodd Aled

           the dog COMP said-3s

           [S' y̲   gwelodd y   ddynes e̲f̲]

              COMP saw-3s the woman it

           'the dog that Aled said the woman saw'

The embedded object position is filled by the pronoun e̲f̲; an empty category in this slot would be ungoverned, and would therefore violate the ECP.

Another construction where the complementizer a̱ is unavailable as a proper governor is the case of negative immediate

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dominance dependencies. However, where subject position is relativized on, just as in the example in (43) we find that the verb displays number agreement in LW. Hence in (47) there is an AGR to act as a proper governor for the empty category. Compare (44), which has no AGR in Harlow's analysis:

(47)   y   dynesau na   welsant t y   ci

         the woman   NEG-COMP saw-3p   the dog

         'the women who didn't see the dog'

Relative Deletion is obligatory here, and there is no ECP violation.

.   When the direct object is relativized, in a negative construction, there is no a in COMP, and nor does the verb have AGR: as predicted, there is a parallel pattern here to (46), as a pronoun can occur in the object position:

(48)   y   ci na   welodd y   ddynes (ef)

         the dog NEG-COMP saw-3s the woman   it

         'the dog which the woman didn't see'

This concludes the presentation of Harlow's (1981) analysis. In the next section I discuss various problems which arise with this analysis, concentrating solely on data from LW at this stage.

6.2.2 Discussion of Harlow (1981)

     It is important to remember that Harlow (1981) is written in a somewhat earlier GB framework than that of Chomsky (1981). Some of Harlow's specific proposals, such as the pronoun deletion rule applying to subjects of tensed clauses, and in relative clauses, would not be permitted in the later framework. In this section I will continue to assume the model which Harlow himself is working

in, and when looking at the problems encountered I will keep within that particular framework. In section 6.2.3, however, I suggest an alternative account in the light of more recent work in GB.

Let us look first of all at the theoretical problems which Harlow's analysis encounters. The first area of contention is the status of the element a in COMP. As I showed in the previous section, it is crucial to Harlow's analysis that a is analyzed as an NP: only if it is an NP can it be co-indexed with the empty NP position in immediate dominance dependencies, thus licensing Relative Deletion under the ECP. It is also equally crucial that the other items in COMP, y and na, should not be analyzed as NPs. The main piece of evidence offered by Harlow for the postulated nominal status of a comes from initial mutation.

Each of the three complementizers (as I suggest they are) triggers a different mutation pattern: after y, the radical initial is retained; na triggers AM of /p, t, k/ but SM of /b, d, g, m, ɫ, r̥h/; and a triggers SM of all mutable consonants (cf. chapter 2 for details). The line of reasoning followed by Harlow is that since NPs trigger SM, as we saw in chapter 4, then a must be an NP. As a piece of evidence, however, such a claim is extremely misleading, for it would imply that we should analyze all the lexical items which trigger SM as NPs. If this was the case, then the class of NPs would have to include a variety of miscellaneous lexical items such as prepositions e.g. am 'for, and heb 'without', possessive proclitics e.g. ei (3ms), and dy (2s), numerals e.g. dau 'two' and saith 'seven', and conjunctions e.g. neu 'or'. Whilst it is true that all overt NPs trigger SM, there is no case for claiming that all items which trigger SM are

NPs. If the evidence from mutation does not differentiate a from

the other complementizers, then Harlow's proposal concerning the

pronominal status of a cannot be maintained.

In fact there seems to be no particular reason why na should

not be treated as an NP if mutation properties were to be the only

criterion used, since na also triggers SM of six mutable

consonants. However, I maintain that all three elements, a, na,

and y are actually complementizers, and that a cannot be shown to

be an NP. In terms of Harlow's proposals, this would entail that

the EC formed by Relative Deletion would be ungoverned, thus

.violating the ECP. This applies to the immediate dominance

dependencies in (37) and (44), which ought therefore to be

ungrammatical, since they appear to contain an ungoverned EC.

The second point concerns the distinction set up between

government by a in immediate dominance dependencies, and

government by AGR in INFL elsewhere. Recall that wherever a verb

fails to display number agreement with its subject, it is analyzed

by Harlow as having TENSE but no AGR in INFL. The relevant

examples are simple sentences with overt subjects, such as (49):

(49)   Gwelodd y   ddynes/y   dynesau'r ci.

         saw-3s   the woman /the women-the dog

         'The woman/the women saw the dog.'

and dependencies into matrix subject position, such as (50):

(50)   y   dynesau [S' a   [S welodd t y   ci]]

         the women   COMP   saw-3s   the dog

         'the women who saw the dog'

Both examples fail to display the 3p AGR form -sant. On the other

hand, the -odd inflection which occurs in simple sentences with

null subjects must be analyzed by Harlow as an AGR form, since if

it does not contain AGR, then the empty subject NP would not be

properly governed under the ECP:

(51)   Gwelodd pro y   ci.

         saw-3s   the dog

         'He saw the dog.'

What differentiates the -odd which is analyzed as lacking AGR in

(50) from the -odd which must be analyzed as having AGR in (51)?

Any distinction must be ad hoc, and yet if the verb in (50) does

contain AGR, then the trace would be doubly governed, firstly by

AGR, and secondly by a in COMP.

·   Despite the lack of number agreement in cases such as (50),

the verb nonetheless displays a third person inflection; I suggest

that a simpler explanation of the data is that the 3s form is the

unmarked inflection, and will occur wherever possible with either

a singular or plural subject. Specifically, it occurs wherever

the plurality of the subject NP can be recovered from the context,

as is the case in (49) and (50). In fact in CW the availability

of the unmarked 3s AGR form has been extended into negative

relative clauses, whereas LW has to have number agreement in such

clauses (cf. (20) above). Where the context cannot determine a

plural subject, then the 3p inflection is obligatory, as (52) with

a null subject shows:

(52)   Gwelsant pro y   ci.

         saw-3p   the dog

         'They saw the dog.'

It is not surprising that plural subject dependencies in

long-distance relatives require the 3p inflection, as in this case

the head NP is too far away from the verb to be salient:

(53)   y   dynesau y   dywedodd Aled

       the women   COMP said-3s

       [S' y   gwelsant ṭ y   ci]

          COMP saw-3p   the dog

   'the women who Aled said saw the dog'

Thus in the clause containing the gap, we find the 3p form of the

verb gwelsant. This functional explanation of the facts removes

the need for an arbitrary distinction between -odd forms which do

contain AGR, as in (51), and those which do not, as in (49) and

(50).

     To summarize, I have proposed so far that two points in

Harlow's analysis cannot be maintained: firstly, I suggested that

a cannot be differentiated from the other complementizers in terms

of a putative NP status. In fact, I showed that a cannot

convincingly be analyzed as an NP, and cannot therefore be

considered as a co-indexed proper governor for the empty category

in relative clauses. Secondly, I suggested that the verbal

inflection -odd is after all an AGR form. Taken together, these

proposals have an interesting result; we can now propose that the

trace in subject dependencies such as (50) is in fact properly

governed by the verbal AGR. There will be no situation of double

government because the a is not an NP, therefore not a proper

governor.

     Unfortunately, this solution still runs in problems when the

object dependencies are taken into account. Recall that in

Harlow's analysis, candidates for proper governors are held to be

co-indexed AGR forms. In (54):

(54)   y   ci [S' a   [S welodd y   ddynes t]]

       the dog   COMP   saw-3s the woman

       'the dog that the woman saw'

the trace in object position cannot be governed by the verbal AGR.

This is because in Harlow's analysis Welsh has base INFL SVO

order, so that the object NP will be 'protected' from government

by AGR by the maximal projection VP, given the structure in (55):

(55)

```
              S
          ___/|\___
        INFL  NP   VP
                  / \
                 V   NP
```
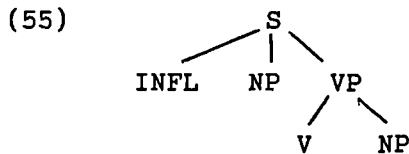
We therefore have an ECP violation in (54), since the trace cannot

be governed by AGR, and a is unavailable as a proper governor,

given my arguments. So (54) should be ungrammatical by Harlow's

analysis, which would be an incorrect prediction.

    Having examined some of the internal problems with Harlow's

analysis [2] I turn now to discrepancies which arise when further

data from LW are considered. Firstly, consider the alternation

between the complementizers a and y. The form y is also a

non-relative complementizer, for example being used in noun

complement clauses, but a is used exclusively in unbounded

dependencies. What criteria govern the appearance of one form or

the other in relative clauses? Harlow (1981) simply uses the

traditional type of definition which can be found in such grammars

as S.J. Williams (1980) and M.D. Jones (1976): a is found with

dependencies into subject or direct object of a VSO clause, and y

is used elsewhere. However, it transpires that this definition is

inadequate, since there are circumstances in LW where either

complementizer can be used. Awbery (1977:201f) presents data

which show that a rigid distinction between the two

complementizers is unworkable . The circumstances in which these

'anomalous relatives' appear are as follows:

(56) The complementizer a can be used as an alternative to y "if

the verb of the relative clause is transitive and the relativized

NP is a possessive or a prepositional object."

(Awbery 1977:201)

For example, both forms in (57) and (58) are grammatical:

(57) i) y   dyn y   disgwyliwn amdano

         the man COMP waited-1s for-3ms

         'the man that I was waiting for'

     ii) y   dyn a   ddisgwlyiwn amdano

         the man COMP waited-1s   for-3ms

         'the man that I was waiting for'

(58) i) y   dyn y   prynais   ei dy

         the man COMP bought-1s 3ms house

         'the man whose house I bought'

     ii) y   dyn a   brynais   ei dy

         the man COMP bought-1s 3ms house

         'the man whose house I bought'

(Awbery 1977)

Awbery's definition is also intended to encompass the other

instance of a 'possessive', where the NP relativized on is the

object of a verb in a periphrastic clause:

(59) i) y   dyn yr   hoffwn   ei weld

         the man COMP would-like-1s 3ms see

         'the man that I would like to see'

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ii) y   dyn a   hoffwn   ei weld

the man COMP would-like-1s 3ms see

'the man that I would like to see'

(Awbery 1977)

There is no difference in meaning between the alternative forms

shown in (57) through (59), and they appear to occur in free

variation. Apart from the complementizer itself, the only overt

difference is that a triggers SM, as can be seen in (57) and (58):

ddisgwyliwn, brynais. The alternation is restricted to

affirmative relative clauses, and cannot occur with intransitive

·verbs:

(60) i) y   dyn y   diflannodd   ei arian

the man COMP disappeared-3s 3ms money

'the man whose money disappeared'

ii) *y dyn a   ddiflannodd   ei arian

the man COMP disappeared-3s 3ms money

('the man whose money disappeared')

(Awbery 1977)

Apart from this, a occurs freely, albeit in a stylistically marked

variety of LW.

We have seen that keeping a rigid distinction between

a-structures and y-structures is vital to Harlow's analysis, yet

in some varieties of LW, a is evidently found in contexts other

than the immediate dominance dependencies predicted by Harlow.

Examples such as (57ii), (58ii) and (59ii) are explicitly

predicted to be ill-formed by Harlow's analysis (1981:240f). The

reasons for this prediction are as follows: firstly, as we have

seen, a is analyzed as a pronominal in Harlow's paper; Harlow

further assumes that pronouns are treated as bound variables in

Logical Form. If this is the case, then a must be bound, that is,

co-indexed with an NP position in S. The second point to note is

that Harlow assumes the prepositional inflection and the

possessive proclitics in (57) through (59) are also bound

variables; these are co-indexed with the empty NP which Harlow

assumes to be in the extraction site in (61), and in fact are

assigned the A-position of that empty NP.

(61) i)   y   dyn y   disgwyliwn amdan-o[i] [NP[i] e]

          the man COMP waited-1s for-3ms

          'the man that I was waiting for'

  ii)   y   dyn y   prynais ei[i] dy   [NP[i] e]

          the man COMP bought 3ms   house

          'the man whose house I bought'

  iii) y   dyn yr   hoffwn   ei[i] weld [NP[i] e]

          the man COMP would-like-1s 3ms   see

          'the man that I would like to see'

However, if the complementizer a were found instead of y in each

case in (61), then it too would have to be co-indexed with the

[NP e]; this would create an ill-formed derivation because now two

pronouns, a plus the agreement element, would be assigned the same

A-position. There is no way to rescue this derivation in Harlow's

analysis: if a is not co-indexed with the empty NP it is not

bound, and becomes an illegitimate free argument in LF. If the

agreement elements in (61) are not co-indexed with the empty NP,

then a could be correctly bound, but the empty NP would be

ungoverned, in contravention of the ECP. Thus we see that

Harlow's analysis predicts that a will be impossible in (61), but

this prediction is of course not borne out by Awbery's data in

(57ii), (58ii), and (59ii).

I have already argued that the grounds for analyzing a as a pronoun are insubstantial, a prospect which would actually be helpful to Harlow's analysis, given the 'anomalous' relative clauses cited by Awbery: if a is not an NP this would obviate the problem of two pronouns being assigned the same A-position. However, if a is not a pronoun we have a problem in accounting for the immediate dominance dependencies, since there would be no co-indexed NP available as a proper governor for the empty NP in these cases. Under the assumptions of Harlow's analysis, this would result in a violation of the ECP.

I move on now to a second problem with Harlow's analysis, concerning the treatment of negative relative clauses. Where the direct object position is relativized on, as in (48) above, the retention of a pronoun in the extraction site is entirely optional:

(62)   y   ci   na   welodd y   ddynes [NP e]

         the dog NEG-COMP saw-3s the woman

         'the dog which the woman didn't see'

The possibility of an empty NP as in (62) is not discussed by Harlow, and in fact his analysis predicts that it should not be possible, as it would be ungoverned. The EC cannot be governed by na (considered by Harlow to be the negative congener of y) since this is not analyzed as a co-indexed NP. The NP position in COMP (cf. (38) above) does not govern the object NP so this is ruled out. As we saw earlier (cf. (55)) AGR is not a possible governor of the object position either, only subject position. It appears, then, that there is no way of accounting for the grammaticality of (62) in Harlow's analysis: it is incorrectly predicted to be ungrammatical by the ECP, since the empty NP is apparently

ungoverned.

