

in D. Perlmutter and C. G. Rosen  
(eds.), Studies in Relational  
Grammar 2 U. of Chicago Press

### 3 The 1-Advancement Exclusiveness Law

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#### 1 Background

The earliest versions of relational **grammar** (e.g., Perlmutter and Postal 1974) recognized a class of rules called 'advancements' and **hence** a class of structures involving advancement. In the derivational **framework** in which that work was embedded, an advancement was a **rule** that promotes a nominal bearing one grammatical **relation** in a clause to a higher relation in the **same clause**—"higher", with respect to the following relational hierarchy: <sup>1</sup>

##### (1) Hierarchy of Grammatical Relations

Highest **1**  
2  
3

Lowest Nonterm Relations = (**Chômeur**, Oblique Relations, etc.)

A nominal undergoing an advancement has been called an 'advancee'. **Hence** an advancee bears at least two distinct relations to some single **clause**. Examples of advancees are the italicized nominals in the following English clauses:

- (2) a. Melvin was tackled by the lunatic.
- b. Harriet gave Ted a new **bowling** ball.
- c. *Ted* was given a new bowling ball by **Harriet**.

In (2a), Melvin is an advancee because it initially bears the 2-relation to **the** clause but then advances to the **1-relation** via Passive. In (2b), *Ted* is an advancee because it initially bears the 3-relation to the **clause** but then advances

An earlier version of this paper was published in Russian translation in *Novoe v zarubeznoj lingvistike 11: Sovremennye sintaksičeskie teorii v amerikanskoj lingvistike*, edited by A. II. Kibrik (Moscow: Izdatel'stvo "Progress," 1982). The paper also incorporates parts of "Impersonal Passives and the Unaccusative Hypothesis" by David Perlmutter, published in *Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society* (Berkeley: University of California, 1978). Perlmutter's work has been supported in part by the National Science Foundation through Grant No. BNS76-00764 to the Massachusetts Institute of Technology and a fellowship from the John Simon Guggenheim Memorial Foundation.

The authors would like to thank James W. Gair for providing us with information about Sinhalese and correcting our transcriptions for this language, and Eva-Marie Muckstein for checking the German examples in the text. We are also indebted to Gilles Fauconnier, Warren Plath, Andrew Radford, Eduardo Raposo, and especially Carol Rosen for useful critical comments on the first draft of this work

to the 2-relation. In (2c), *Ted* is an advancee because it initially bears the 3-relation to the clause but then **advances** to the 2-relation and then **advances** to the 1-relation. Example (2c) illustrates the fact that a single nominal can undergo more than one advancement.

In the derivational framework of early relational grammar, a principle called the 'Advancee Tenure Law' was proposed (Perlmutter and Postal 1974). This can be stated very informally as follows:

(3) **Advancee Tenure Law (ATL)**

An *advancee* cannot be placed en *chômage* by an *advancement*.

This law did not preclude the possibility of an advancee being put en *chômage* by the insertion of a dummy or by an ascension rule. That is, (3) would not preclude analyses of, e.g., a French example like (4) in which the italicized nominal advances to 1 and is then put en *chômage* by the dummy *il*.

(4) Il a été blessé beaucoup d'ouvriers pendant la mêlée.

it has been injured many of workers during the melee  
'Many workers were injured during the melee.'

The ATL does not preclude an analysis of (4) in which the dummy nominal *il* is inserted as a 1 in a structure in which *beaucoup d'ouvriers* is a 1, advanced from 2-hood by **Passive**. Hence (3) was not an across-the-board ban on placing advancees en *chômage*, only a ban on the possibility of this being due to an advancement.<sup>2</sup>

The ATL is, in effect, a generalization over the class of term relations. 1, 2 and 3 since, given the Motivated *Chômage* Law (Perlmutter and Postal 1983), nominals bearing these and only these relations are potential *chômeurs*. However, while the ATL was stated as a generalization over all three term relations, the bulk of cases it explained were in fact examples where it precludes a 1-advancee (a nominal advanced to 1) being placed en *chômage* by another advancement to 1. At present, our view is that a universal constraint involving advancee tenure must be limited to 1-advances, for the following reasons:

First, as just observed, most of the explanatory work known to be done by such a principle involves 1-advancees.

