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Apart from Sara Bell's paper on Cebuano, there is as yet no published treatment of Early Relational Grammar, and my understanding of it is based on material taught by T.J. Klokeid in Linguistics 301.

Relational Grammar looks at the function of noun phrases and assigns them grammatical relations according to their relationship to the verb. That is, subject (I), direct object (II), and indirect object (III). These are called Primary Terms of Grammatical Relation. All other constituents in a sentence such as time, manner, and location are considered to be Secondary Terms (2T's). This distinction is necessary because, among other things, secondary terms cannot take part in changes of grammatical relations, cannot trigger verb agreement or reflexivization, and cannot host ascensions such as Subject to Subject Raising. In addition, secondary terms occupy a fixed place in the word order of a language.

A consideration of the BASE is beyond the scope of this paper. I assume that it generates sentences with the following constituents: complementizer (comp), verb (V), subject (I), direct object (II), indirect object (III), and secondary terms of time, manner, and location.

The syntactic component of Early Relational Grammar consists of Cyclic and Post Cyclic rules. Among the Cyclic rules is a class called the RELATION RULES which are stated with reference to the grammatical relations listed above. The effect of the Relation Rules is to change the grammatical relation of a given constituent in a highly constrained way. They fall into three main categories according to the source of

the IF which changes grammatical relation (the protagonist).

1. Advancements - the protagonist moves up the hierarchy. Terms are ranked as follows: I, II, III, 2 T's.
 - a. Passive - II becomes I.
 - b. Dative - III becomes II.
2. Ascensions - the protagonist climbs out of and replaces a primary term of grammatical relation.
 - a. Subject to Subject Raising - Ascend Subordinate I to Main I.
 - b. Subject to Object Raising - Ascend Subordinate I to Main II.
 - c. Quantifier Float - Ascend I minus the quantifier. The quantifier moves to the verb.
 - d. Conjunct Movement - Ascend a conjunct.
 - e. Possessive Raising - Ascend the possessive to II.
3. Replacements - The protagonist is a dummy word brought in to replace a primary term of grammatical relation. In Dutch:
 - a. "Het" Replacement.
 - b. "Er" Replacement.

In addition to the universal or core rules listed above, each relation rule can have side effects or morphological realizations which are language specific.

The feeding relationship between relation rules is implicit. For example, if a new subject has been created, it should be able to undergo all rules which apply to subjects. If a new direct object has been

created by the Dative, Subject to Object Raising or Possessive Raising rules, it should be able to feed the Passive.

What is the status of former terms? The Relational Annihilation Law states that when NP_1 assumes the grammatical relation of NP_2 , NP_2 loses that grammatical relation and becomes a chômeur.

Other CYCLIC RULES (which I assume here to be cycle-final) include: Case Assignment, Reflexivization, Verb Agreement, and Linearization. As mentioned previously, only primary terms can trigger verb agreement and reflexivization. Case assignment is based on the grammatical relations which have been assigned. A basic word order is determined for each language. Linearization according to the basic word order follows the relation rules, but can be modified by the post cyclic rules.

The POST CYCLIC RULES are movement, deletion, or copying rules. They do not change grammatical relations. In this paper I will discuss Verb Movement, Gapping, Topicalization, Agent Deletion, Tag Formation, Question Movement, and Particle Movement. Where possible I will try to show that these must follow the cyclic rules.

We often wish to verify that there has been a change of grammatical relations, not just a rearrangement of words. We can look for evidence in three main areas: 1. We can employ the feeding relationship mentioned earlier.

2. We can examine case markings, verb agreement, and reflexivization. Because these depend upon the grammatical relations, they will reflect any change of grammatical relations.

3. We can also look at the chômeur to make sure

that it is no longer functioning syntactically.

One of the main contentions of Relational Grammar is that there are universal rules which underlie all of the languages of the world. It further states that each language chooses rules from the supply of available substantive universal rules, and applies them according to certain formal universal rules. In this paper I will show how both types of rules apply in Dutch.