A third piece of data which is problematic for Harlow's
analysis is found in a discussion of LW by Awbery (1977:185):

(63)   y   dyn y   soniais amdano   ef ac Ann
        the man COMP spoke-1s about-3ms him and
        'the man who I spoke about him and Ann'

The English translation of this example is at best inelegant; the
resumptive pronoun instead of a gap in the first conjunct fails to
improve significantly the violation of Ross's (1967) Co-ordinate
Structure Constraint. In Welsh, however, this is not the case.
There is obviously language-specific variation between the two
languages in the area of this Constraint, and Welsh conforms to
Ross's observation regarding 'copying' rules (pronoun retention in
the extraction site), namely that a resumptive pronoun will tend
to 'rescue' what would otherwise be an island violation. However,
Harlow's analysis fails to predict the grammaticality of such
examples, because it predicts that Relative Deletion should apply
obligatorily here: ef in (63) is properly governed by the
agreement element on the inflected preposition, and so should
delete. In fact, this would result in an ungrammatical
derivation:

(64)   *y dyn y   soniais amdano   ac Ann
        the man COMP spoke-1s about-3ms and
        'the man who I spoke about and Ann'

Clearly, the 'accessibility' of dependencies into co-ordinate
structures and other syntactic islands is lower than it would be
in the case of non-islands. Since Relative Deletion applies
blindly in Harlow's analysis, this factor is not taken into
account.

6.2.3 An alternative proposal

In this section I sketch an alternative account within a more recent GB framework which obviates the problems noted with Harlow's analysis. My suggestions maintain the proposal which I first made in chapter 4, that relative clauses involve wh-movement and that the EC is therefore a wh-trace.

Let us first consider the immediate dominance dependencies, the a-relatives shown in (65):

(65) i) y   ddynes [S' a   [S welodd t y   ci]]

        the woman   COMP   saw-3s   the dog

        'the woman who saw the dog'

   ii) y   ci [S' a   [S welodd y   ddynes t]]

        the dog   COMP   saw-3s the woman

        'the dog that the woman saw'

(65i) shows the dependency into subject position; (65ii), the dependency into object position. I have shown that government of the EC by co-indexed a cannot be maintained, since a is no more likely to be an NP than the other complementizers na and y. How, then, can the ECP be fulfilled?

In more recent GB work, it is usually assumed that the wh-trace in object position is properly governed by the lexical category V. Of course, this presupposes SVO word order, to ensure that V uniquely governs the object position, rather than both subject and object as would be the case given VSO word order. Now, although Harlow (1981:217) does allow for the possibility of lexical government by a verb, he has to ensure that it does not satisfy the conditions for the ECP, for the following reason. In simple sentences, of course, object position cannot be an EC NP:

(66) i) Darllenais i'r   llyfr.

     read-1s   I-the book

     'I read the book.'

  ii) *Darllenais i [NP e]

     read-1s   I

     ('I read it.')

Harlow ascribes the ungrammaticality of (66ii) to an ECP

violation, under the assumption that the verbal AGR can properly

govern only subject position (resulting in null subjects) but not

object position. Naturally, if this prohibition were 'rescued' by

allowing object position to be lexically governed by V, then the

ECP would be fulfilled, and (66ii) would be predicted to be

well-formed. So Harlow cannot allow V to be a proper governor for

the ECP.

However, this difficulty disappears if we make the

assumptions of a more recent GB framework. (66ii) would be a

violation, not of the ECP, which is held to apply only to traces

left by movement rules, but of the Projection Principle. Darllen,

as a transitive verb, requires a object NP; verbal morphology in

LW can recover features of pro in subject position, but not object

position. Therefore (66ii) is ill-formed because lexical

requirements are not met.

We can now propose that V lexically governs its object both

in simple sentences, (66i), and in relative clauses such as

(65ii), where the requirements of the ECP are met provided that we

assume SVO word order.

Turning now to the subject dependency in (65i), re call that

Harlow must maintain that the verbal inflection in relative

clauses contains no AGR, and is therefore not a proper governor

for the ECP. Otherwise, he would have a situation of double
government, by a in COMP and by AGR in INFL. However, I have
shown that the grounds for considering the verbal inflection to
contain no AGR are insubstantial. I therefore propose that AGR is
indeed the proper governor for a subject wh-trace as in (65i), so
fulfilling the ECP. This proposal is also consistent with more
recent views of the pro-drop paramater (cf. Chomsky (1981:250ff;
1982:86)). It is suggested in the works cited that pro-drop
languages differ from languages like English and French in that
the former, but not the latter, allow AGR as a proper governor for
·the subject NP. In Romance pro-drop languages such as Italian,
this accounts for the non-applicability of the *that-t effects: a
wh-trace can appear in subject position following an overt
complementizer. Now, this property cannot be tested in Welsh,
given the VSO surface word order, but I assume that nonetheless
the verbal AGR properly governs the subject position in Welsh, so
that the ECP is met in (65i).

These proposals also enable us to give a more unified account
of the patterns found in affirmative and negative imediate
dominance dependencies. Recall that the negative relative clauses
display the patterns shown in (67):

(67) i) y   dynesau [S' na   [S welsant t y   ci]]

         the women   NEG-COMP   saw-3p   the dog

         'the women who didn't see the dog'

   ii) y   ci [S' na   [S welodd y   ddynes (ef)]]

         the dog   NEG-COMP   saw-3s the woman   it

         'the dog which the woman didn't see'

In the subject dependency, (67i), Harlow proposed that the EC was
in this case governed by the verbal AGR, since a is not available

as a proper governor here; we can now claim that that all subject

dependencies, both affirmative, (65i), and negative, have the EC

governed by verbal AGR. In the case of the object dependency in

(67ii), by Harlow's analysis the pronoun in the extraction site

ought to be obligatorily present, since an EC in that position

would not be properly governed. However, as I show, in fact the

pronoun is entirely optional. In the alternative account I sketch

here, the extraction site is lexically governed by the verb,

licensing (but not requiring) an EC under the ECP.

The only additional point which must be mentioned about such

-examples is that in Harlow's analysis, the Relative Deletion rule

is obligatory (up to ECP), but for (67ii) this would give the

wrong result, a pronoun being optionally present as shown.

Harlow's analysis founders because it attempts to predict the

presence or absence of pronouns in relative clauses in terms of

internal features of the syntax and morphology. Such an attempt

is bound to fail, given the optional nature of the pronoun in

(67ii). It is more appropriate, I suggest, to see pronoun

retention as being linked to the comparative accessibility of the

position relativized, in terms of the Keenan/Comrie (1977)

Accessiblity Hierarchy (cf. chapter 7). In LW, then, negative

relative clauses are less accessible than affirmative ones. There

are two pieces of evidence for this: firstly, the appearance of

plural concord in the subject dependency (67i), which does not

appear in affirmatives (cf. (50)); and secondly, the possibility

of pronoun retention in the lower Accessibility Hierarchy position

of object in (67ii). In CW, however, the distinctions between

negative and affirmative relative clauses are much less clear; the

unmarked 3s inflection can also occur in negative clauses, as

341

(68i) shows, and the affirmative object relative clauses often

display a pronoun in the extraction site, as in (68ii):

(68) i) y   dynesau [S' [S welodd mo'r   ci]]

       the women   saw-3s NEG-the dog

       'the women who didn't see the dog'   (cf. (67i))

  ii) y   ci [S' [S welodd y   ddynes o]]

       the dog   saw-3s the woman   it

       'the dog that the woman saw'   (cf. (65ii))

Recall that another construction which displays a pronoun in

the extraction site is the long distance object relative clause;

compare the embedded subject dependency in (69i) with the object

dependency in (69ii):

(69) i) y   dynesau y   dywedodd Aled

       the women   COMP said-3s

       [S' y   [S gwelsant t y   ci]]

         COMP   saw-3p   the dog

       'the women who Aled said saw the dog'

  ii) y   ci y   dywedodd Aled

       the dog COMP said-3s

       [S' y   [S gwelodd y   ddynes ef]]

         COMP   saw-3s   the woman   it

       'the dog which Aled said the woman saw'

In this case, the pronoun is obligatorily present; Harlow's

analysis attempts to account for this by claiming that an EC in

this position would be ungoverned, since a is unavailable here,

which would therefore result in an ECP violation. But the pattern

in (69) can also be given a functional explanation in terms of

comparative accessibility. I have suggested that the 3s verbal

inflection is the unmarked form, occurring wherever the number of

the subject NP can be recovered from the context. I suggested

that in long distance dependencies such as (69i), the head NP is

too far away from the verb, in terms of clause boundaries, for its

plurality to be recovered. In extractions from matrix clauses,

this is never the case, hence the appearance of the 3s unmarked

inflection. (68ii), with a pronoun in the embedded object

extraction site, illustrates the inaccessibility of that position

compared to the LW matrix object extraction in (65ii). The use of

a pronoun retention strategy increases as we descend the

Accessibility Hierarchy, as we will see in chapter 7, and its

-appearance in non-matrix extractions is even more likely.

Pronoun retention is also a strategy used to facilitate

processing of relative clauses formed on NP positions inside

syntactic islands, as we saw in section 6.2.2; cf. (63) versus

(64), which illustrated the possibility of relativizing into

co-ordinate NPs in Welsh.

Under the present assumptions, all relative clauses are

derived by wh-movement, and the resumptive pronouns in the

relative clauses I have been examining are seen as overt

wh-traces; cf. Chomsky (1981:330). Harlow's analysis seeks to

predict the absolute presence/absence of pronouns in relative

clauses, but is essentially misguided since, as I have shown, the

conditions which govern the appearance of such pronouns are

functional, and vary between formal and informal registers of

Welsh, rather than syntactic, and exceptionless. This question is

taken up again in chapter 7.

We turn next to the relative clauses formed on positions

lower down the NP Accessibility Hierarchy: extractions from VP, NP

and PP. In chapter 5 I argued contrary to most previous analyses

that the relativization site in extractions from VP and NP is in
pre-head position. This is the situation in LW; for CW, we saw
that some dialects utilize post-head position as the extraction
site for VPs, though all use pre-head position for NPs. (70)
shows the pre-head relativization sites for VP (70i) and NP
(70ii):

(70) i) y   papur y   mae   hi wedi _ei_ darllen

         the paper COMP is-3s she PERF 3ms read

         'the paper which she has read'

    ii) y   dyn y   gwelais i _ei_ fab

         the man COMP saw-1s I 3ms son

         'the man whose son I saw'

I have underlined the extraction site in each case. I suggest
that in these examples, the proclitic acts as a resumptive pronoun
-- in fact, an overt wh-trace. Support for this claim comes from
the data that I presented in chapter 5.2. We saw that in CW, the
proclitic itself is frequently absent from examples like (70i),
extractions from VP. Recall, however, that in those cases where
the overt proclitic is missing, we always find SM on the head
verb, as in (71). This was the case even where an overt proclitic
would trigger a different mutation, such as _ei_ (3fs) triggering
AM, or where an overt proclitic is followed by the radical
initial, such as _eu_ (3p). I suggested that in all these
instances, SM is triggered by the wh-trace in the pre-head
extraction site. The ECP will be satisfied by proper government
of the EC by the head verb, e.g. _darllen_ in (71):

(71)   y   papur mae   hi wedi _wh-t_ _ddarllen_   (darllen)

         the paper is-3s she PERF   read

         'the paper which she has read'

Extractions from NP, (70ii), differ only in that a resumptive

pronoun is obligatory, as shown. In chapter 7 an explanation for

the distinction, again in terms of differing accessibility, is put

forward.

The EC in extractions from PP is also wh-trace. As we will

discuss further in chapter 7, in CW this position is also often

filled by a resumptive pronoun, giving, for example, (72).

(72)   y   dyn disgwyliodd hi wrtho fo

         the man expected-3s she at-3ms him

         'the man that she waited for'

The present account differs in another way from Harlow's: it

does not attempt to tie the appearance of one or the other

complementizer (a or y) to the patterns of pronoun retention.

Given the 'anomalous' relatives of Awbery's cited in (57) through

(59), it is clear that the complementizers do not appear in strict

complementary distribution; Harlow's analysis works on the

assumption that they do, and so cannot make the correct

predictions for all the data. It also transpires that in CW,

overt complementizers rarely appear anyway, and so cannot be used

to predict pronoun retention. Furthermore, as we will see in

chapter 7.4, the mutation patterns triggered by a and y are often

non-distinct. My claim is therefore that strict separation of the

complementizers is not possible, when a wider variety of data are

considered.

As for the binding conditions which govern the appearance of

wh-trace or resumptive pronoun in Welsh relative clauses, I

suggest that the variable is A'-bound by a position in COMP, as is

the standard assumption in Chomsky (1981, 1982). However, I have

argued that the complementizer a is not an NP, and neither are the

other complementizers y and na. A possible solution to this

problem is suggested by an analysis of English relative clauses in

Chomsky (1986:84f). Where there is no overt wh-element in COMP,

for example in 'the man [I saw t]', Chomsky postulates an empty

category operator in COMP: 'the man [O [I saw t]]'. This might

be base-generated, as D-structure object, and then undergo

wh-movement to COMP, where it acts as a binder for the wh-trace.

Chomsky actually proposes that the empty operator could be

lexically realized as 'who' in English; for Welsh, however, I

suggest that the operator is always empty, but that it exists

alongside an optionally-filled complementizer position -- that of

a, y, or na. [3] I suggest, then, that in Welsh, as in English,

there is an empty operator in COMP which serves to fulfil the

binding conditions on the variable.

We have seen in this section that given some of the basic

assumptions of a more modern GB analysis than that of Harlow

(1981), then a tenable account of relative clauses in LW can be

put forward. However, the proposed analysis does depend crucially

on positing an underlying SVO word order, which we have attacked

in chapters 3 and 4. It seems that any GB analysis of Welsh will

suffer from the same problem in this respect, since only SVO

underlying order is compatible with fundamental principles of GB.

In chapter 7 we will examine patterns of relative clause

formation in CW, and it will be shown that the wider variety of

construction types that exist must be seen in terms of comparative

accessibility of NP positions to relativization.

6.3 SADLER (1984)

As we saw in section 6.2, the analysis presented by Harlow (1981) assumed that the same strategy operates in all relative clauses in Welsh: a rule of Relative Deletion applies wherever its output results in an EC which would be (properly) governed under the ECP. The two primary relativization strategies, a in COMP plus a gap in the relativization site, or y in COMP plus agreement, are therefore derived by the same principles in Harlow's paper. In Sadler (1984:ch.6), however, this is not the -case.

Sadler proposes that the two strategies be distinguished as follows: only the a plus gap strategy (the immediate dominance dependencies of Harlow (1983)) are derived by alpha-movement, whereas the y strategy involves no movement. A is considered to be an operator in COMP which binds a wh-trace in the extraction site, as is standard in GB theory.