Second, we know of no cases where such a principle would have any useful consequences in the case of 3-advancees. Advancements to 3 are rare. Distinct advancements to 3 (that is, advancements to 3 from different grammatical relations) in the same language are even rarer. In the few cases where a language has been shown to manifest distinct advancements to 3, their mutual exclusiveness turns out to follow from independent constraints and thus offers no support for the ATL.<sup>3</sup>

Finally, consider advancees to 2. While there are instances where it would be of explanatory value for a principle like (3) to apply to advancees to 2,

there is evidence from some Bantu languages indicating that advancements to 2 are not universally mutually exclusive in a given clause. This is documented by Trithart 1976 for Chichewa, by Kisseberth and Abasheikh 1977 for C'hi-Mwini, and by Kimenyi 1980 for Kinyarwanda. In Kinyarwanda, for example, it is possible for both Locatives and Instrumentals to advance to 2 in the same clause. A clause of the form:

(5) Kimenyi's 5.6.1 (4a)

Úmwáalímu y-a-andits-e imibáre ku kibááho n'íngwa.  
teacher he-PST-write-ASP math on blackboard with chalk.  
'The teacher wrote math on the blackboard with chalk.'

involves no advancement, while (6a,b) show respectively advancement of the Locative but not the Instrumental, and the Instrumental but not the Locative:

(6) a. Kimenyi's 5.6.1 (4b)

Úmwáalímu y-a-andits-é-ho ikibááho imibare n'íngwa.  
teacher he-PST-write-ASP-on blackboard math with chalk.

b. Kimenyi's 5.6.1 (4c)

Úmwáalímu y-a-andik-iish-ije imibáre inywa ku kibááho.  
teacher he-PST-write-INST-ASP math chalk on blackboard.

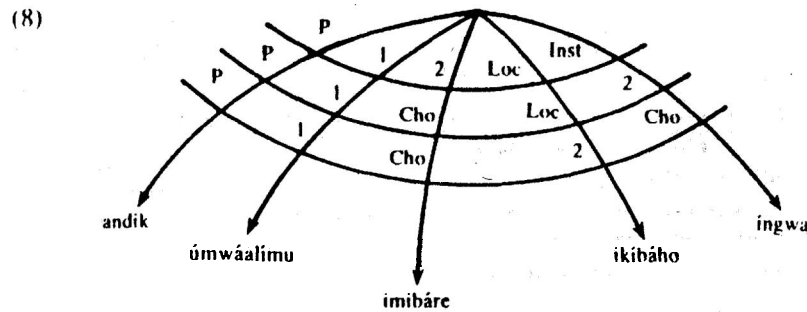
The arguments for advancement in these cases are many. In each case, the initial oblique nominal in (5), associated with a preposition, appears without one in (6). The verb, unmarked in (5), appears with the locative marker *-ho* in (6a) and with the instrumental marker *-iish-* in (6b). More tellingly, there are various grammatical phenomena restricted to final terms, to which oblique nominals like those in (5) do not accede, while the advancees in (6a,b) do. These include the ability to passivize, to undergo relativization, to determine a reflexive pronoun, to cleft, and to "incorporate" (determine an object agreement marker).

Consider then:

(7) Kimenyi's 5.6.1 (4d)

Úmwáalímu y-a-andik-iish-ijé-ho ikibáho imibáre íngwa.  
teacher he-PST-write-INST-ASP-on board math chalk

This example, like (6a,b), has essentially the same meaning as (5), and manifests many (but not all) of the properties of both (6a) and (6b). In particular, both the Instrumental and the Locative appear without a preposition, and the verb has both the instrumental and locative markers. However, only the Locative accedes to the phenomena limited to final terms. We account for this by taking (7) to involve double advancement to 2, with the Instrumental advancing first, and then demoting to *chômeur* when the Locative advances. Hence the RN for (7) (abbreviated as a stratal diagram) is



We take such examples to indicate that multiple advancement to 2 in a single clause is possible in human languages. Hence, the ATL was overly restrictive and must be abandoned.

### The I-Advancement Exclusiveness Law

The negative conclusion of the previous section does not necessarily mean that there was nothing correct in the idea of the ATL. Rather, we believe that a core of universally valid inferences can be extracted from that principle in the form of a less restrictive law limited to the domain of advancements to I. Thus the Kinyarwanda data in (7) is irrelevant to this principle. We can initially state this law quite informally as follows:

#### (9) I-Advancement Exclusiveness Law (first version)

The set of advancements to I in a single clause contains at most one member.