It will not be possible to look at a whole range of formal universals. I will, however, deal with the feeding relationship between rules and the need for rule ordering. In addition I will consider the application of the Relational Annihilation Law and the Sentential Subject Constraint.

Certain substantive rules which have been found to apply in English have been chosen for examination. It is hoped that they will be reasonably representative of the various categories of rules which are available, and will in some cases be capable of demonstrating the need for the formal universals mentioned above.

The CYCLE FINAL RULES must be referred to frequently in any discussion of the Relation Rules so I will begin by looking at the forms which these rules take in Dutch.

Verb Agreement. Verbs in Dutch agree with the subject in person and number. In addition to the infinitive which is the same as the plural forms, we can distinguish first person singular, and second or third singular. For example, the verb "to give":

geven

<u>singular</u>		<u>plural</u>	
ik geef	(I)	wij geven	(we)
jij geeft	(you-familiar)	jullie geven	(you-familiar)
U geeft	(you-polite)	U geeft	(you-polite)
hij geeft	(he)	zij geven	(they)
zij geeft	(she)		
het geeft	(it)		

Word Order. Three basic word orders are possible in Dutch sentences. Chômeurs belong with the secondary terms.

- a. When no auxiliary is present - I V II Time III Manner Place.

Hij gaf het boek gisteren aan mij in de trein.

I V II Time III Place

he gave the book yesterday to me in the train

- b. When an auxiliary is present, but no indirect object -

I Aux. II Time Manner Place V.

Ik kan een boek in een uur lezen.

I aux II Time V

I can a book in one hour read

- c. When an auxiliary is present along with direct and indirect

objects - I Aux. III Time Place II V.

Hij heeft aan mij gisteren in de trein het boek gegeven.

I aux III Time Place II V

he has to me yesterday in the train the book given

Like German, Dutch can have the verb in second or final position.

It can be considered to be non verb-final for two reasons. First, the finite, or conjugated verb always comes in second position, and second, the final verb can be considered to be part of a chômeur clause.

If in the initial structure we have a sentential subject and the auxiliary as superordinate verb, then by Subject to Subject Raising, the subject of the subordinate clause rises to become the subject of the superordinate verb. The remainder of the subordinate clause subject automatically becomes a *chômeur*. There is also a post cyclic rule in Dutch which moves the verb to the end of a subordinate clause.

Initial	a. (Ik zag het boek) hebben.
Structure	I V II
	I I V
	I saw the book have
Obligatory	b. Ik heb (het boek gezien).
Subject	II V
Raising &	I V chomeur
Verb	
Movement	I have the book seen

Case Marking. Only pronouns have case markings in Dutch. Most pronouns have a stressed, and an unstressed form. Although the unstressed forms are not used in formal written work, both forms are given below.

	I		II	
	<u>sing.</u>	<u>plur.</u>	<u>sing.</u>	<u>plur.</u>
1st per.	ik/'k	wij/we	mij/me	ons
2nd per. - fam.	jij/je	jullie/je	jou/je	jullie
- pol.	U	U	U	U
3rd per. - masc.	hij/le	zij/ze	hem/'m	hun, hen, ze
- fem.	zij/ze	"	haar/d'r	"
- neut.	het/'t	"	het/'t	ze

III - same as II with or without a preceding "aan".

Reflexive. When two NPs in the same sentence are coreferential, and the first is a primary term of grammatical relation, the second takes the reflexive form. In Dutch this is not always distinct from the accusative.

	<u>Sing.</u>	<u>Plur.</u>
1st person	mij/me	ons
2nd person	je	je
	U/zich	U/zich
3rd person	zich	zich

Forms containing "zelf" are used for extra emphasis. For example:

Ik scheer mij. I shave

Ik scheer mijzelf. I shave myself (no one else).

Now for a detailed look at how the various rules work in Dutch.

The PASSIVE is the first of the cyclic rules.