Recall that in the case of subject dependencies into matrix clauses, there is no verbal number agreement with a plural NP:

(73)   y   dynesau [S' a   welodd _ y   ci]

          the women   COMP saw-3s   the dog

          'the women who saw the dog'

On the other hand, more deeply embedded subject relatives do display number agreement:

(74)   y   dynesau y   dywedodd Aled

          the women   COMP said-3s

          [S' y   gwelsant _ y   ci]

               COMP saw-3p   the dog

          'the women who Aled said saw the dog'

In Sadler's analysis, the EC in (73) is a wh-trace, bound by a in COMP. The gist of Sadler's analysis is that the full verbal inflection (gwelsant 'saw-3p') does not occur, because the full inflection absorbs government, leaving the trace in violation of the ECP, since it would not be properly governed. In (74) the EC cannot be a wh-trace, because it co-occurs with the full verbal agreement which would absorb government. If the position is not one which is properly governed, then Sadler suggests that the EC in this case must be PRO. Why, though, is the a plus wh-trace strategy not available as an alternative in (74), with no verbal -agreement? According to Sadler, the reason for this is that in Welsh, both S and S' are bounding nodes [4], so that long-distance, COMP-to-COMP movement is impossible:

(75)   y dynesau [S'1 y [S1 dywedodd Aled

          [S'2 y [S2 gwelsant _ y ci]]]]

In (75) (=74) movement to the first COMP, S'2 would be possible without violating subjacency, since only one bounding node, S2, would be crossed. But further movement would be impossible since the moved item would violate subjacency by crossing two bounding nodes, S'2 and S1. Thus Welsh is seen as essentially like Polish and Russian, where wh-movement is clause-bound. If movement is impossible in (74) then in Sadler's analyis the only solution is to have PRO as the EC in such cases.

Most of Sadler (1984) is written in the framework of Chomsky (1981), where the null subject in pro-drop languages is considered to be PRO. It is not until Chomsky (1982) that PRO and pro are distinguished for the first time. The standard assumption in the more recent framework is that PRO is ungoverned and therefore can never occur with an inflected verb, since it would then be

governed by AGR in INFL, like lexical subjects. Pro on the other

hand is governed, since it occurs in the same environment as

lexical NPs, which must be governed and Case-assigned by AGR.

Sadler's assumption is that the verbal inflection in (74) absorbs

government, so allowing PRO. The null subject in pro-drop cases

is also regarded as PRO in her analysis. There is, however, an

essential problem in an analysis which seeks to identify the EC

found in long-distance dependencies such as (74) with the EC found

in the null subject constructions: in the latter construction, a

pronoun is possible instead of the EC, in free variation with it,

-but in the former, a pronoun is impossible. So (76) can have a

pronoun or an EC, but (77) only allows an EC:

(76)   Gwelsant hwy/_ gi.   (ci)

        saw-3p   they   dog

        'They saw a dog.'

(77)   y   dynesau y   dywedodd Aled

        the women   COMP said-3s

        y   gwelsant (*hwy)/_ gi   (ci)

        COMP saw-3p   they   dog

        'the women who Aled said saw the dog'

We might assume that Sadler actually intends the EC in (76) to be

pro rather than PRO, as is the standard assumption in more recent

versions of GB. In that case, the EC in (77) would presumably

also be pro, since Sadler regards the two ECs as tokens of the

same type; the evidence for this position is that both require

full verbal agreement in terms of number marking, as these

examples show. However, if the EC in (77) is pro, why is it not

freely interchangeable with an overt pronoun, as in the null

subject construction in (76)? If both ECs are pro, we have no

explanation for the obligatory absence of the overt pronoun in

(77). In general in LW, <u>pro</u> <u>is</u> freely interchangeable with a

pronoun (cf. chapter 4.4) not only in null subject constructions,

but also in preposition phrases with inflecting prepositions:

(78)   Rhoddais i'r   llyfr iddi   hi/ <u>pro</u>

         gave-1s I-the book to-3fs her

         'I gave the book to her.'

This being so, we have no non-ad hoc explanation of the

impossibility of an overt pronoun in (77).

We might, then, take Sadler's claim at face value, and assume

that the EC in both (76) and (77) is in fact PRO. In current GB

theory, the null argument in such constructions as (76) and (78)

is not normally considered to be PRO, and this suggestion would

appear to cause problems with government, since it is also usually

assumed in GB that PRO is ungoverned. Sadler solves this problem

by suggesting that there are actually two different types of

government, s-government and c-government. C-government is the

more general type of government, and simply involves an element

c-commanding another element with no major category boundaries

intervening. S-government is analogous to proper government; it

is a more restricted version of c-government, and is defined as

follows by Sadler:

(79)   S-Government

A s-governs B iff

     i) A and B are co-superscripted

    ii) A minimally c-commands B

   iii) A is of type X^0

(Sadler 1984:289)

Sadler suggests that an INFL with AGR, as in (77), has the

property of absorbing s-government. In such cases, wh-trace

cannot occur, since it <u>must</u> be s-governed (properly governed). So

in the long-distance relative in (77), the EC cannot be wh-t,

because of the co-occurrence with AGR. In (65) however, the

dependency in a matrix clause, there is no AGR to absorb

s-government, so the EC <u>is</u> wh-t. On the other hand in (76), the

null subject construction, and (77), there is AGR; therefore the

EC in these cases must be PRO, which is allowed to appear in

positions where s-government has been absorbed, leaving it

c-governed only.

    Case is assumed to be assigned under s-government. As we

have seen, full NP subjects do not co-occur with full verbal AGR;

that is, there is no plural concord, giving examples like (80):

(80)   Gwelodd y   dynesau'r ci.

        saw-3s   the women-the dog

        'The women saw the dog.'

This means that s-government does not get absorbed, so that Case

can correctly be assigned to both full lexical NPs and also

wh-traces, which only appear in s-governed positions. Since PRO

is never s-governed, it will not receive Case, as desired, in

structures such as (76). However, this also has the unwanted

side-effect of making Case-assignment on the pronoun in (76)

impossible, if this is a position in which s-government is

absorbed. Sadler handles this problem by using a

Case-transmission device to ensure that pronouns do not end up as

Caseless overt NPs.

    The analysis I have outlined enables Sadler to identify the

EC in null argument constructions with the EC in embedded subject

position in the relative clause in (77), which in turn permits a

unified account of the appearance of plural inflectional
morphology in both cases. The EC is of course PRO.
Unfortunately, this account cannot be extended to other
constructions in which PRO would appear in GB theory. GB requires
that verbs in tenseless embeddings are analyzed as having
subjects, by the Extended Projection Principle. As we discussed
in chapter 4.2, there are two possible assumptions which could be
made about word order in a surface VSO language: either it is
underlyingly and superficially VSO, or it is underlyingly SVO with
a verb-fronting rule which applies in tensed clauses. If the
first (VSO) assumption is correct, we would get examples such as
(81):

(81)   Ceisiodd Megan [ddarllen PRO papur newydd]

         tried-3s   read   paper new

         'Megan tried to read a newspaper.'

whereas if the second (SVO) assumption is correct, we would get
examples such as (82):

(82)   Mae   Gwyn yn   gobeithio [PRO prynu ci]

         is-3s   PROG hopes   buy   dog

         'Gwyn hopes to buy a dog.'

Whichever assumption is correct, we are faced with examples where
PRO precedes a mutable category but does not trigger SM: papur
rather than *bapur in (81), and prynu rather than *brynu in (82).
However, in (76) and (77) the EC which appears in both cases does
trigger SM: gi rather than *ci in each case. It therefore seems
reasonable to conclude that this EC cannot be PRO.

To summarize, then, we have shown that the EC in
long-distance dependencies such as (77) cannot be pro, since it is
not interchangeable with an overt pronoun. The EC in null subject

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constructions such as (76) _is_ interchangeable with a pronoun, and

I will continue to analyze this category as _pro_. Neither can the

EC in (77) be PRO, since it is a trigger for SM, which PRO is not.

There is therefore no support for Sadler's proposed analysis of

long-distance dependencies. The EC in (77) clearly cannot be an

NP-trace, since it is in a Case-marked position as subject of a

tensed clause. So the only remaining candidate is the EC

wh-trace. This has the required properties, since it is not

freely interchangeable with an overt pronoun, and it is a

Case-marked EC, and most importantly, it is an SM trigger, as we

·saw in chapter 5.

I propose that the explanation for the appearance of plural

concord on the verb in (77) is simply that such relative clauses

are comparatively inaccessible. (Relativizability in terms of the

Keenan/Comrie (1977) Accessibility Hierarchy, is discussed fully

in chapter 7.) Plural concord helps processing in a case where

the plural head NP is more than one clause distant from the

position relativized on.

Recall that the _y_ strategy is also used in other relative

clauses: when the position relativized on is an NP within a VP, or

a possessive NP, or the object of a preposition:

(83) i) y   ddynes yr   hoffwn   ei gweld

         the woman COMP would-like-1s 3fs see

         'the woman who I would like to see'

  ii) y   bachgen y   gwerthais ei gap

         the boy   COMP sold-1s   3ms cap

         'the boy whose cap I sold'

iii) y   drws y   curais   wrtho

the door COMP knocked-1s at-3ms

'the door that I knocked at'

Sadler is proposing that the y strategy is used because no

movement is possible, so she handles these relative clauses by

claiming that movement fails because the positions in question are

syntactic islands (in fact, she goes on to propose that NP, PP and

VP are bounding nodes). This suggestion is problematic, however,

when the 'anomalous' relatives cited by Awbery (1977) are taken

into account (cf. section 6.2.2, examples (57) through (59)). As

·those examples show, a in COMP is also possible in LW in such

cases as (83); but in Sadler's analysis a is a binder in COMP and

should co-occur with a wh-trace in S, not an agreement element.

Yet in terms of Sadler's analysis there is an agreement element in

each case in (83): the proclitics and the prepositional

inflection. As we saw in section 6.2, strict separation of the

roles and distribution of the complementizers is actually

impossible, so that no analysis can predict the relativization

patterns on the basis of the complementizer used.

6.4   CONCLUSION

I have argued in this chapter that all relative clauses in

Welsh are formed by a rule of wh-movement, contra both Harlow's

Relative Deletion analysis, and Sadler's analysis which is divided

between wh-movement for some relative clauses but no movement for

others. I have also shown that there is good evidence for

considering the ECs which occur in relative clauses as wh-traces,

and the proclitics as 'filled' traces -- resumptive pronouns which

are variables. In chapter 7 I continue the examination of

relative clauses, concentrating largely on data which occur in CW.

<u>FOOTNOTES</u>

1. In fact, Harlow (1981) merely states that empty NPs must be governed, whereas current formulations of GB theory have the more restrictive requirement for [NP e] to be properly governed; cf. chapter 3.1.4.

2. Cf. Sadler (1984:ch.6) for a detailed discussion of further theoretical problems in Harlow (1981), particularly concerning the formulation of government.

3. Harlow (1981:249f) points out that there are apparently doubly-filled COMP structures in Welsh, such as (i):

(i)   y ty   [S' lle yr [S wyf i'n   byw __]]

         the house   where COMP   am-1s I-PROG live

         'the house where I live'

(adapted from Harlow 1981:250)

Whether the analysis of overt complementizer plus empty operator in COMP which I propose in the text constitutes an example of a similar kind, I am unsure.

4. Actually Sadler (1984:211) suggests that S is a bounding node and S' "a barrier to further movement". I interpret this as in the text, i.e. that both S and S' are bounding nodes.

ACCESSIBILITY AND RELATIVIZATION STRATEGIES IN WELSH

Previous syntactic studies of Welsh have typically

concentrated on data from LW, including analyses of unbounded

dependencies such as Harlow (1981) and Sadler (1984). In this

chapter I compare the strategies used in relative clause formation

in LW and CW, particularly in the light of the Keenan and Comrie

(1977) Accessibility Hierarchy. Superficially, and if a limited

·set of data from LW only are considered, Welsh appears to be a

paradigm example of the Hierarchy. However, a more complex

picture emerges from a close investigation of strategies used in

colloquial varieties of Welsh. Nonetheless, the claims made by

Keenan and Comrie for the validity of the Hierarchy are largely

supported, although some language-specific modifications, for

example concerning the ordering of NP positions, are shown to be

justified.

7.1   THE KEENAN/COMRIE ACCESSIBILITY HIERARCHY

In this section I will outline the proposals made by Keenan

and Comrie (1977) and Comrie and Keenan (1979) for an NP

Accessibility Hierarchy; cf. also Keenan (1987), where the

original article and other relevant studies can be found. Keenan

and Comrie's proposals are intended to define a universal

hierarchy for relative clause formation, in terms of the NP

positions in which relative clauses can be formed. They confine

their proposals to restrictive relative clauses only. The

characterization (rather than definition) of relative clauses

which they use is semantically or cognitively based:

(1) "We consider any syntactic object to be a relative clause if

it specifies a set of objects (perhaps a one-member set) in two

steps: a larger set is specified, called the <u>domain</u> of

relativization, and then restricted to some subset of which a

certain sentence, the <u>restricting</u> sentence, is true. The domain

of relativization is expressed in surface structure by the <u>head</u>

<u>NP</u>, and the restricting sentence by the <u>restricting clause</u>, which

may look more or less like a surface sentence depending on the

·language."

(Keenan and Comrie 1977:63f)

This statement is clearly rather open to interpretation, but as

the two authors state in the 1979 paper, it is intended to be a

heuristic for the reliable interpretation of relative clauses,

rather than a syntactic definition. Using English to exemplify

their statement, take the relative clause 'the man who came to

dinner'. Here, the domain of relativization is the set of men,

and the subset of that domain is the head NP 'the man'. The

restricting sentence would be 'the man came to dinner', and the

restricting clause is 'who came to dinner'.

Out of the possible types of parametric variation in relative

clause formation, Keenan and Comrie concentrate on two criteria:

firstly, the position of the restricting clause in relation to the

head NP, and secondly, the presence or absence of 'case-coding'

strategies in the formation of the relative clause. The first

parameter defines relative clauses as postnominal, prenominal, or

internal, and can be swiftly dispensed with as far as Welsh is

concerned: like English, Welsh uses an exclusively postnominal

strategy, where the head NP is found <u>before</u> the restricting

clause:

(2)   y   dyn sy'n   yfed   coffi

         the man who-is drinking coffee

         'the man who is drinking coffee'

As far as case-coding is concerned, a strategy used for relative

clause formation must be either [+case] or [-case]. [+Case]

strategies "present a nominal element in the restricting clause

that unequivocally expresses which NP position is being

relativized" (Keenan and Comrie 1977:65). The term 'nominal

-element' is a rather odd one, since a [+case] strategy might be a

retained pronoun in the relativization site, but alternatively it

might be a change in the case of the relative pronoun, or else a

preposition, which marks the relativization site by virtue of

forming a constituent with the NP in a simple sentence.