To state this law more precisely in terms of the formalism of RNs described in Perlmutter and Postal 1977, 1983, we must characterize the notion of 'advancee arc'. First, the related notion of a '(clausal) revaluation construction' can be defined as follows:

(10) A (clausal) *revaluation construction* is a construction where, for a given nominal node *a* and clause node *b*, *a* heads on arc with tail *b* and central R-sign GR, in the *c*, stratum of *b* and an arc with tail *b* and a distinct central R-sign GR, in the *c*, stratum of *b*. (On the notion 'central H-sign', cf. Perlmutter and Postal 1983, fig. 13.)

We want it ultimately to be a consequence of independent assumptions that revaluation constructions divide exhaustively into two subclasses: 'advancements' and 'demotions'.

Advancements are those revaluation constructions where the relation named by GR, outranks the relation named by GR, on the hierarchy in (1). Demotions are those revaluations where the relation named by GK, outranks the relation named by GH. For it to turn out that all revaluations are either advancements or demotions, there must be no revaluations from one oblique

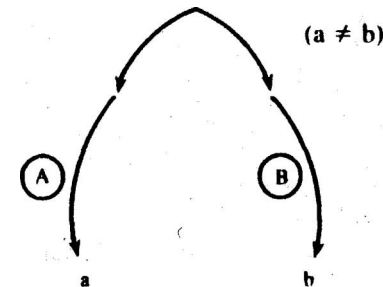
relation to another (this is guaranteed by the Oblique Law of Perlmutter and Postal 1983), no revaluations from any oblique relation to *chômeur* (this is guaranteed by the Motivated *Chômeur* Law of Perlmutter and Postal 1977, 1983, and chap. 4 below), and no revaluations from *chômeur* to an oblique relation (this is also guaranteed by the Oblique Law).

Before defining 'advancee arc', it is also convenient to introduce three predicates characterizing arcs (for precise definitions see Johnson and Postal 1980, chap. 2):

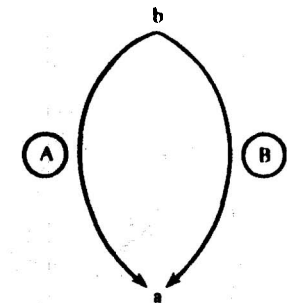
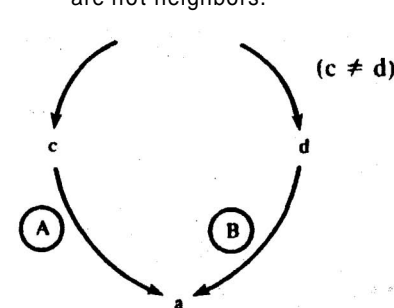
- (11) a. Two arcs A and B are *neighbors* if and only if they have the same tail node.  
 b. Two arcs A and B *overlap* if and only if they have the same head node.  
 c. Two arcs A and B are *parallel* if and only if they are neighbors and overlap.

Hence diagrammatically:

- (12) a. A and B neither overlap nor are neighbors.  
 b. A and B are neighbors but do not overlap.



- c. A and B overlap but are not neighbors.  
 d. A and B are parallel.

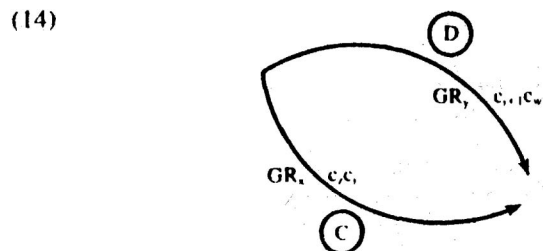


Consider now a sub-RN where the following conditions are met:

- (13) a. There are distinct parallel arcs A and B.

- b. The *first* coordinate index of A is  $+1$  of the *last* coordinate index of B.