	1. Het kind heeft de mannen gezien.			
	I	aux	II	V
	the child		the men	saw
Passive	2. De mannen werden (door het kind) gezien. = 1.			
	I	aux	chômeur	V
	the men	were	by the child	seen

Sentences 1. and 2. show that Dutch has a passive rule. "Mannen" has become the new subject. It has moved to subject position and the auxiliary agrees with it. "Het kind" has lost its grammatical relation as subject (it can no longer trigger verb agreement), and has moved into chômeur position preceded by the chômeur marker "door". In all but the perfect tenses, Dutch uses the auxiliary "worden". In

the perfect tenses, Dutch uses a form of "zijn" as seen in the sentence below:

3. De brief is (door mij) geschreven.

I^{II} aux chômeur^I V

the letter has been by me written

Thus the rule for the passive in Dutch is: II becomes I

side effects: Aux. -"worden" or "zijn".

Chômeur marking - "door".

A superficial study might lead to the conclusion that Dutch has a DATIVE rule. For example, the following sentences are paraphrases:

4. Ik geef het geld aan hem.

I V II III

I give the money to him

Dative?

5. Ik geef hem het geld. -4.

I V ? ?

I give (to) him the money

In sentence 5. the indirect object has moved into the position previously occupied by the direct object, but we must also check to see if it feeds the passive before we can be sure that it is a new direct object. For this purpose, we will assume the grammatical relations below:

6. Ik geef hem het geld.

I V II chomeur

Passive

7. * Hij word het geld door mij gegeven.

Since sentence 7. is ungrammatical, we conclude that "hem" has not become the direct object. If this is the case, "het geld" should still have its original grammatical relation and should be capable of

undergoing the passive.

8. Ik geef hem het geld.
I V III II

Passive

9. Het geld word hem door mij gegeven.
I_{II} aux III chômeur_I V

Sentence 9. is grammatical so we conclude that the Dative Rule does not exist in Dutch. Instead, we probably have a post cyclic movement rule which allows an indirect object to move to follow the verb if it drops the preceding "aan".

SUBJECT TO SUBJECT RAISING is used only in formal Dutch. The sentences which it creates are too formal for everyday speech.

10. (Dat veel boeren dit jaar hun oogst zullen verliezen) is zeker.
comp I II aux V I V

Subject to Subject Raising that many farmers this year their harvest will lose is certain
11. Veel boeren zijn er zeker (van hun oogst dit jaar te verliezen).
I V chômeur chômeur = 10.
sub. I

Many farmers are certain their harvest this year to lose

In 11. it is evident that "veel boeren" has ascended from subject of the subordinate clause to become subject of the main clause. It has moved to subject position and the verb "zijn" agrees with it. The remainder of the subordinate clause has become a chômeur preceded by the chômeur marker "van", and it has moved to the end of the sentence. (A discussion of the old subject as a chômeur will be found later in this paper under Post Cyclic Question Movement.)

One of the side effects of this rule is that the complementizer changes from "dat" to "te" and it is this change which has the effect of creating a very formal sentence. "Er" has also been added. This seems to indicate that another rule must be employed along with Subject Raising. Possibilities include "Er" Replacement which is discussed later in this paper, or Chomeur Movement. If the chomeur originally followed the verb, "er" could have been left behind as a copy when it moved to the end of the sentence. This needs further investigation.

In the sentences below we have examples of SUBJECT TO OBJECT

RAISING.

12. Iedereen vond (dat zijn ideeën goed waren).
 I V II comp I V II
 everyone found that his ideas good were
- Subject
 to
 Object
 Raising
 Obligato ry
 Verb
 Deletion
13. * Iedereen vond zijn ideeën goed to zijn. = 12.
 I V II sub. I chômeur
 everyone found his ideas good to be
14. Iedereen vond zijn ideeën goed. = 12.
15. Ik vind (dat de luchtverontreiniging slecht voor de
 I II gezondheid is).
 I V II II
 I find that air pollution bad for the health is
- Subject
 to
 Object
 Raising
 & Verb
 Deletion
16. Ik vind de luchtverontreiniging (slecht voor de gezondheid). = 15.
 I V II sub I chômeur

In the above sentences, the subject of the subordinate clause

riser to replace the clause as direct object of the sentence. The remainder of the clause becomes a *chômeur*. There is a further obligatory rule which deletes the verb "zijn" from the *chômeur*. The new direct object can undergo the passive. The direct object in 14. can advance to become the subject as seen in 17.