In English, relatives formed on both subject and direct

object position are said to employ a [-case] strategy in Keenan

and Comrie's terms: the string 'the girl who' is systematically

ambiguous in that it can occur as part of either (3i) or (3ii):

(3) i)   the girl who likes Fred

    ii)   the girl who Fred likes

On the other hand, 'the girl whom Fred likes' would be considered

as using a [+case] strategy, since the relative pronoun here marks

the relativization site unambiguously as object. This strategy,

where morphological case is marked on the relative pronoun, is

used extensively in the Slavonic languages and in German, but is

not found in Welsh.

LW does use two different relative pronouns, as we saw in

chapter 6: broadly speaking, <u>a</u> is used to relativize subject and

direct object NPs, and y is used elsewhere. However, these are

not very reliable indicators of which NP position has been

relativized (cf. Awbery's 'anomalous relatives' cited in chapter

6.2.2); and in CW, the distinction is eroded and blurred, because

normally no overt relative pronoun is found in the colloquial

language.

The term [± case] as used by Keenan and Comrie is actually a

rather misleading one, since many languages which use [+case]

strategies have no overt morphological manifestation of case. In

GB terms, the [+case] strategies are used to signal the

·grammatical functions of the NPs relativized. The [±case]

distinction has been criticized by various authors, whose points I

will discuss in section 7.2, and in that section I also suggest

that strategies other than those considered by Keenan and Comrie

to be case-coding should actually be considered as [+case].

The Accessibility Hierarchy is stated as follows:

(4)   Accessibility Hierarchy   (AH)

        SU > DO > IO > OBL > GEN > O COMP

'>' means 'is more accessible than'

(Keenan and Comrie 1977:66)

Each position on the hierarchy represents a possible NP position

in a simple sentence: SU 'subject', DO 'direct object', IO

'indirect object', OBL 'major oblique case NP' (typically,

prepositional objects), GEN 'genitive' or possesor NP and O COMP

'object of comparison'. I illustrate these positions in LW:

(5)   SU

        y   ddynes a   welodd t y   ci

        the woman COMP saw-3s   the dog

        'the woman who saw the dog'

(6)   DO

        y   ddynes a   welodd y   ci t

        the woman COMP saw-3s the dog

        'the woman who the dog saw'

(7)   IO

        y   dyn y   rhoddais y   llyfr iddo

        the man COMP gave-1s the book to-3ms

        'the man to whom I gave the book'

(8)   OBL

        y   gadair yr   eisteddodd y   brenin arni

        the chair COMP sat-3s   the king   on-3fs

        'the chair on which the king sat'

(9)   GEN

        y   dyn y   gwelais ei   fab

        the man COMP saw-1s 3ms son

        'the man whose son I saw'

(10)   O COMP

        y   dyn y   mae   Mair yn   dalach nag ef

        the man COMP is-3s   PRED taller than him

        'the man that Mair is taller than'

(5) and (6) illustrate the 'immediate dominance dependencies' of

Harlow (1983) discussed in chapter 6: the relative pronoun is a,

and there is a 'gap', marked by t above, in the relativization

site. This is the extent of the [-case] strategy in LW.

    Positions IO and OBL are not formally distinct in Welsh; (7)

and (8) both illustrate the inflected preposition system, with

inflections for person, number and gender of the relativized NP

cliticized to the preposition. The genitive example in (9) has

the 3ms proclitic ei in the relativization site, (cf. chapter 5)

and the object of comparison in (10) has a resumptive pronoun _ef_.

All the positions from IO down the hierarchy are therefore

examples of a [+case] strategy in LW. Although the actual

mechanisms of the strategy vary from prepositional inflection or

enclitic, through proclitic, to resumptive (non-clitic) pronoun, I

take it that each of the examples in (7) through (10) could be

said to use a pronoun retention strategy.

LW also serves well to illustrate Keenan and Comrie's

proposed Hierarchy Constraints:

(11)   Hierarchy Constraints (HCs)

1. A language must be able to relativize subjects.

2. Any relative clause-forming strategy must apply to a

continuous segment of the AH.

3. Strategies that apply at one point of the AH may in principle

cease to apply at any lower point.

(Keenan and Comrie 1977:67)

Provided that subjects can be reliably identified, and that each

language has _some_ relativization, then HC1 can only be disproved

if a language is found which does not relativize subjects. There

appear to be no candidates, so validating the proposed universal,

although some languages do not relativize _all_ subjects, as

Manaster-Ramer (1979) shows. HC2 is illustrated in LW by (5) and

(6), which use a [-case] strategy, versus (7) through (10) which

use a [+case] strategy. Thus we see that each of the two

strategies does apply to a continuous segment of the AH, and also

that the [-case] strategy ceases to apply after DO, which bears

out HC3 for LW.

In terms of language universals, it is predicted that no

language will be able to relativize, say, just genitive NPs: by

HCl only subject relative clauses are absolute universals, and indeed some languages were found to allow no other NPs than subjects to be relativized. HC2 justifies the proposed ordering of the AH, since every continuous segment of the hierarchy from the top down is utilized for relative clause formation in some language. Strategies cannot 'skip' positions, it is predicted: for example, suppose that a [-case] strategy applied to SU and OBL NP positions; it would also have to apply to all postions in between on the AH, namely DO and IO. HC3 justifies the postulation of each separate position on the AH, for every position below subject is a possible cut-off point for a relativization strategy in some language.

The strategy which is used to form subject relative clauses is termed the primary strategy. Clearly, all languages must have a primary strategy to obey HCl, but need not have any other strategy. This may be either because no position other than subject can be relativized, or else that the same strategy is used for all relativizable positions. It is predicted that the lower on the AH an NP position is, the harder it is to relativize using the primary strategy. However, this statement is logically distinct from what Comrie and Keenan (1979) term the 'Strong Form' of the AH constraint:

(12) "If a language can relativize any position on the AH, then it can relativize all higher positions."

(Comrie and Keenan 1979:651)

Most of the languages in the sample of around fifty analyzed by the two authors did indeed obey the Strong Form of the AH constraint: only four, all in the Malayo-Polynesian family, failed to do so. These languages all allow the relativization of some

position(s) below DO, but DO itself is not relativizable.

However, DO NPs can be relativized if they have first been

'promoted' to subject position by passivization. In fact this

phenomenon rather neatly justifies Keenan and Comrie's claims,

since it shows that subject is a more accessible position than any

other.

Keenan and Comrie claim (1977:88) that the AH is

psychologically valid since it "directly reflects the

psychological ease of comprehension". It is predicted that

relative clauses formed on NP positions which are low on the

-hierarchy are more difficult to process than ones formed on higher

positions. This is why HC3 applies; low positions typically

require a different strategy for relativization, one which aids

processing in some way. LW illustrates this with its

pronoun-retention strategy below DO. As Keenan and Comrie point

out:

(13) "In the pronoun-retaining strategies, the restricting clause

in surface is a sentence -- one that expresses exactly the

restricting sentence of logical structure".

(Keenan and Comrie 1977:92)

For example, in (7) through (10) above, the restricting clause is

indeed identical to a full sentence in LW, i.e.:

(14) i) Rhoddais y   llyfr iddo.

         gave-1s the book to-3ms

         'I gave the book to him.'

    ii) Gwelais ei fab.

         saw-1s 3ms son

         'I saw his son.'

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Evidence from experimental studies has been found to

corroborate Keenan and Comrie's claims. Keenan and Comrie

(1977:89) report that children's comprehension and production of

subject relativizations is better than for relativization of

direct objects. In an experiment involving ten to twelve year

olds, who were given repetition tasks for relative clauses formed

on the NP positions of the AH, the following hierarchy was

produced:

(15)   SU > DO > IO > OBL, O COMP > GEN

(Keenan and Comrie 1977:90)

This hierarchy was established according to the number of errors

produced by recall of relative clauses: so subject relativizations

produced fewer errors than direct object, and so on. The only

point at which the resulting hierarchy differs from Keenan and

Comrie's AH is at the O COMP position. Here, O COMP is shown to

be equally as accessible as the OBL position, and ahead of GEN

instead of behind it. Why should this be? The strategy for OBL

NPs used in the study involved preposition stranding rather than

pied-piping, so for example giving (16i) rather than (16ii):

(16) i) the girl who I knitted the scarf for

     ii) the girl for whom I knitted the scarf

Keenan and Comrie suggest that stranding _than_ in O COMP relative

clauses such as 'the boy who Johnny is taller than' is interpreted

as parallel to preposition stranding. This proposal receives

support from a paper on the AH by Maxwell (1979:367); he suggests

that this type of _than_ in English is actually a preposition, and

should be treated as an oblique NP position on the hierarchy.

Maxwell points out, pertinently, that the preferred case for a

pronoun following _than_ is objective, (17ii), just as for a

prepositional object, (17iii):

(17) i)   Mary is older than I.

   ii)   Mary is older than me.

   iii)   Mary knitted the scarf for me.

We might ask, however, why it is that subjects should be easier to relativize than objects, and direct objects easier than indirect objects, and so on. Keenan and Comrie's comments on this question are very plausible (1977:93). They point out that the hierarchy correlates with the requirements for NPs in predicate structure: lexical predicates virtually always require subjects, and frequently require direct objects; some, like 'give' require indirect objects, 'give the book to Fred', and a few, like 'put', require oblique NPs, 'put the book on the table'. A few verbs have possessive NPs as part of their predicate structure, such as 'he gnashed his teeth', but none requires an argument which is the object of comparison.

7.2   DISCUSSION OF THE ACCESSIBILITY HIERARCHY

In this section I will critically examine the AH, concentrating in particular on the [±case] distinction, particularly in the light of two papers by Manaster-Ramer (1979) and Maxwell (1979). Both authors take issue with Keenan and Comrie's [+case] and [-case] strategies for relativization. Maxwell's paper actually supports the AH, as a hierarchy, but suggests replacing the [±case] distinction by a system of classification which separates each individual strategy used.

It is implicit in the discussion of case-coding strategies in Keenan and Comrie (1977), though not explicit in the formulation

of the hierarchy constraints, that [+case] strategies are more likely to be found in lower positions on the AH. The only [+case] strategy which Keenan and Comrie consider in detail is that of pronoun retention, and here they do explicitly state the following (partially informal) constraints:

(18) "... as we descend the AH, languages will exhibit a greater tendency to use pronoun-retaining relative clause forming strategies. ...Once a language begins to retain pronouns it must do so for as long as relativization is possible at all."
(Keenan and Comrie 1977:92)

These statements are strongly supported by data from pronoun-retaining languages, including LW. However, in Keenan and Comrie's system there is nothing to formally prevent some [+case] strategy other than pronoun retention being used at the top of the hierarchy, and then ceasing in favour of a [-case] strategy for lower positions. For example, a logical possibility is that subject and direct object positions might be represented by special cases of the relative pronoun, therefore a [+case] strategy, but that all lower positions would have the same 'neutral' case of relative pronoun, which would not effect case-coding. Suppose further that there is no other case-coding strategy in operation on these lower positions. This unlikely-sounding scenario is certainly not realized in any of the data presented by Keenan and Comrie, and a reasonable prediction is that such a situation never arises in natural languages. However, there is nothing in the design of the AH nor the suggested constraints which rules out this possibility. Alongside the statement in (18), then, I propose the following constraint:

(19)   Case-coding Constraint

Once a language begins to use a [+case] strategy at any point on

the AH, it must continue to use some [+case] strategy for as long

as relativization is possible.

In conjuction with (18), this statement appears to make the

correct predictions for all the languages in Keenan and Comrie's

sample.

However, the wisdom of making a [±case] distinction at all is

questioned by both Manaster-Ramer (1979) and Maxwell (1979).

Manaster-Ramer suggests that the [+case] strategy subsumes the

following three separate strategies:

(20) i) resumptive pronouns

ii) relative pronouns which unambiguously code the AH position

relativized

iii) relative pronouns with prepositions

(Manaster-Ramer 1979:217)

As he points out, the third category does not receive an explicit

treatment by Keenan and Comrie, but 'pied-piping' constructions

are nonetheless always treated as case-coding. Manaster-Ramer's

objection seems to be that the three categories in (20) are too

disparate to form a natural 'case-coding' class. I believe that

this objection is invalid because of the generalization noted in

(19): these strategies for case-coding all typically appear at

positions low down on the AH. These are positions where a

strategy which simply relies on word order, with a gap in the

relativization site, is often impossible. In other words, the

categories in (20) have a unity of _function_, in that they enable

relativization to take place in lower positions on the AH.

Obviously, there is parametric variation in the exact point on the

hierarchy at which each language begins to use one of the strategies in (20). In LW, as we saw in section 7.1, only SU and DO positions allow a [-case] strategy, and all lower positions rely on a clitic or independent pronoun in the extraction site.

In fact, (20) is incomplete, even for the languages in Keenan and Comrie's sample, since a few languages allow a fourth, alternative strategy to (20iii): preposition stranding. Comrie and Keenan clearly state that they regard preposition stranding as a [+case] strategy, "since the restricting clause presents the marker which identifies the role of the [relativized NP] as explicitly as is done in simple declarative main clauses" (1979:657). For example, in a sentence such as 'this is the bank I put the money in', the relativized NP 'the bank' can only be interpreted as the object of the preposition. The logic of the authors' reasoning is not, however, unassailable: other strategies which identify the grammatical function of the relativized NP unambiguously are not considered as case-coding. For example, Manaster-Ramer makes the valid point that Greenlandic marks the AH position of the relativized NP in the verb (1979:218). Word order in English also clearly distinguishes between subject and object relativizations: 'the girl who t likes Fred' versus 'the girl who Fred likes t'. There seems to me to be no reason not to admit such a strategy as case-coding in English, if my view that [+case] strategies encode grammatical function is correct.

Not all word order strategies are case-coding, though. Comrie and Keenan (1979:657) themselves point out that word order "permits recovery of the [relativized NP]" in English, but not in a language with a freer word order, like Japanese. In non-configurational languages the grammatical function of any

given NP cannot be predicted from word order, but of course this is also true to some extent of languages like Welsh. As a VSO language, subject and object are contiguous in the simple sentence, and ambiguity can arise between relative clauses formed on these positions, as we saw in chapter 5.1:

(21) i) y   bachgen (a) welodd y   ddynes

          the boy   COMP saw-3s the woman

          'the boy who saw the woman'

          'the boy who the woman saw'

     ii) y bachgen (a) welodd t y ddynes

    iii) y bachgen (a) welodd y ddynes t

This relative clause can either be interpreted as in (ii) or (iii). The same possibility of ambiguity presumably also appears in VOS languages. Maxwell (1979:357) also points out that this is true of any verb-final language which does not distinguish subject and object by morphological case. Dutch, which he cites as an example, is verb-final in subordinate clauses, and this gives rise to such ambiguities as (22):

(22) i) de man die Marie aanviel

         the man who Mary attacked-3s

     ii) 'the man who Mary attacked'

    iii) 'the man who attacked Mary'

Wherever the verb is not medial, then, that is in all four verb-initial and verb-final word orders, there is the potential for ambiguity, since in each case subject and direct object are contiguous in the simple sentence. Presumably, actual ambiguity is not often tolerated: as in the case of non-configurational languages, in many instances subject and direct object will receive different markings for morphological case. In fact, the

ambiguity of the Welsh example in (21) or the Dutch in (22) is exactly of the type predicted not to occur by Keenan (1974:479). However, Keenan (ibid.) does say that "any language .. must provide some strategy to identify the role that the head NP plays in the subordinate sentence." Welsh does indeed provide a variety of strategies as an alternative to (21), which I will examine in detail in section 7.3.