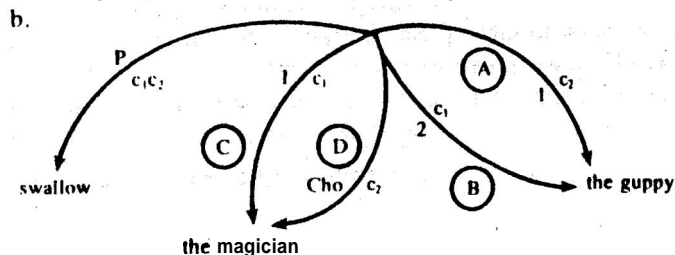
We are interested in the case where the R-signs of both A and B are central H-signs (see Perlmutter and Postal 1983, fig. 13). In this case we say that A is a 'revaluee arc', whose general form is then that of D in (14):



It is thus appropriate to speak of a revaluation from  $GR_{c_1c_2}$  to  $GR_{c_1c_2}$ . Where the relation corresponding to  $GR_{c_1c_2}$  outranks that corresponding to  $GR_{c_1c_2}$ , there is an advancement; where the converse holds, a demotion. The revaluee arc is an 'advancee arc' in an advancement and a 'demotee arc' in a demotion. We note that the notion 'revaluee arc' corresponds extensionally to the concept 'local successor' (for arcs with central K-signs) of Johnson and Postal 1980.

To illustrate more concretely, consider a standard Passive structure, say that associated with (15a), which would be (15b):

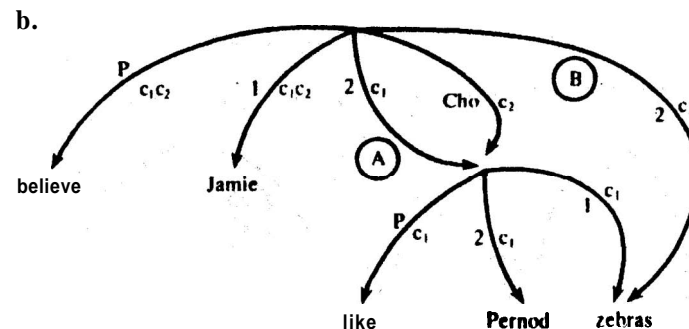
- (15) a. The guppy was swallowed by the magician.



Here A and D are **both** revaluee arcs. A is a revaluee arc because it is parallel to B and its first coordinate index is  $+1$  of the last coordinate index of B. D is a revaluee arc because it is parallel to C and its first coordinate index is  $+1$  of the last coordinate index of C. But C is not a revaluee arc because, although condition (13a) is met (with respect to D), condition (13b) is not.

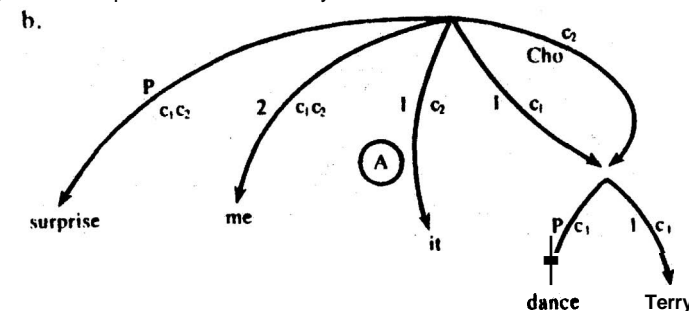
Not all noninitial arcs are revaluee arcs. Consider, for example, the KN associated with (16a).

- (16) a. Jamie believes zebras to like Pernod.



In (16b), B is a noninitial arc. But it is not a revaluee arc, since condition (13a) is not met, and hence (13b) cannot be. Similarly, the "earliest" arc headed by a dummy is not a revaluee arc. Thus in (17b), which represents (17a), A is not a revaluee arc:

- (17) a. It surprised me that Terry danced.