14. Iedereen vond zijn ideeën goed.
 I V II *chômeur*
- Passive 17. Zijn ideeën werden (door iedereen goed) gevonden.
 I II aux *chômeur* verb
 his ideas were by everyone good found

Dutch has a rule for QUANTIFIER FLOAT. In the sentences below the old subject minus the quantifier ascends to become the new subject. This new subject triggers verb agreement (see 19.) and the quantifier in its *chômeur* form moves to follow the verb.

18. (Iedere man) was een boek gegeven.
 quant
 I V II V
 each man was a book given
- Quantifier Float 19. De mannen waren ieder een boek gegeven. = 19.
 I V quant II V
 chômeur
 the men were each a book given
20. (Alle Nederlanders) houden van gezelligheid.
 quant
 I V II
 all Dutchmen like cosyneess.
- Quantifier Float 21. Nederlanders houden { allen } van gezelligheid. = 20.
 { allemaal }
 I V quant II
 chômeur
 Dutchmen like all cosyneess

22. (Beide jongens) werken bij deze winkel.

quant
I V Place
both boys work in this store

Quantifier

Float

23. De jongens werken {allebei
beiden} bij deze winkel. = 22.

I V quant Place
chômeur
the boys work both in this store

The rule of CONJUNCT MOVEMENT can also be applied in Dutch. This is illustrated by the sentences below:

24. (Wim en Marie) zijn naar de bioscoop gegaan.

I aux Place V
Bill and Marie have to the movies gone

Conjunct

Movement

25. Marie is met Wim naar de bioscoop gegaan. = 24.

I aux chômeur Place V
Marie has with Bill to the movies gone

A conjunct has been raised and "met" has been added to the chômeur as a side effect. We see that when the conjunct "Marie" is raised to subject, "en" is deleted, the other conjunct becomes a chômeur, and the verb agrees with the new subject.

This rule can also be used to show the need for rule ordering.

If conjunct movement is applied to a reflexive sentence, the reflexive rule must follow if the result is to be grammatical.

26. (Wim en ik) haasten ons naar school.

I V reflex. Place
Bill and I hurry to school

Conjunct

Movement

27. Ik haaste me naar school met Wim. = 26.

I V reflex. Place chômeur
I hurry to school with Bill

In POSSESSIVE RAISING, a possessive ascends to replace the direct object. It would appear that this rule is obligatory in Dutch. Sentence 28. is grammatical only if the leg is no longer attached to John.

28. * Een hond heeft (het been van Jan) gebeten.
 I aux Poss V
 II II
 a dog the leg of John bit

Obligatory
 Possessive
 Raising

29. Een hond heeft Jan (in het been) gebeten. =28.
 I aux II chômeur V
 a dog John in the leg bit

Passive &
 Agent
 Deletion

30. Jan werd in het been gebeten.
 I aux chômeur V
 II

John was in the leg bitten.

Sentence 30. shows that "Jan" as the new direct object can undergo the passive.

In Dutch "Er" can replace most subjects which are not clauses.

For example:

31. Een vrouw zat naast de haard.
 I V Place
 a woman sat by the fireplace

"Er"

Replace-
 ment

32. Er zat een vrouw naast de haard. = 31.
 I V chômeur Place
 there sat a woman by the fireplace

This rule for "Er" replacement can also be used for an indefinite passive as shown in the sentences below:

33. Iemand zingt liedjes.
 I V II
 Someone sings songs.

Passive 34. Liedjes worden door iemand gezongen. = 33.
I aux chœur V
II

songs are by someone sung

Agents

Deletion 35. Liedjes worden gezongen.

I	BUY	V
100000	810	100000

18 JUL 1965

Replacement 36. Er wordt gezongen.

& Chomeur I aux V

Deletion there is singing

In 36., the new subject triggers verb agreement.

Sentential subjects can be replaced by "HE", and the old subject becomes a chômeur.