It seems clear to me that word order strategies can be case-coding, as in English, or non-case-coding, as in the Welsh and Dutch examples. This being so, word order strategies should not be labelled [-case] a priori, since this gives the wrong results for languages like English which do clearly distinguish subject and direct object relativizations by this strategy. Yet Keenan and Comrie treat these two positions as [-case] in English, which is surely undesirable, given that English functions so differently from Welsh in this respect.

Maxwell (1979) dispenses with the [±case] distinction altogether, in favour of a different system of classification. Two strategies in this system can be swiftly dealt with: firstly, the non-reduction strategy; this involves no 'gap', whether containing a trace or a resumptive pronoun, in the restricting clause, but instead has an unreduced copy of the relativized NP in its appropriate A-position. The second strategy which I will briefly mention is the unfortunately-named gap strategy: this apparently only occurs in postpositional languages like Japanese, and involves deletion of the postposition rather than stranding or moving it.

The three remaining strategies are the major ones found universally: the word order strategy, the anaphoric pronoun

strategy, and the relative pronoun strategy. In fact there are

other, more marginal strategies in use cross-linguistically,

including the mutation and demotion strategies found in Welsh

(cf. section 7.3); Keenan (1985) also discusses and classifies a

variety of relative clause types.

The word order strategy, we have already mentioned: this

involves the relativized NP simply being absent from the

restricting clause, as in English subject and direct object

relativizations. However, Maxwell also considers preposition

stranding strategies as being in the same category, on the grounds

that the relativized NP is missing from the restricting clause.

This seems reasonable to me, although it does not accord with

Keenan and Comrie's views since, as we saw, they treat preposition

stranding as a [+case] strategy as opposed to the [-case] strategy

claimed for English subject and object relativizations. Since

Keenan and Comrie's system involves making an arbitrary

distinction between strategies which effect the same result, I

consider Maxwell's classification to be preferable here.

The anaphoric pronoun or pronominal strategy is defined by

the presence of a pronominal copy of the head NP in the

relativization site. This is the strategy in use in LW on all

positions of the AH below DO: cf. (7) through (10) above. Note,

though, that only the object of comparison, (10), has a true

pronominal in the extraction site; indirect object and oblique

positions have the prepositional inflection, and the genitive

position has a proclitic which is not, of course, in the same

position as the full NP would be in a simple sentence:

(23) i) Gwelais i <u>fab y   dyn</u>.

saw-1s   I son the man

'I saw the man's son.'

ii) y   dyn y   gwelais <u>ei</u> fab

the man COMP saw-1s   3ms son

'the man whose son I saw'

The final strategy, the relative pronoun strategy, is

formulated by Maxwell to include only relative pronouns which

distinguish the case (i.e. the grammatical function) of the

relativized NP, including examples involving pied-piping of the

preposition and its object. English 'who' and 'that' do not have

this role, but 'whom' and 'whose' both do. Note, however, that

'whom' does not unambiguously encode direct object, as indirect

objects may also take this relative pronoun:

(24) i) the man whom I saw

ii) the man whom I gave money to

LW has two different relative pronouns, as we have seen, <u>a</u>, used

in subject and direct object position, and <u>y</u>, used elsewhere on

the AH and in embedded relative clauses. However, these do not

exemplify the relative pronoun strategy; it seems that actually

they are linked to the absence (<u>a</u>) or presence (<u>y</u>) of an agreement

element in the relativization site in LW.

Having outlined Maxwell's alternative proposals, let us now

consider whether the proposed system has any advantages over

Keenan and Comrie's original [±case] distinction. Maxwell claims

that his system can make generalizations which would be missed by

Keenan and Comrie's system. For example, take the situation in

(25):

(25)   SU   DO   IO

    Relativization strategy:

 i. relative pronoun   +   -   +

ii. pronominal   -   +   -

(Maxwell 1979:364)

This exemplifies a 'gapped' strategy, that is, one that does not

apply to a continuous segment of the AH: the relative pronoun

strategy is discontinuous. Maxwell states, rightly, that this

possibility is not realized in any of the languages in the

original AH sample. Assuming these languages to be

representative, it is an impossible situation in a natural

language. However, Maxwell wrongly claims that (25) is predicted

to be a possible situation by the Keenan and Comrie system. He

states that since the relative pronoun strategy and the pronominal

strategy are both [+case], then HC2, which requires relativization

strategies to be continuous, would not be violated by (25). In

fact, given Keenan and Comrie's statement in (18) which requires

that pronoun retention, once started, continues down the

hierarchy, (25) would be ruled out, because the pronominal

strategy does not continue into the lower position of

IO. [1] Maxwell does, however, state (18) in a more positive way,

as a fully-fledged hierarchy constraint (1979:364).

    Two further generalizations noted by Maxwell apply only to

the relative pronoun strategy:

(27) i) the relative pronoun strategy always seems to be

postnominal

    ii) the relative pronoun strategy applies to continuous

segments of the AH.

(adapted from Comrie and Keenan 1979:663/Maxwell 1979:364)

Both statements are born out by the language sample investigated for the AH. They are not testable in Welsh; in fact, the relative pronoun strategy is rare in verb-initial languages, and the pronominal strategy much more frequently used (cf. Comrie and Keenan 1979:663)

Maxwell's proposal in (28), however, is testable in Welsh:

(28) "If a word order strategy can be used to relativize any position on the AH, it can also be used to relativize all higher positions."

(Maxwell 1979:364)

This generalization is certainly true of LW, as the data in (5) through (10) show: the lowest position allowing a word order strategy is direct object, and the only higher position is of course subject, which also uses a word order strategy. However, (28) can be tested more thoroughly by using the wider variety of relative clause types which are found in CW; the results of this are discussed in section 7.3.2. (28) makes the correct predictions for English if the (stranded) object of comparison is seen as parallel to preposition stranding, as discussed in section 7.1. Then O COMP will be at the same point of the AH as OBL, and this bears out (28) since OBL and all higher positions permit the word order strategy. What is interesting about O COMP is that unlike 'true' prepositions it cannot use the relative pronoun strategy; in other words, pied-piping is impossible:

(29) i) this is the girl who Fred is taller than

     ii) *this is the girl than whom Fred is taller

We now have a conflict of interests: if (28) is to be upheld, and the word order strategy is to be continuous in English, then O COMP must be regarded as a type of oblique NP (Maxwell 1979:366f).

Otherwise, if O COMP were to be placed at the bottom of the

hierarchy, then the intervening GEN position would disconfirm

(28), since on the whole genitive NPs cannot relativize using the

word order strategy:

(30) i) *this is the girl who I married the brother of

     ii) this is the girl whose brother I married

On the other hand, oblique NPs normally allow pied-piping in

English, yet the object of comparison does not, as (29) shows.

This would seem to suggest that the two types of NP should not be

in the same position on the AH. The unavoidable conclusion is

that O COMP is found at one point on the hierarchy for one

strategy (OBL, for word order strategy) but at another point for

another strategy (the original O COMP position for the relative

pronoun strategy, i.e. outside the continuous segment of the AH

which uses that strategy). This problem is unique to Maxwell's

analysis. In the original Keenan and Comrie proposals, different

types of [+case] strategies are not distinguished, and it does not

matter that O COMP uses a different [+case] strategy than GEN.

I have argued that Keenan and Comrie's [±case] distinction

does not apply correctly to English SU and DO positions, which do

in fact distinguish grammatical function by word order. I propose

then, that all positions on the AH are [+case] in English, since

the grammatical function of the relativized NP is never ambiguous.

Welsh and Dutch, on the other hand, do allow such ambiguity

(cf. (21) and (22) above); they can be said to display a [-case]

strategy at the top of the hierarchy which then ceases after DO

position.

The generalization which I proposed in (19) -- that a [+case]

strategy, once started, must continue for as long as

relativization is possible -- cannot in fact be made using

Maxwell's system. This is because his word order strategy covers

examples which <u>are</u> case-coding (English SU, DO) as well as those

which are not (Welsh and Dutch SU, DO); therefore since Maxwell

cannot distingush [+case] from [-case] strategies, the

generalization in (19) would be missed. Worse, however, than a

missed generalization, is the fact that Maxwell's analysis makes

incorrect predictions. By the statement in (28), the word order

strategy has to apply to a continuous segment of the AH from the

lowest position using that strategy upwards to all higher

positions. But (28) does not legislate against the word order

strategy being [+case] at the top of the hierarchy and [-case]

lower down. It is hard to envisage what such a system might look

like; the point is that it is almost certainly non-occurring, but

is predicted by Maxwell's analysis to be a possible situation.

This defect of Maxwell's system is apparently irremediable, given

its failure to distinguish between [+case] and [-case] strategies,

whereas the similar problem in Keenan and Comrie's framework was

easily remedied by the Case-coding Constraint in (19).

I have suggested that the strategy employed by English to

recover grammatical function of SU and DO relative clauses by word

order is, in fact, [+case]. If this is true, it is likely to be

true of other verb-medial languages: in other words, such

languages could never employ a [-case] word order strategy, since

the word order would always define grammatical functions

unambiguously.

Where the potential for ambiguity does arise is in

verb-peripheral languages. These languages employ various means

of avoiding the problem. From Maxwell's Table 3 (1979:362f) some

languages, like Gilbertese (VOS) only employ the word order strategy for subject position, resorting to a pronominal strategy for all lower positions. Other languages, like Malagasy (VOS) only allow relative pronouns formed on subject position, so avoiding the problem completely. Yet other languages allow alternative strategies to apply to the same AH positions, presumably to ensure that disambiguation is possible: for example, Persian (SOV) has a word order strategy for SU and DO, but also has a pronominal strategy for DO [2]; and Tamil (SOV) has a word order strategy which forms prenominal relative clauses for SU, DO and IO, but also has an internal, non-reduction strategy as an alternative for these, and all other, positions on the AH.

Most of the tactics just described for circumventing the ambiguity problem are indeed [+case] strategies, in that they code unambiguously the grammatical function of the relativized NP. Only the word order strategy leads to ambiguity in verb-peripheral languages: this is in fact the only type of [-case] strategy which exists under my proposed re-definition of case-coding. Languages like English use [+case] strategies for all relativizable positions. The fact that most languages are using [+case] strategies is not really a surprising finding, since presumably ambiguity of the type exemplified by (21) for LW and (22) for Dutch is extremely undesirable. Welsh certainly employs disambiguating tactics, which we will examine in section 7.3.

But does the fact that the [+case] strategy extends, under my definition, to the majority of all relative clauses have the effect of reducing Keenan and Comrie's claims to vacuity? Specifically, are the hierarchy constraints still valid, since they were formulated to handle Keenan and Comrie's definition of

case-coding, which excludes more relative clauses than mine does.

In my terms, languages like English which only have [+case]

strategies fulfil the second and third hierarchy constraints (in

(11)) by default: if there is only one strategy, it must be

continuous, and it might cease to apply at some point on the

hierarchy if low positions cannot be relativized, but it will not

be replaced by any other strategy, for there is none.

In fact, Keenan and Comrie's claims do indeed still have

validity, since they apply non-vacuously in Welsh and Dutch, and

indeed in any verb-peripheral language with a word order strategy.

In such languages HC2 and 3, together with the Case-coding

Constraint in (19), are obeyed actively: in LW, for example, HC2

is obeyed because the [-case] strategy applies continuously to SU

and DO, and the [+case] strategy applies continuously to all lower

positions. Therefore (19), which requires a [+case] strategy to

continue down the hierarchy, once started, is also obeyed. The

rather weak constraint HC3, which says that a strategy may cease

to apply at a lower point on the AH, is also obeyed of course,

since the [-case] strategy does cease to apply after DO. All

these generalizations can only be made in terms of a [±case]

distinction, albeit one with different values than Keenan and

Comrie originally proposed; I therefore conclude that the

distinction is a useful one.

7.3   <u>THE ACCESSIBILITY HIERARCHY IN WELSH</u>

In this section I will examine a wider variety of
construction types in Welsh than we have looked at so far in this
chapter, and examine whether or not the AH still makes correct
predictions for Welsh if such data is taken into account.
Particularly, we will see that mutation plays an important role in
relative clause formation. Where necessary I will distinguish
between LW and CW data; some of the constructions discussed only
occur in CW. Elsewhere, my remarks are valid for both varieties.
As usual, LW is shown to be more conservative, whereas CW allows a
wider range of construction types.

7.3.1   <u>Relativization strategies in LW</u>

I will first examine the subject and direct object positions
on the hierarchy. In fact, at the top of the AH, strategies used
by LW and CW are not significantly different. Therefore my
remarks can be taken to apply to both varieties, except where
explicitly stated otherwise. Given the ambiguity between these
two positions in (21), alternative ways of forming relative
clauses on these positions need to use a [+case] strategy of some
sort: that is, some way of explicitly signalling the grammatical
function of the position relativized. My contention is that the
mutation (SM) triggered by a wh-trace performs just this role.
There are various ways in which this happens. For example, we saw
in chapter 5.1 that if the NP in the restricting clause is
indefinite, there is a chance that it will have a mutable initial
consonant:

(31) i) y   bachgen (a) welodd t ddynes   (dynes)

         the boy   COMP saw-3s   woman

         'the boy who saw a woman'

    ii) y   bachgen (a) welodd dynes t

         the boy   COMP saw-3s woman

         'the boy who a woman saw'

In (31i) the object NP ddynes receives SM triggered by the

wh-trace in subject position; in (31ii) dynes retains its radical

initial, since it precedes the wh-trace in object position. Now

the grammatical function of both NPs is clearly signalled by the

presence or absence of mutation, so that in effect mutation is

another type of [+case] strategy.