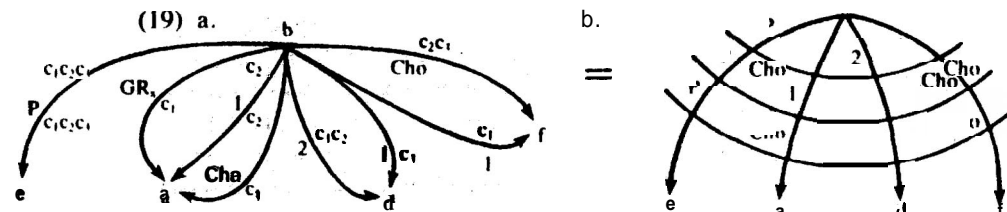


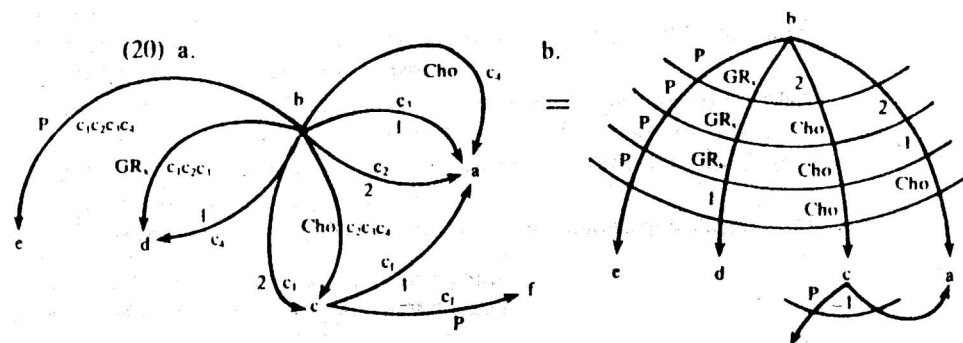
With the notion 'advancee arc' extensionally clarified, we can restate (9) more precisely as follows:

- (18) I-Advancement Exclusiveness Law (IAEX).

Let A and B be distinct neighboring I-arcs. Then, if A is an advancee arc, B is not an advancee arc.

Among the RNs ruled out by the IAEX are those of the forms: b





In (19), a nominal heading a GR<sub>1</sub> arc in the first stratum advances to head a I-arc in the second, with the initial I heading a Cho-arc in the second. In the next stratum, there is a Passive transition, with the initial 2 heading a I-arc in the third stratum, and the earlier advance to I now heading a Cho arc. In (20), there is 'raising' of the complement I, which heads a 2-arc in the second stratum of the higher clause. This then advances to I in the third stratum. In the fourth stratum, a nominal which heads a GR<sub>1</sub> arc in the first three strata advances to I, placing the advanced ascended nominal en chômage. Both (19) and (20) thus contain distinct neighboring advancee I-arcs, in violation of the IAEX.

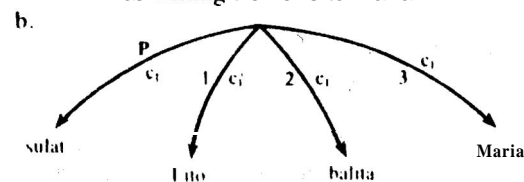
### 3 Some Initial Predictions of the I-Advancement Exclusiveness Law

#### 3.1 Distinct Advancements to I in Philippine Languages

One prediction of the IAEX is that in languages like those of the Philippines, which permit advancements to I from a wide variety of different relations, only one of these various advancements to I will be possible in a given clause. We illustrate the validity of this claim with Cebuano data taken from Bell 1976, 1983.

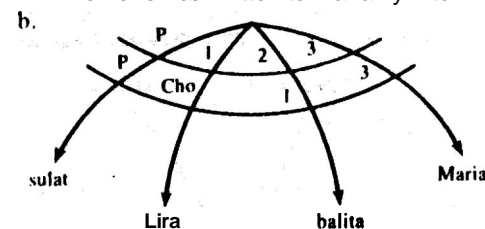
Consider first the active clause (21a) whose RN is (21b):

- (21) a. Nagsulat si Lito sa balita kang Maria.  
 ACT/write NOM Lito OBL news OBL Maria  
 'Lito was writing the news to Maria.'



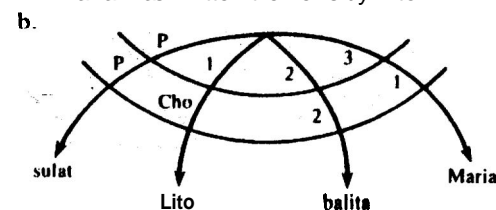
In (21a) the verb is in the active voice, and *Lito* has the nominative marking (in this case *si*) typical of final Is. The Passive corresponding to (21a) is (22a), whose RN is (22b) (abbreviated as a stratal diagram):

- (22) a. Gisulat ni Lito ang balita kang Maria.  
 OBJ/write GEN Lito NOM news OBL Maria  
 'The news was written to Maria by Lito.'



In (22a) the verb is in the objective voice typical of Passive clauses and *balita* has the nominative marking (*ang*) typical of final Is. *Lito* has the genitive marking typical of advancement I-chômeurs. Advancement of 3s to I is also possible in Cebuano. Hence one finds (23a) whose stratal diagram is (23b):

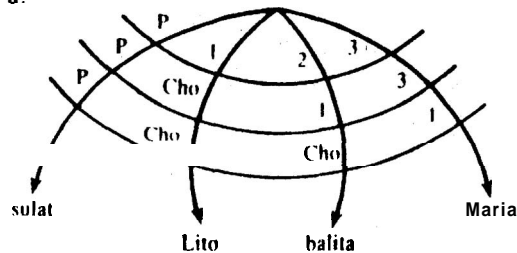
- (23) a. Gisulatan ni Lito si Maria sa halita  
 REF/write GEN Lito NOM Maria OBL news  
 'Maria was written the news by Lito.'