37. (Dat wij vrijdag bij U komen) is zeker.

11

that we Friday to your place come is certain

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Replacament 38. Het is zeker (dat wij vrijdag bij U komen).

H V chômeur chômeur

it is certain that we Friday to your place come

The Post Cyclic Rules will now be considered. There appear to be several VERB MOVEMENT rules in Dutch. Only one will be dealt with at this point. A verb must always be the second element in a Dutch sentence. The first element may be a single word, a phrase, or another clause. After any movement rule has been applied, we must check to see if we must also employ this rule which moves a verb or auxiliary into second place.

A topic NP can be moved to the beginning of a sentence. This rule of TOPICALIZATION is much more commonly used than in English. It must be followed by the Verb Movement rule given above.

39. Zij koopt sigaretten in deze winkel.
 I V II Place
 she buys cigarettes in this store
- Topical-
 ization
 & Verb
 Movement
40. Sigaretten koopt zij in deze winkel. = 39.
 II V I Place
 cigarettes buys she in this store

In sentence 40. the verb still agrees with "zij". There has been no change in the grammatical relations, only a variation in the word order designed to place the emphasis on "sigaretten".

41. Hij heeft me dat gisteren verteld.
 I III II Time V
 he has to me that yesterday told
- Topical-
 ization
 & Verb
 Movement
42. Dat heeft hij me gisteren verteld. = 41.
 II aux I III Time V
 that he to me yesterday told
43. Mij heeft hij dat gisteren verteld. = 41.
 III aux I II Time V
 to me he that yesterday told

In sentence 43. "mij" is used in place of "me". Both are accusative forms, but "mij" must be used when stressed.

If a verb is repeated in conjoined clauses, the repetition(s) can be deleted. This is due to a rule known as GAPPING. In languages which are non verb-final, gapping applies forward i.e. the second conjunct and any subsequent ones will be deleted. In the section on word

order, I concluded that Dutch is non verb-final. Therefore, we expect it to gap forward just as English does. The sentences below show that this is a correct prediction.

44. Wim heeft vis gegeten en Marie heeft rijst gegeten.

I aux II V I aux II V
Bill fish ate and Marie rice ate

Gapping

45. Wim heeft vis gegeten en Marie rijst. =44.

I aux II V I II
Bill fish ate and Marie rice

46. *Wim vis en Marie heeft rijst gegeten.

I II I aux II V

As in German, the verb must move to the end of a subordinate clause and we get two different gapping patterns because gapping can either precede this obligatory verb movement, or follow it.

47. (Omdat ik vis gegeten heb en Wim rijst gegeten heeft)

I II V aux I II V aux
zijn wij ziek geworden.
aux I II V
because I fish ate and Bill rice ate
have we sick become

Gapping

followed

by Sub. Cl.

Verb

Movement

48. (Omdat ik vis gegeten heb en Wim rijst) zijn wij ziek
I II V aux I II aux I II
geworden. = 47.
V

because I fish ate and Bill rice have we sick
become.

Sub. Cl.

Verb

Movement

followed by

Gapping

49. (Omdat ik vis en Wim rijst gegeten heeft) zijn wij ziek
I II I II V aux geworden. = 47.
because I fish and Bill rice ate have we sick
become.

The rule for AGENT DELETION follows the passive. It states that an indefinite agent which has become a chomeur can be deleted.

50. Iemand heeft de man gezien.
 I aux II V
 someone the man saw
- Passive
51. De man werd door iemand gezien. = 50.
 I II aux chomeur V
 the man was by someone seen
- Agent
- Deletion 52. De man werd gezien. = 50.
 I aux V
 the man was seen

A tag can be added to a sentence to make the sentence a question. In English this TAG FORMATION is done by copying the subject and auxiliary with "not" included if the sentence is affirmative, and with "not" deleted if the original sentence is negative. Dutch uses a simple "wel" for negative sentences, and "niet waar" for affirmative sentences. For example:

53. Q Hij komt morgen.
 I V Time
 he comes tomorrow
- Tag
- Formation 54. Hij komt morgen, niet waar? = 53.
 I V Time tag
 he comes tomorrow, doesn't he
55. Hij komt niet morgen, wel?
 I V neg Time tag
 he comes not tomorrow, does he

The rule for QUESTION MOVEMENT states that a question word and the NP must move to the beginning of a sentence. This rule applies in Dutch, and when necessary is followed by Verb Movement.