     If the NP in the restricting clause has the determiner y

'the', then of course it cannot undergo mutation. However, other

determiners do have mutable initials:

(32) i) y   bachgen (a) welodd t rai dynesau   (rhai)

         the boy   COMP saw-3s   some women

         'the boy who saw some women'

    ii) y   bachgen (a) welodd rhai dynesau t

         the boy   COMP saw-3s some women

         'the boy who some women saw'

(33) i) y   bachgen (a) welodd t bob   dynes   (pob)

         the boy   COMP saw-3s   every woman

         'the boy who saw every woman'

    ii) y   bachgen (a) welodd pob   dynes t

         the boy   COMP saw-3s every woman

         'the boy who every woman saw'

In (32i), (33i) the determiners rhai and pob appear in their SM

forms following the wh-trace, but not in (32ii), (33ii). Again,

the mutation signals the extraction site.

Where the NP has no mutable initial consonant, however, a different construction can be used to disambiguate subject and direct object positions. This involves the verb _gwneud_ 'do' in an inflected form in initial position, and the main verb in its non-finite form. The basic construction is shown in (34):

(34) i) Gwnaeth [y   bachgen] [weld [y   ddynes]]

          did-3s   the boy   see   the woman

          'The boy saw the woman.'

     ii) Gwnaeth [y   ddynes] [weld [y   bachgen]]

          did-3s   the woman   see   the boy

          'The woman saw the boy.'

This construction is not emphatic at all, and has exactly the same meaning as it would with an inflected main verb in initial position. However, it is typically found in CW rather than LW. From the _gwneud_ type of construction, we get such relative clauses as (35); (i) is a subject relativization, (ii) an object relativization:

(35) i) y   bachgen (a)   wnaeth t weld y   ddynes   (gweld)

          the boy   COMP did-3s   see   the woman

          'the boy who saw the woman'

     ii) y   bachgen (y)   gwnaeth y   ddynes ei   weld

          the boy   COMP did-3s   the woman   3ms see

          'the boy who the woman saw'

I suggest that there are in fact two direct object positions in Welsh, which should be distinguished on the AH: the first has the direct object immediately dominated by S, as _y bachgen_ is in (36). I will refer to this as DO1:

(36)   Gwelodd y   ddynes y   bachgen.

        saw-3s   the woman   the boy

        'The woman saw the boy.'

Relative clauses and other unbounded dependencies formed on this

position come into the 'immediate dominance dependency' category

of Harlow (1983); the complementizer, if overt, is a, which

triggers SM. This is the type of relative clause which produces

the subject/object ambiguity illustrated in (21).

The second direct object position (DO2) has the direct object

immediately dominated by VP, as shown in (34). (34ii) is

synonymous with (36). Relative clauses formed on the DO2 position

are unambiguous. The complementizer, if overt, is y, and there is

a proclitic on the non-finite verb, as (35ii) shows.

The strategy which produces the DO2 type of relative clause,

in (35ii), is an interesting one since it relies in effect on

demotion to a lower position on the AH. It is clearly a lower

position because it no longer relies on the word order strategy,

but has an overt nominal element, a proclitic, in the

relativization site. Demotion strategies are not discussed by

Keenan and Comrie, although they are mentioned by Manaster-Ramer

(1979:208). Keenan and Comrie do discuss strategies of promotion

to subject position (1977:68f) in Toba Batak, a Malayo-Polynesian

language. Apparently, promotion strategies are a reasonably

common way of relativizing NPs in lower AH positions; object NPs,

for example, are passivized so that they appear in the higher,

more accessible position of subject. But the concept of demotion

seems to violate the notion of relativizability decreasing as the

AH is descended. Is Welsh a counter-example to this

generalization? I suggest not; it is certainly true that the

acceptability of relative clauses in the lower AH positions
diminishes. On the other hand, the demotion strategy is extremely
useful as a disambiguation device, where VSO word order creates
ambiguity problems. Therefore, the risk of decreasing
acceptability has to be set against the risk of ambiguity, and it
appears that a language might 'choose' to use a lower AH position
for preference. In the Welsh case, a lower position on the AH
certainly seems to be the lesser of two evils.

The relative clauses which were ambiguous are shown in (21).
They use a [-case] word order strategy, i.e. one with no way of
distinguishing the grammatical function of the relativized NP.
But these relative clauses can be disambiguated as in (35) by
using the gwneud construction. The examples in (35) are not
ambiguous because they are able to utilize [+case] strategies. In
fact, three different kinds of [+case] strategy are employed: word
order, mutation, and pronoun retention. (35i) illustrates both
word order and mutation; the 'missing' NP can only come from the
subject position, as the position of object, inside the VP gweld y
ddynes, is already filled. By using the device of a semantically
empty inflected verb, gwneud, this construction permits the
creation of a VP, and so parallels the unambiguous type of
relative clause found straightforwardly in verb-medial languages.
(35i) has SM on the verb weld, but in fact word order may be the
only strategy operating in other examples of this construction, as
the verb which follows the wh-trace does not always have a mutable
initial consonant:

(37)   y   bachgen (a)   wnaeth t hoffi'r   ddynes

        the boy   COMP did-3s   like-the woman

        'the boy who liked the woman'

This is still unambiguous though, from word order alone: the gap can only be in subject position. Where SM does occur, as in (35i), it acts as an extra marker of the position relativized, as the mutation can only have been triggered by the empty NP in subject position.

It is not surprising that subject relativizations (such as (35i), (37)) employ the word order strategy: it is implicit in Maxwell's hierarchy constraint on this strategy, given in (28), that it tends to apply to positions high on the AH. Maxwell's Table 3 (1979:362f) shows that most languages do not employ this strategy very far down the AH. In LW its use ceases at DO1: cf. for example (31ii). CW, however, allows freer use of this strategy, as we will see.

The position of DO2 in LW requires the third [+case] strategy to begin: pronoun retention. In (35ii) a proclitic marks the relativization site, and from then onwards, to the bottom of the hierarchy, some sort of pronominal strategy is obligatory, in conformity with Keenan and Comrie's predictions in (18) above.

Table 1 summarizes these results: it applies to LW positive relative clauses, and indeed to conservative dialects or idiolects of CW.

Table 1

                         Relativizable positions

Relativization strategy	SU	DO1	DO2	IO	OBL	GEN	O COMP
word order	+	+	−	−	−	−	−
mutation	+	+	−	−	−	−	−
pronominal	−	−	+	+	+	+	+

The relevant data is summarized here:

(38)   SU

  i)   WORD ORDER [-CASE]

    y   bachgen a   welodd t̲ y   ddynes

    the boy   COMP saw-3s   the woman

    'the boy who saw the woman'

  ii)   WORD ORDER [+CASE]

    y   bachgen a   wnaeth t̲ hoffi'r   ddynes

    the boy   COMP did-3s   like-the woman

    'the boy who liked the woman'

  iii) MUTATION [+CASE]

    y   bachgen a   welodd t̲ d̲d̲ynes   (dynes)

    the boy   COMP saw-3s   woman

    'the boy who saw a woman'

  iv)   MUTATION AND WORD ORDER [+CASE]

    y   bachgen a   wnaeth t̲ w̲eld y   ddynes   (gweld)

    the boy   COMP did-3s   see   the woman

    'the boy who saw the woman'

(39)   DO1

  i)   WORD ORDER [-CASE]

    y   bachgen a   welodd y   ddynes t̲

    the boy   COMP saw-3s the woman

    'the boy who the woman saw'

  ii)   MUTATION [+CASE]   [3]

    y   bachgen a   welodd dynes t̲

    the boy   COMP saw-3s woman

    'the boy who a woman saw'

(40)   DO2 : PRONOMINAL [+CASE]

         y bachgen y   gwnaeth y ddynes ei weld

         the boy   COMP did-3s the woman 3ms see

         'the boy who the woman saw'

(41)   IO/OBL : PRONOMINAL [+CASE]

         y dyn y   rhoddais y llyfr iddo

         the man COMP gave-1s   the book to-3ms

         'the man I gave the book to'

(42)   GEN : PRONOMINAL [+CASE]

         y dyn y   gwelais ei fab

         the man COMP saw-1s   3ms son

         'the man whose son I saw'

(43)   O COMP : PRONOMINAL [+CASE]

         y dyn y   mae Mair yn dalach nag ef

         the man COMP is-3s   PRED taller than him

         'the man that Mair is taller than'

Negative relative clauses have the same strategies in lower

positions on the AH as positive ones, but at the top of the

hierarchy pronoun retention can occur: the following example

(rather marginally acceptable according to informants I have

questioned) has a pronominal strategy in use at subject position:

the pronoun e (3ms) in the relativization site.

(44)   Dyma'r tim nad ydy e wedi ennill gem eleni.

         here-the team NEG is-3s he PERF win   game this year

         'Here's the team who haven't won a game this year.'

(U.I.G.C. 1976:78)

Also, even in LW, relativizations at the position of DO1 may

optionally have a pronoun in the relativization site:

(45)   y ci na werthodd y   dyn (ef)

         the dog NEG sold-3s the man it

         'the dog which the man didn't sell'

This means that for negative relative clauses, the pronominal

strategy starts nearer to the top of the hierarchy, and may

possibly extend right up to subject position for some speakers.

     Finally, it should also be mentioned that even in the case of

positive relative clauses, some speakers permit a pronominal

strategy at the position of DO1, giving such examples as (46):

(46)   y   bachgen welodd y   ddynes o

         the boy   saw-3s the woman him

         'the boy who the woman saw'

Of course, this is a [+case] strategy, no doubt employed to

resolve the ambiguity of such relative clauses between subject and

object extraction sites.

7.3.2 Relativization strategies in CW

     This section investigates lower positions on the

Accessibility Hierarchy, where CW and LW utilize very different

strategies. I begin by further investigation of the position on

the AH which I have labelled DO2: an NP relativized from within a

VP. So far, the only examples of this position which we have

examined in the present chapter involve gwneud. But as we saw in

chpater 3.3, periphrastic constructions also have VPs:

(47) i) Mae   Aled wedi [VP prynu'r llyfr]

         is-3s   PERF   buy-the book

         'Aled has bought the book.'

ii) Roeddwn i'n   [VP gweld y   dyn]

      was-1s I-PROG   see   the man

      'I saw the man.'

When the NP positions within these VPs are relativized, in LW we

find once again the pattern of a proclitic on the non-finite verb

-- a pronominal [+case] strategy:

(48) i) y   llyfr y   mae Aled wedi ei brynu

          the book COMP is-3s   PERF 3ms buy

          'the book which Aled has bought'

    ii) y   dyn roeddwn   i'n   ei weld

          the man COMP-was-1s I-PROG 3ms see

          'the man that I saw'

The proclitic agrees in person, number and gender with the

relativized NP. This strategy is the only one allowed at this

point on the hierarchy in LW. However, in chapter 5.2.3 we saw

that in dialects of CW, various other situations also obtain.

    Firstly, some speakers simply delete the proclitic, giving

(49):

(49) i) y llyfr mae Aled wedi brynu   (prynu) (=48i)

    ii) y dyn roeddwn i'n weld   (gweld) (=48ii)

In chapter 5 I argued that the SM in such cases is triggered by a

wh-trace, rather than by the missing 3ms proclitic, which also

triggers SM. The evidence for this claim was the existence of

other examples which had feminine or plural NPs as the head: when

such NPs take an overt proclitic, we get the data in (50), with ei

(3fs) triggering AM, and eu (3p) taking the radical initial:

(50) i) y   got bydd   e'n   ei chael   (cael + AM)

          the coat will-be-3s he-PROG 3fs get

          'the coat that he will be getting'

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ii) yr hadau mae e'n eu plannu (plannu : radical)

the seeds is-3s he-PROG 3p plant

'the seeds which he is planting'

However, if the proclitic fails to surface, the preferred

situation is SM on the non-finite verbs, which, I claimed, is

triggered by the wh-trace:

(51) i) y got bydd e'n t gael (cael + SM) (=50i)

ii) yr hadau mae e'n t blannu (plannu + SM) (50ii)

This strategy relies on word order, and, where possible, mutation

on the head verb, rather than an overt pronominal element in the

relativization site.

As we saw in chapter 5, other speakers utilize a post-head

A-position in this construction: there is no proclitic on the head

verb underlyingly or superficially, and no wh-trace in pre-head

position, so no mutation appears on the verb:

(52) i) y llyfr mae Aled wedi prynu t

the book is-3s PERF buy

'the book which Aled has bought'

ii) y dyn roeddwn i'n gweld t

the man was-1s I-PROG see

'the man that I saw'

If, as I propose, a [+case] strategy should be defined as one

which encodes grammatical function unambiguously, then such data

still meet the definition of a [+case] strategy. The word order

alone is sufficient to ensure that there is no ambiguity, for the

relative clause can only have been formed on the object of the

non-finite verb.

In both dialects types, whether the data are as in (49) or

(52), we see that the word order strategy can extend further down

the hierarchy than it can in LW. LW required a cut-off point for
this strategy after DO1, and required a pronominal strategy to
begin at DO2 position, but most CW dialects do not share this
requirement.

In fact, the word order strategy may even continue further
down the hierarchy in CW. At the IO/OBL position, some speakers
allow preposition stranding as an alternative to the LW strategy
shown in (41) which had an inflected preposition (pronominal
strategy). Preposition stranding is illustrated in (53):

(53)   'Dwi wedi colli'r papur yr   oeddwn i'n   edrych ar__

          am-I PERF lose-the paper COMP was-1s I-PROG look   at

          'I've lost the paper I ws looking at.'

(Jones and Thomas 1977:181)

Stranding also occurs in other constructions which are considered
to involve wh-movement in GB terms, such as topicalization and
constituent questions. Topicalization involves a construction
identical to relative clause formation:

(54)   Y   dre mae Mair yn   cerdded i__

          the town is   PROG walk   to

          'It's the town that Mair is walking to.'

(Jones and Thomas 1977:294)

Neither (53) nor (54) were highly valued by Northern informants I
questioned, but such speakers were happier about stranding in
wh-questions, because they felt it had an emphatic value:

(55) i) Be' 'dach chi'n   son am__?

          what are-2p you-PROG talk about

          'What are you talking about?'

(Jones and Thomas 1977:310)

ii) Beth mae e'n   wilo   am__?

     what is he-PROG search for

     'What is he looking for?'

(Watkins 1976:162)

Speakers who allow stranding in (53) and (54) may also allow it with the O COMP position. Recall from section 7.1 that stranding <u>than</u> in English was suggested to be parallel to preposition stranding, following proposals that <u>than</u> is actually a preposition in English. The same seems to be true of Welsh, except that dialects (or idiolects) differ according to whether they regard <u>na</u> 'than' as belonging to the set of inflected prepositions, or the set which does not inflect. Strangely, the only prepositions which can be stranded are those which have an inflectional paradigm, such as <u>i</u> 'to' or <u>am</u> 'for' above. The analogous stranding of <u>na</u> 'than' gives such data as (56):

(56)   y   dyn mae Mair yn   dalach na __

        the man is   PRED taller than

        'the man who Mair is taller than'

This elicits responses such as "to be deprecated but heard often" from Northern informants I have questioned.