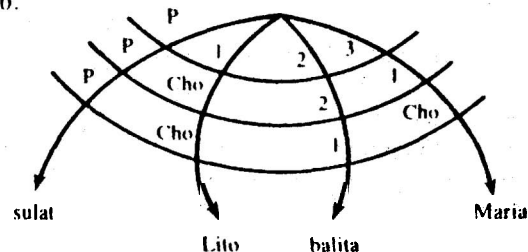
In (23a) the verb is in the referential voice typical of clauses in which a 3 advances to I. *Maria*, the initial 3, has the nominative marking of final Is, while *Lito*, the initial I, is marked with the genitive, typical of advancement I-chômeurs.

The IAEX then predicts that there are no well-formed Cebuano sentences which would correspond to either of the results of 'adding' to (22b) a further stratum in which *Maria* advances to I, or of 'adding' to (23b) a further stratum in which *balita* advances to I. That is, neither (24a) nor (24b) can determine well-formed clauses:

(24) a.



b.



And the sentences corresponding to such **RNs** are indeed **ill** formed. This is true regardless of the relative order of the two advancement **I-chômeurs** and regardless of whether the verb is in the objective voice (typical of **Passives**) or the referential voice (typical of clauses with 3-I Advancement):

- (25) a. \***Gisulat** ni Lito ni Maria **ang** balita.  
       \***OBJ**/write GEN Lito GEN Maria **NOM** news  
       b. \***Gisulatan** ni Lito **ni** Maria **ang** balita.  
       **REF**/write  
       c. \***Gisulat** ni Maria ni Lito **ang** balita.  
       d. \***Gisulatan** ni Maria ni Lito **ang** balita.

Nor can either (24a) or (24b) be realized with a verb having both the **objective** voice and **referential** voice affixes:

- (26) a. \***Gigisulatan** ni Lito ni Maria **ang** balita.  
       b. \***Gigisulatan** ni Maria ni Lito **ang** balita.

Hence 3-1 Advancement and 2-1 Advancement are impossible in the **same** clause in Cebuano, as the **IAEX** predicts.

As Bell (1976, 1983) shows, Cebuano allows with **great** freedom **advancement to I** not only of 2s and 3s **but** also of **Instrumentals**, **Locatives**, **Benefactives**, **Temporals**, etc. The **IAEX** predicts, correctly again, that all of these advancements to **I** are **mutually exclusive**.

A similar situation is reported by Gary and Keenan (1977, p. 113) for related languages:

E.g. in Tagalog and in Malagasy . . . basically any **major NP** in a clause can be advanced **to** subject. But once one NP has **been** so advanced no others can be.

### 3.2 Distinct Advancements to **I** in English

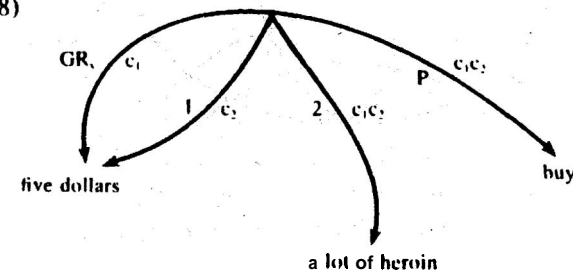
#### 3.2.1 Interaction of **Passive** and **Sporadic Advancements** ■ **I**

The kind of predictions of the **IAEX** supported by the highly productive advancements to **I** in languages like Cebuano, Malagasy, etc., are also supported by the more sporadic advancements to **I** found in English. Suppose, for example, one analyzes examples like (27b) as involving **advancement of** some kind of oblique to 1.

- (27) a. Melvin bought a lot of heroin for **five dollars**.  
       b. Five dollars bought a lot of heroin in 1827.