56. G. Hij heeft het boek aan Jan gegeven.

I aux II III V
~~he~~ nat
 he the book to John gave

Question Movement & Verb Movement

57. Wat heeft hij aan Jan gegeven? = 56.

II aux I III V
what he to John gave

58. Q. Hij heeft het boek (aan Jan) gegeven.

I	aux	II	III	V
he		the book to John		gave

Question Movement & Verb Movement

59. Aan wie heeft hij het boek gegeven? = 58.

III aux I II V
to whom he the book gave

One of the formal universal rules which I wish to examine is the Sentential Subject Constraint. It states that chopping is not allowed out of sentential subjects. This means that Question Movement, which is a chopping rule, can not be done out of a subordinate clause which acts as subject of a sentence. Chopping can be done out of *chômeurs*. Therefore, we expect that when a sentential subject is involved, Subject Raising, or some other relation rule must be applied prior to Question Movement. I will now show that this constraint holds for Dutch, and that the rules must be applied in the above order.

60. Q (Dat veel boeren dit jaar [hun oogst] zullen verliezen)

I _____ wat is zeker.
V
that many farmers this year their harvest will lose
is certain

Question Movement & Verb Movement

61. * Wat is zeker dat veel boeren dit jaar zullen verliezen.

what is certain that many farmers this year will
lose

Sentence 61. shows that when Question Movement is applied to a sentential subject, the result is ungrammatical. In the sentences below it is applied after Subject Raising.

60. Q(Dat veel boeren dit jaar hun oogst zullen verliezen)
 I sub I I
 is zeker.
 V

Subject
Raising

62. Q Veel boeren zijn er zeker (van dit jaar [hun oogst]
 ← I V chomeur wat te verliezen.) = 60.
 chomeur
 many farmers are certain this year their harvest
 to lose

Question
Movement
& Verb
Movement

63. Wat zijn veel boeren er zeker (van dit jaar te verliezen)?
 chomeur V I chomeur chomeur
 what are many farmers certain this year to lose

Since sentence 63. is grammatical, we conclude that the rules must be ordered so that a movement rule such as Question Movement is preceded by any necessary cyclic rules such as Subject Raising. We also conclude that "hun oogst" is no longer part of a sentential subject and must, in fact, be part of a chomeur created by the Subject Raising rule.

In English a particle can follow the verb, or move to follow the direct object. This rule for particle movement seems to have no counterpart in Dutch because in the places where particles are used in English, we find SEPARABLE VERB PREFIXES in Dutch. Although these prefixes also move, they do so in a different way. They must be placed at the end of a sentence, and can be separated from the verb to

accomplish this.

64. Ik heb het licht aangedaan.
 I aux II prefix + V
 I the light on turned
65. Ik doe het licht aan.
 I V II prefix
 I turn the light on
66. Ik zal het morgen weggooien.
 I aux II Time prefix + V
 I shall it tomorrow away throw
67. Ik gooi het morgen weg.
 I V II Time prefix
 I throw it tomorrow away

Since Relational Grammar tries to find universal rather than language-particular rules, perhaps a general rule could be postulated that would include both of these rules. One possibility is that both particles and separable prefixes are secondary terms of manner or location, and as such can be attached to the verb or move to their normal place in the word sequence i.e. after the direct object in English, or at the end of the sentence in Dutch. This needs further study.

Although this paper has provided only an initial survey of Dutch syntax, it shows that the framework of Relational Grammar works as well for Dutch as it does for English. Not all of the rules examined exist in Dutch, but it is not expected that any language will use all of the available rules. Relational Grammar does make accurate predictions for Dutch, and the patterns of Dutch syntax can be expressed clearly within its framework.

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Any errors which remain are, of course, my own.

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