Prepositions which do not have an inflectional paradigm cannot be stranded. In this case, the word order strategy cannot be used, and a pronominal strategy is obligatory, with an independent pronoun in the extraction site:

(57)   yr eneth siaradsoch chi a   <u>hi</u>

        the girl talked-2p you with her

        'the girl that you spoke to'

The only possible counterexample I have found is the following from Jones and Thomas:

(58)   Dyma'r   dyn yr   oeddwn i'n   dadlau

here-the man COMP was-1s I-PROG argue

am   y   gem efo __.

about the game with

'Here's the man I was arguing about the game with.'

(Jones and Thomas 1977:181)

The standard (North Walian) form of the relative clause in (58)

would have an independent (3ms) pronoun after the preposition: efo

fo, rather than a gap. However, efo has the appearance of an

inflected preposition, ending as it does with -fo, so possibly

some sort of reanalysis of this non-inflected preposition has

taken place.

In terms of stranding, leaving aside the example in (58),

there appear to be at least two distinct dialect types in Welsh:

the first is exemplified by (53) and (56); it takes the word order

strategy and allows stranding. I suggest that this represents a

separate position on the AH, which I will refer to as OBL1. The

second dialect type is more conservative, nearer to LW: it only

allows the pronominal strategy for inflected prepositions and O

COMP, as illustrated in (59i) and (ii) respectively:

(59) i) y   papur roeddwn i'n   edrych arno

the paper was-1s I-PROG look   at-3ms

'the paper I was looking at'

ii) y   dyn mae Mair yn   dalach nag o

the man is   PRED taller than him

'the man who Mair is taller than'

I will refer to this position on the hierarchy as OBL2.

Prepositions without an inflectional paradigm also belong in the

OBL2 position.

So far, then, we have seen two alternative strategies in use at the OBL position: word order (stranding) and pronominal. However, for many speakers a third possibility, OBL3, exists with inflected prepositions: as well as the cliticized inflection, an independent pronoun appears in the relativization site, as in (60):

(60) i) y   papur roeddwn i'n   edrych arno <u>fo</u>

        the paper was-1s I-PROG look   at-3ms it(3ms)

        'the paper I was looking at'

    ii) Dyma'r   gadair mae Gwen yn   eistedd arni   <u>hi</u>.

        here-the chair is   PROG sit   on-3fs it(3fs)

        'Here's the chair that Gwen is sitting on.'

(Rhys Jones 1977:300)

    iii) Roedd y   bws des   i ynddo <u>fe</u>   yn   hwyr.

         was-3s the bus came-1s I in-3ms it(3ms) PRED late

         'The bus I came in was late.'

(Rhys Jones 1977:301)

    iv) Dyna'r   fenyw roioch chi ddim o'r   llythyr iddi   <u>hi</u>.

        here-the woman gave-2p you NEG of-the letter to-3fs her

        'Here's the woman you didn't give the letter to.'

(U.I.G.C. 1976:80)

Recall from chapter 5 Harlow's (1981) claims that such data never occurs: his Relative Deletion rule ought to apply obligatorily in such cases to ensure a gap, rather than a pronoun, in the relativization site. Yet in CW such examples are commonly found, and are even preferred to the inflected preposition alone, by some speakers.

It is not really surprising to find clitic doubling in use at this point on the hierarchy: the 'extra' pronominal serves to

signal the relativization site more clearly than a wh-trace. What
is perhaps more surprising is that some speakers apparently do not
regard this position as particularly inaccessible, since they
allow the stranding (word order) strategy of OBL1. Keenan and
Comrie (1979:657) state that only three out of around fifty
languages in their sample strand prepositions, but of course they
do not take Welsh into account here, since they are using data
only from LW, which does not allow stranding. Since preposition
stranding a such a rare phenomenon universally, I hypothesize that
it is the influence of English which has led to its appearance in
Modern Welsh: if true, an interesting case of syntactic borrowing.

The clitic doubling feature illustrated in (60) does not
occur with the object of comparison:

(61)   y   dyn mae Mair yn   dalach nag o (*fo)

         the man is   PRED taller than him him

         'the man who Mair is taller than'

I suggest that such data gives additional support for the
placement of O COMP at a higher point on the AH than was
originally suggested by Keenan and Comrie: clitic doubling seems
to be a kind of 'last resort' strategy in CW. It is found in
relative clauses at the very lowest points on the AH, and also
allows relativization to occur in such inaccessible contexts as
co-ordinate structures:

(62)   y   dyn y   soniais   amdano   ef ac Ann

         the man COMP spoke-1s about-3ms him and

         'the man who I spoke about him and Ann'

(Awbery 1977:185)

Clitic doubling rescues this construction from violating Ross's
(1967) Co-ordinate Structure Constraint, and (62) is accepted

freely by informants.

If the object of comparison cannot take clitic doubling, then
it cannot be in the OBL3 position on the AH, but it can appear at
OBL1 and OBL2, as we have seen. O COMP is not the lowest point on
the hierarchy in CW, but rather should be treated like a
preposition. We are now left with one NP position at the bottom
of the hierarchy, GEN. Once again, in CW the clitic doubling
strategy is very much preferred with the GEN position, giving a
pronoun in post-head position:

(63) i) Dyna'r   plentyn wnaiff   ei dad   e ddim cytuno.

         that-the child   NEG-will-3s 3ms father him NEG   agree

         'That's the child whose father won't agree.'

    ii) Ble   mae'r   rhieni doedd   eu plant   nhw

         where is-3s-the parents NEG-was-3s 3p children them

         ddim yma?

         NEG here

         'Where are the parents whose children weren't here?'
(U.I.G.C. 1978:244)

   iii) Mae'r tim rydyn   ni'n   chwarae yn

         is-the team COMP-are-1p we-PROG play   in

         eu herbyn nhw yn   dim da.

         3p against them PRED team good

         'The team we are playing against is a good team.'
(Rhys Jones 1977:301)

    iv) y   dyn gesot ti lifft yn ei gar e

         the man got-2s you lift in 3ms car him

         'the man in whose car you got a lift'
(Watkins 1976:162)

Informants I have questioned felt that the enclitics, underlined,

improved these relative clauses considerably; in fact, to the
point of being unsure if the sentences were well-formed without
them. Yet once again, such constructions are stated to be
ungrammatical with clitic doubling, by Harlow (1981) (cf. chapter
5), because the Relative Deletion rule, which he claims to be
obligatory, has failed to apply.

Note that the structure of an NP within an NP is analogous to
the structure of an NP within a VP, as (64) shows:

(64) i) Gwelais i [NP fab [NP y   dyn]]

         saw-1s I   son   the man

         'I saw the man's son.'

    ii) Roeddwn i'n   [VP gweld [NP y   dyn]]

         was-1s I-PROG   see   the man

         'I saw the man.'

However, unlike the situation in LW, the two constructions do not
produce analogous relative clauses in CW. We saw in (49) and (51)
that the proclitic position is often empty when NPs are
relativized from within VPs. At the GEN position, this never
happens:

(65)   y   dyn gwelais i *(ei) fab (o)

        the man saw-1s I 3ms   son him

        'the man whose son I saw'

Conversely, clitic doubling is never found at the DO2 position,
with extractions from VP:

(66)   y   dyn roeddwn i'n   (ei) weld (*o)

        the man was-1s I-PROG 3ms see   him

        'the man that I saw'

These two pieces of evidence show that despite the superficial
similarity of the simple sentences, in (64), extractions from NP

and VP are actually at different points on the AH. DO2 (as in (66) is a comparatively accessible position, as is shown by the absence of overt proclitics, and lack of a clitic doubling strategy: this position relies on word order and where possible mutation strategies. GEN is the least accessible position, as is shown by the obligatory proclitic and strong preference for a clitic doubling strategy.

7.3.3 Summary of CW relativization strategies

Let us summarize the results of the discussion of CW relativization strategies. I have suggested that as well as the three strategies in use in LW, word order, mutation, and pronominal strategies, there is a fourth strategy in CW: clitic doubling. I have also suggested that there are various dialect (or possibly idiolect) types in CW. The first distinction comes at the DO2 position. Dialect A utilizes the post-head A-position, a strategy which relies on word order alone; there is no proclitic and no mutation on the head verb:

(67)   y   llyfr mae Aled wedi prynu t

         the book is   PERF buy

         'the book which Aled has bought'

Dialect B utilizes the pre-head A-position, sometimes with an overt proclitic, as in (68i), and sometimes with only a wh-trace (triggering SM) as in (68ii):

(68) i) y   llyfr mae Aled wedi ei brynu   (prynu)

         the book is   PERF 3ms buy

         'the book which Aled has bought'

ii) y   llyfr mae Aled wedi t brynu   (prynu)

        the book is   PERF buy

        'the book which Aled has bought'

The second distinction comes at the IO/OBL position (the two

positions are not distinct in Welsh, just as in English). I

proposed a position OBL1, which has stranding of prepositions and

na 'than': a word order strategy:

(69)   OBL1 / O COMP

    i) y   papur roeddwn   i'n   edrych ar_

        the paper COMP-was-1s I-PROG look   at

        'the paper I was looking at'

    ii) y   dyn mae Mair yn   dalach na_

        the man is   PRED taller than

        'the man who Mair is taller than'

OBL2 is just like the LW construction, accepted by all

informants for prepositions without an inflectional paradigm, and

is the unmarked form for inflected prepositions and the object of

comparison:

(70)   OBL2 / O COMP

    i) y   papur roeddwn   i'n   edrych arno

        the paper COMP-was-1s I-PROG look   at-3ms

        'the paper I was looking at'

    ii) y   dyn mae Mair yn   dalach nag o

        the man is   PRED taller than him

        'the man who Mair is taller than'

    iii) yr eneth siaradsoch chi a   hi

        the girl talked-2p you with her

        'the girl that you spoke to'

Here, the inflected preposition appears with its inflection: arno

in (i), and the object of comparison takes an overt pronoun, (ii), as does the non-inflected preposition, (iii). This is the pronominal strategy.

OBL3 involves clitic doubling, and only occurs with inflected prepositions as in (71), not with the object of comparison or non-inflected prepositions:

(71)   OBL3

        y   papur roeddwn   i'n   edrych arno   fo

        the paper COMP-was-1s I-PROG look   at-3ms it(3ms)

        'the paper I was looking at'

Both of these dialectal distinctions, at DO2 and at the OBL position, can be distilled down to a choice as to how far down the AH the use of the word order strategy as the sole strategy can extend. Is there, then, any correlation between speakers who use the word order strategy at DO2, as in (67), and speakers using the word order strategy at OBL, as in (69)? I believe that there is indeed such a correlation. I therefore suggest that there is one dialect type, dialect A, which utilizes word order as far as possible down the hierarchy -- until, in fact, the pronominal strategy must take over with non-inflected prepositions, as in (70iii). Dialect type B, on the other hand, requires either the mutation or the pronominal strategy, or both, to support the word order strategy from DO2 downwards. It also seems to be this dialect type which is most likely to utilize clitic doubling at OBL, as in (71), (OBL3). The following patterns thus emerge in CW:

Table 2

Dialect A

Relativizable positions

Relativization strategy	SU	DO1	DO2	OBL1	OBL2	GEN
word order	+	+	+	+	-	-
mutation	+	+	-	-	-	-
pronominal	-	-	-	-	+	+
clitic doubling	-	-	-	-	-	+

Table 3

Dialect B

Relativizable positions

Relativization strategy	SU	DO1	DO2	OBL2	OBL3	GEN
word order	+	+	+	-	-	-
mutation	+	+	+	-	-	-
pronominal	-	-	-/+	+	+	+
clitic doubling	-	-	-	-	+	+

The positions of OBL1 and OBL2 subsume the object of comparison, as shown in (69) and (70), since na behaves like a preposition in Welsh.

I present now a brief summary of the data from the position of DO2 down the hierarchy; SU and DO1 positions are as discussed in section 7.3.1. At the top of the hierarchy LW and CW do not utilize different strategies (cf. Table 1 in section 7.3.1) except that CW is more likely to use the word order strategies with the gwneud construction which specify unambiguously the position relativized on (cf. (38ii, iv) above).

(72)   DO2

   i) WORD ORDER (Table 2)

      y   llyfr mae Aled wedi prynu <u>t</u>

      the book is   PERF buy

      'the book which Aled has bought'

  ii) WORD ORDER AND MUTATION (Table 3) [4]

      y   llyfr mae Aled wedi <u>t</u> <u>b</u>rynu   (prynu)

      the book is   PERF   buy

      'the book which Aled has bought'

 iii) MUTATION AND PRONOMINAL (Table 3)

      y   llyfr mae Aled wedi ei <u>b</u>rynu   (prynu)

      the book is   PERF 3ms buy

      'the book which Aled has bought'

(73)   OBL1

WORD ORDER (Table 2)

y   papur roeddwn   i'n   edrych ar <u>t</u>

the paper COMP-was-1s I-PROG look   at

'the paper was looking at'

(74)   OBL2

PRONOMINAL (Table 3)

y   papur roeddwn   i'n   edrych arno

the paper COMP-was-1s I-PROG look   at-3ms

'the paper I was looking at'

(75)   OBL3

PRONOMINAL AND CLITIC DOUBLING (Table 3)

y   papur roeddwn   i'n   edrych arno   fo

the paper COMP-was-1s I-PROG look   at-3ms it(3ms)

'the paper I was looking at'

(76)   GEN

PRONOMINAL AND CLITIC DOUBLING

y   dyn gwelais i ei   fab o

the man saw-1s   I 3ms son him

'the man whose son I saw'

The results in Tables 2 and 3 should be taken rather tentatively,
not least because some speakers allow, for example, all three
alternatives shown in (73) through (75). Yet perhaps this is not
so surprising; after all, English speakers might use pied-piping
or preposition stranding depending on the formality of the
register.

What is interesting about the two tables is that all
relativization strategies are shown to operate over a continuous
segment of the AH. Of course, Keenan and Comrie suggest this as
one of their Hierarchy Constraints (HC2: any relative
clause-forming strategy must apply to a continuous segment of the
AH). But HC2 was proposed solely in terms of the original [±case]
distinction. I have suggested a different definition of [+case]
in terms of the unambiguous specification of grammatical function;
but whichever definition is adopted, CW as well as LW obeys HC2.
All positions below DO1 use some [+case] strategy. Therefore CW
also obeys my proposed Case-coding Constraint in (19), which
states that once a [+case] strategy has begun, the language must
continue to use some [+case] strategy for as long as
relativization is possible.