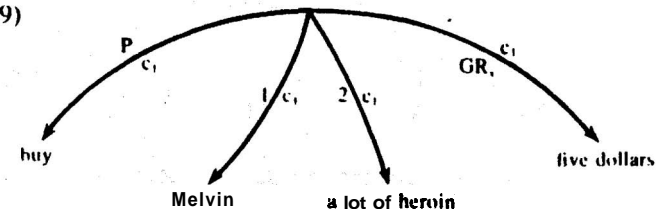
That is, suppose (27b) has a representation including **sub-KN** (28):

(28)



while (27a) has a structure along the lines of

(29)

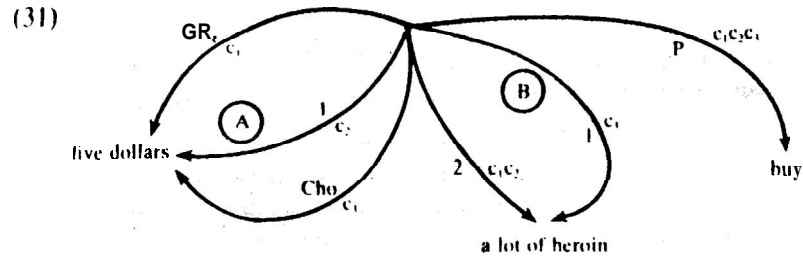


One virtue of the representation in (28) is that it expresses both the **final I-hood** of the nominal **five dollars** and the fact that this nominal has the **same semantic role** in **both** (27a) and (27b).

Moreover, (28) interacts with the **IAEX** and our conception of **Passive** (Perlmutter and Postal 1977) to predict that while it is possible for (27a) to have a corresponding **Passive**, there can be no **Passive** corresponding to (27b), which is correct:

- (30) a. A lot of heroin was bought (by Melvin) for five dollars.  
       b. \*A lot of heroin was bought by five dollars (in 1827).

Example **\*(30b)** is precluded by the IAEX because, under the assumptions underlying (28), its RN would include the following arcs:



The ungrammaticality of **\*(30b)** is then a consequence of the fact that in (31) both A and B are **advanee I-arcs**, in conflict with the IAEX.

There are a number of cases in English of the type in (27b). These are morphologically active clauses with the following properties:

- (32) a. It is plausible to analyze their final I-arcs as advancees.  
 b. It is plausible that they contain 2-arcs.  
 c. They have no corresponding Passives.

The plausibility of analyzing their final I-arcs as advancee arcs rests on the assumption that a semantic role (such as that of *five dollars* in (27a,b)) is linked to an initial relation by means of a mapping that ordinarily remains invariant for a given predicate.<sup>1</sup> In particular, we reason that a nominal cannot head an *initial I-arc* if there exist other clauses with the same predicate in which its semantic counterpart **does not** head an initial I-arc. This is the case with *five dollars* in (27b), and with the (a) examples cited below. We take such sentences to simultaneously support two hypotheses:

- (33) a. The final I-arc in the corresponding RNs is **indeed** an advance arc.  
 b. The IAEX holds.

These together predict (32c). Some further examples:

- (34) a. 1939 found the United States on the brink of disaster.  
 b. \*The United States was found on the brink of disaster by 1939
- (35) a. Labor Day saw the government's policy in shreds.  
 b. \*The government's policy was seen in shreds by Labor Day.
- (36) a. Thirty-five thousand dollars won't build that kind of a house these days.  
 b. \*That kind of a house won't be built by thirty-five thousand dollars these days.
- (37) a. This cabin sleeps twenty people.  
 b. \*Twenty people are slept by this cabin.

- (38) a. A large bribe obtained that passport for Sally.  
 b. \*That passport was obtained for Sally by a large bribe."

For all these cases, we suggest that an oblique nominal advances to I. The IAEX then predicts the **ungrammaticality** of the corresponding Passives.

To our knowledge, no other explanation of such cases of 'ill-formedness' has ever been given. Further, it would be impossible to claim that the verbs of these clauses are in general exceptions to passivization, since they do occur independently in well-formed Passives.

### 3.2.2 The Impossibility of 'Multiple Passivization'

A further consequence of the IAEX is that no language can have instances of 'multiple passivization' in a single clause. We illustrate this possibility for English.

- (39) a. Many constituents have written to Senator Warhola.  
 b. Senator Warhola has been written to by many constituents.

Example (39b) illustrates the possibility of 'pseudopassivization' of the initial 3.<sup>7</sup> Now consider:

- (40) a. Many constituents have written letters to Senator Warhola.  
 b. Letters have been written to Senator Warhola by many constituents.  
 c. \*Senator Warhola has been written to by many constituents by letters.  
 d. \*Senator Warhola has been written to by many constituents by letters.