CW also bears out the remaining predictions about
relativization strategies which were discussed in section 7.2.
Firstly, recall Maxwell's proposal in (28) on the continuous use
of the word order strategy from its lowest position to all higher

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AH positions. This generalization is met in Table 2 and Table 3, although as I have stated, dialects differ in terms of how far down the hierarchy use of the word order strategy can extend.

Secondly, take Keenan and Comrie's statement in (18) on the use of pronoun retention. They predict (1977:92) that pronoun-retaining strategies are more likely to be found in lower positions on the AH, and state that once pronoun retention begins, it must continue for as long as relativization is possible. I have shown that in CW there are two pronoun-retaining strategies operating in relative clauses: as well as the pronominal strategy of LW, which involves proclitics on head nouns and verbs, and prepositional inflections, there is also a clitic doubling strategy in use in CW, which occurs in extractions from PP (75) and NP (76). As predicted, both strategies are continuous, and both occur toward the lower end of the hierarchy, although dialects differ as to the exact starting point. Clitic doubling should be seen as a kind of intensification of the pronominal strategy, reinforcing pronoun retention in the least accessible positions for relative clause formation.

Finally, what of the proposed distinction between dialect types shown in Tables 2 and 3? Type A is more innovative, type B more conservative. I suggest that southern dialects of Welsh tend to conform to type A; they tend to be more under the influence of English, in allowing preposition stranding, for example, and utilizing a post-head A-position for the object of transitive verbs (72i). Northern dialects, on the other hand, are more like LW in these constructions, giving (72ii, iii) and (74): this corresponds to the pattern shown in Table 3 for type B dialects.

In chapter 6.1 I discussed the conditions under which the two complementizers a and y appear in LW. Recall that a is basically used when the NP relativized on is subject or direct object of an inflected VSO clause in a simple sentence. Y is used for positions lower on the AH and in embedded sentences. Even in LW, we saw that the distinction is not an absolute one, because of the possibility of 'anomalous relatives' as discussed by Awbery (1977).

In the case of CW, however, the distinction between the two complementizers is even less important, because overt complementizers are seldom found in relative clauses or other unbounded dependencies. Nonetheless, the distinction is of interest to the present work, because of the mutation properties of the two items: a is an SM trigger, whereas y is followed by the radical initial. We have often seen (cf. especially chapter 2) that mutation is retained after particles which do not appear overtly in CW; this certainly happens with a, for example in (77):

(77)   y   bachgen werthodd y   ci   (gwerthodd)

        the boy   sold-3s the dog

        'the boy who sold the dog'

The 'missing' complementizer a triggers SM on the inflected verb.

What is interesting is that SM is often found in CW even in relative clauses where the complementizer 'ought' to be y, which triggers no mutation:

(78) i) y   gwaith _fy_dda   i ddim yn   gallu ddysgu   (bydda)

        the work   will-be-1s I NEG PROG able   learn

        'the work which I won't be able to learn'

(U.I.G.C. 1978:243)

    ii) y   dyn _g_esot ti lifft yn ei gar e   (cesot)

        the man got-2s you lift in 3ms car him

        'the man in whose car you had a lift'

Technically, in the case of an extraction from VP (78i) or NP

(78ii), an overt complementizer would be _y_. Why then do we find

SM in both examples?

    I suggest that since the complementizers do not usually

appear overtly in CW, what is happening is that the verb is

perceived as being in the SM-triggering environment NP__. The

head NP is superficially in a position immediately preceding a

mutable category, and so I anticipate that there will be increased

usage of SM as in (78). In time, perhaps, the head NP of all

relative clauses will be followed by SM. From informant work, I

believe that this prediction is a reasonable one, given the

confusion which often exists over whether or not the mutation is

'correct' in this environment.

7.5   CONCLUSION

    In this chapter I have examined some general issues

concerning the validity of the NP Accessibility Hierarchy, and

suggested some revisions. Firstly, I suggested that the [±case]

distinction should be redefined so that any strategy which encodes

unambiguously the grammatical function of the relativized NP

should be considered as a [+case] strategy. [+Case] would then

encompass the word order strategies used in English and other verb-medial languages, since subject and object relativizations can be distinguished by word order alone; but it would exclude the type of word order strategy used in a verb-peripheral language like Welsh, where subject and object relativizations are ambiguous.

Secondly, I proposed an additional Hierarchy Constraint, the Case-coding Constraint in (19), which states that once a language starts to use a case-coding strategy, it must continue to use some [+case] strategy for as long as relativization is possible.

I have also examined the particular application of the AH to LW and CW. I suggested that in addition to the word order strategy and the pronominal strategy suggested for Welsh in Maxwell's (1979) classification, two additional strategies are in use in Welsh: the mutation strategy (in LW and CW) and the clitic doubling strategy (CW only). These four strategies do not operate exclusively; often, more than one strategy can be used (or must be used) at a particular point on the hierarchy. Also, of course, the mutation strategy can only operate where the potential mutatee has a mutable initial consonant; if it does not, then another strategy must take over.

The order of the AH proposed by Keenan and Comrie (1977) was found to be justified for Welsh, except that as in English the position of O COMP cannot be shown to be an independent position on the hierarchy, but rather should be treated as a preposition. In addition to this, Welsh has additional points on the hierarchy at DO, according to whether the sentence has inflected-V SO word order (DO1), or whether it uses the periphrastic construction with the main verb inside a VP (DO2). I also suggested an expansion at

the OBL position, to cater for the choice between preposition stranding, prepositional inflections, and clitic doubling which exists in CW. However, none of the proposed modifications affected the validity of the original AH, which was in fact supported by the data from LW and CW.

1. Strangely, Comrie and Keenan in their 1979 rebuttal of
Maxwell's paper do not appear to notice that their original 1977
paper does in fact make the required generalization. Cf. also
Keenan (1974:48f) who states that "the use of pronoun retaining
strategies for given NP positions is proportional to the
inaccesibility of the NP, as determined by its position in
the... AH".

2. This strategy occurs marginally in CW, as we will see.

3. Although there is actually no mutation on the NP in (39ii),
since the trace follows rather than precedes it, I consider this
as a [+case] strategy since the very lack of SM distinguishes this
example from (38ii).

4. The example shown in (72ii) relies on a combination of word
order (a gap in the extraction site) plus SM on the head verb, to
signal the position relativized. However, if the head verb does
not have a mutable initial, then word order alone will be the
strategy used:

(i)   y   sigaret   mae   Dani wedi t̲ 'smygu

         the cigarette is-3s   PERF   smoke

         'the cigarette which Dani smoked'

In (72iii) though, there is no use of word order, since the
extraction site is not empty, but always contains a pronominal
proclitic. This may be the only strategy used, once again if the
head verb does not have a mutable initial:

(ii)   y   sigaret   mae   Dani wedi ei 'smygu

         the cigarette is-3s   PERF 3fs smoke

         'the cigarette which Dani smoked'

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In this study I have examined the conditions under which
initial consonantal mutation occurs in Welsh, and also considered
the role played by mutation in the syntax of the language. I have
examined the syntactic structure of modern Colloquial Welsh,
concentrating particularly on unbounded dependencies, empty
category NPs, and word order.

In chapter 1 I showed that the traditional statements
concerning SM of the direct object and SM after a parenthesis are
inaccurate, and prevent a unified treatment of several
environments in which SM is found. I argued for the
generalization that SM is triggered in such cases by an
immediately preceding NP. I also examined the structural
conditions under which mutation is triggered: most environments
for mutation do fall into the category of triggered or 'projected'
mutation. The insight that a mutation trigger must be strictly
local was adopted from Lieber (1983); it was shown that there are
no instances in Welsh of 'remote' triggering. However, Zwicky's
(1984) version of the Trigger Constraint was shown to be incorrect
for Welsh, since it requires the trigger to c-command the mutatee
as well as immediately preceding it. Although in the vast
majority of cases, both conditions do hold, I showed that the
crucial property of a trigger in Welsh is precedence rather than
c-command.

In chapter 2 I examined in detail the set of environments in
which all three types of mutation occur. The question of which

items are possible triggers and which, potential mutatees, was
also discussed. Typical mutation triggers are prepositions,
proclitics, particles, complementizers and numerals: a wide
variety of lexical items. However, mutatees all fall into one of
the lexical categories of noun, adjective, verb, and adverb. In
the case of NM and AM, and indeed in many environments for SM, the
trigger is simply a lexical item which has an idiosyncratic
mutation-triggering property. The unmarked case is also that any
potential mutatee will undergo the mutation. However, in some
instances of SM either the trigger or the target has to have
specific morphosyntactic features; for example, a feminine
singular noun will undergo SM following the determiner y 'the',
but no other noun takes the mutation. One important environment
for SM which was proposed in chapter 2 noted that a Head will
always undergo SM when immediately preceded by a Modifier: the
mutation signals the marked word order. This environment can
unify a number of apparently disparate instances of SM, and can
account for some cases in which the mutation would otherwise be
unpredictable. The question of whether phrasal categories other
than NP are triggers for SM was also considered in chapter 2, and
found not to be supported by the data.

I turned in chapter 3 to general syntactic considerations,
particularly the underlying word order of Welsh and the existence
of a VP constituent in a surface VSO language. Several proposals
have appeared in the literature for treating SVO as the universal
base order, and many more authors have argued for SVO as the
underlying word order specifically for Welsh (and other Celtic
languages). The existence of a VP has often been cited as
evidence for SVO word order. However, in chapter 3 I argued that

the question of whether or not a verb-initial language has a VP

constituent should be considered independently from the question

of underlying word order. In fact, SVO word order was shown not

to be supported, for Welsh, in both chapter 3 and chapter 4,

whereas there is good evidence in favour of positing a VP

constituent. Chapter 3 also argued for the existence of a unified

class of aspect markers within the VP.

In chapter 4 I considered which types of Noun Phrase are

triggers for SM. We saw that amongst overt category NPs, all were

SM triggers. However, following Borsley (1984) it was argued that

amongst the empty category NPs, only _pro_ and wh-trace are triggers

for SM. Although the existence of the remaining ECs, PRO and

NP-trace, is axiomatic in GB theory, Welsh does not support the

postulation of these categories. Furthermore, an SVO analysis of

Welsh is incompatible with a motivated account of mutation, since

the trace of a fronted verb will intervene between a triggering

subject NP and the mutatee, the object NP. The result is that the

SVO analysis is not consistent with the Trigger Constraint, and

should therefore be rejected in favour of a base VSO analysis.

Chapter 4 also discussed the status and distribution of the

null argument known in GB theory as _pro_, and examined the

conditions which govern the appearance of either _pro_ or an overt

pronoun in both Literary and Colloquial Welsh. The status of

inflectional morphology was also considered, and although an

Agreement account was broadly supported, the particular analysis

by Stump (1984) was rejected. Stump's proposals for Breton were

found not to carry over into Welsh, despite the close relationship

between the two languages; Stump's analysis cannot account for the

occurrence of SM in Welsh unbounded dependencies, which, I

claimed, was triggered by a wh-trace.

My proposals concerning the distribution and function of wh-traces were expanded upon in chapters 5 and 6. In chapter 5, first of all, the issue of subcategorization for pronominal NPs in VPs and PPs was discussed. For possessive NPs, the majority of dialects follow the LW construction in which the pre-head position is the A-position. In the case of VPs, however, some dialects utilize pre-head position as the A-position, others, post-head. The evidence for these conclusions came from mutation: it was argued that a proclitic which merely fails to appear on the surface will leave its mutation effects behind, as do other particles, but one which leaves no mutation effects cannot be considered to be underlyingly present in the construction. This argument carries over to the treatment of unbounded dependencies in CW, where overt proclitics are rarely found in extractions from VP. An important observation was made concerning the occurrence of SM on the head verb in such constructions: it was shown to be triggered by a wh-trace in the pre-head extraction site.

Chapter 6 examined two analyses of Welsh unbounded dependencies written within a GB framework: Harlow (1981) and Sadler (1984). I also suggested an alternative account to that of Harlow which was consistent with more recent proposals in GB theory. Harlow's deletion analysis for relative clauses was found not to be supported when further LW data were taken into consideration: it was, for instance, unable to account for the optional absence of resumptive pronouns from object dependencies in negative relative clauses, or to account for the obligatory presence of resumptive pronouns in extractions from co-ordinate NPs. Pronominal strategies in these constructions were examined

in chapter 7.

Sadler's analysis was partially supported, inasmuch as she proposes a wh-movement analysis of immediate dominance dependencies; however, her treatment of long distance dependencies, which involves no movement, was rejected. I showed, contra Sadler, that the SM-triggering EC in long distance subject extractions could only be a wh-trace. It could not be PRO, as she suggests, since PRO is not an SM trigger; nor could it be pro, since that would imply that it is freely interchangeable with an overt pronoun, which is not the case in relative clauses. As the position is Case-marked, the EC cannot be NP-trace either; therefore the only remaining category which has the required properties, being both Case-marked and an SM trigger, is wh-trace.

The analysis of relative clauses was taken up again in chapter 7, this time in the light of the NP Accessibility Hierarchy of Keenan and Comrie (1977). I proposed two general points, one a revision and one an extension of the original work. The extension was the Case-coding Constraint, which states that once a language begins to use a [+case] strategy at any point on the AH, it must continue to use some [+case] strategy for as long as relativization is possible. The revision was to consider as case-coding any relativization strategy which unambiguously identifies the grammatical function of the relativized NP. This would mean that all relative clauses in English use a case-coding strategy, since word order differentiates successfully between subject and object relativizations. In Welsh, however, this is not so; ambiguities can arise between these two positions, so that a variety of disambiguation strategies are employed, particularly in CW. Much of chapter 7 was devoted to an examination of

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relativization strategies, and especially those CW strategies which have not been discussed in previous literature, such as preposition stranding and clitic doubling.

The existence of an NP Accessibility Hierarchy was clearly supported by the Welsh data, with the language-specific proviso that in Welsh, the position of object of comparison is not the lowest position on the hierarchy, since na 'than' behaves exactly like a preposition.

Throughout this thesis, it has been demonstrated that mutation is a flourishing system in modern Welsh, despite the fact that some lexically-triggered environments are in decline, particularly in the case of NM and AM. I suggested, though, that in other environments mutation survives because it has a functional role to play. This may be simply in distinguishing between homophonous lexical items: recall, for example, that the 3ms proclitic ei triggers SM whereas ei 3fs triggers AM, although even in this case not all dialects retain the mutation. However, mutation does appear to be an extremely useful device in relative clause formation, and here it is stable: SM triggered by a wh-trace serves to signal the extraction site. It was shown in the present study that CW has actually extended the SM-triggering role of the variable, so that it appears in pre-head position in extractions from VP, where no overt proclitic is present. We can predict, then, that the mutation system will be retained in CW, partly because of the importance of its interaction with the syntax.

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