A priori, nothing precludes multiple Passives. In the example at hand, a priori nothing excludes the possibility of a Passive of (40b), resulting in **\*(40c)—or**, if there is 'double' Passive morphology, **\*(40d)**. However, the IAEX rules out such **ungrammatical** Passives, since the associated RNs contain **neighboring** advancee I-arcs (in this case, headed by the nominals *letters* and *Senator Warhola*).

Similarly, the IAEX rules out the otherwise conceivable Passive **\*(42b)**, or with 'double' Passive morphology **\*(42c)**.

- (41) a. Mark paid attention to Betty.  
 b. Betty was paid attention to by Mark.
- (42) a. Attention was paid to Betty by Mark.  
 b. \*Betty was paid to by Mark by attention.  
 c. \*Betty was been paid to by Mark by attention.

Since 'pseudopassives' of certain intransitive clauses are possible in English, and since Passive clauses are (superficially) intransitive, the ungrammaticality of examples such as **\*(40c,d)** and **\*(42b,c)** requires explanation. These English examples illustrate the prediction of the IAEX that multiple Passives in the same clause will not be possible *in any language*.

## Conclusions

We have shown **some** initial support for the IAEX, **based** on data indicating the impossibility of more than one **advancement** to **I** per clause in Philippine languages and in English. The IAEX predicts that interactions of the types **exemplified** here will be impossible universally. At present we know of no data inconsistent with this **law**.<sup>8</sup> It makes clear predictions about a wide range of constructions in all languages, and thus can be subjected to further testing.

## The Unaccusative Hypothesis

Important support for the IAEX derives from its interaction with an independent hypothesis about clause structure which we call the **Unaccusative Hypothesis**. We give a brief sketch of this principle here.<sup>9</sup>

Current linguistics of almost **all** varieties inherits from traditional grammar the notions of transitive and intransitive clause. In traditional terms, a clause is transitive if and only if it has both a subject and a **direct** object, **intransitive** if it only has a subject.

This categorization is unclear for two reasons. First, it has the **potential** unclarity of the concepts 'subject' and 'direct object'. This is eliminated in present terms by the notions '(head of), I-arc' and '(head of) 2-arc', which are **formal** entities. A second unclarity in the traditional account is that it ignores questions of levels. Evidently, it makes no **sense** to speak of **clauses** but only of certain **levels** of clauses, as transitive or intransitive. This **problem** too is basically solved by the notion 'stratum'.<sup>10</sup> Recall that a stratum is the maximal set of neighboring arcs sharing **some** single coordinate.

In these terms, then, one can reconstruct the traditional description **more** precisely as follows:

- (43) a. A stratum is **transitive** if and only if it contains both a I-arc and a 2-arc.  
b. A stratum is **intransitive** if and only if it contains a I-arc and no 2-arc.

'Thus the traditional parameter of transitivity is **analyzed** in the current **framework** in terms of combinations of I-arcs and 2-arcs. But (43) does not deal with all four logical possibilities:

- (44) a. A stratum contains both a I-arc and a 2-arc.  
b. A stratum contains a I-arc and no 2-arc.  
c. A stratum contains a 2-arc and no I-arc.  
d. A stratum contains **neither** a I-arc nor a 2-arc.

Focusing exclusively on strata associated with basic clause nodes,<sup>11</sup> the traditional classification suggests the existence of only two of the four logically possible types of strata in (44).

Focusing exclusively on the **final** strata of basic clauses, the Final I Law (Perlmutter and Postal 1983), which requires the final stratum of every basic

clause to contain a I-arc, predicts that the class of final strata must **be** drawn from the two subtypes recognized by the traditional **classification**, namely (44a,b). But **if** one considers arbitrary strata without regard to **whether** they are initial, final, or intermediate, the Final I Law does not preclude the existence of any of the four logically **possible** types. In this **discussion** we will ignore the possibility in (44d), concentrating on the other three types of strata.

Focusing now on **initial** strata, we can **state** the basic claim of the **Unaccusative Hypothesis**:

- (45) The **initial** stratum of some basic clauses is of **the form** in (44c).

Let us take (45) as correct for the **moment**. It would **follow** that the traditional classification is inadequate and that one needs a richer terminology for describing initial strata than is provided by such binary divisions as **transitive/intransitive**.

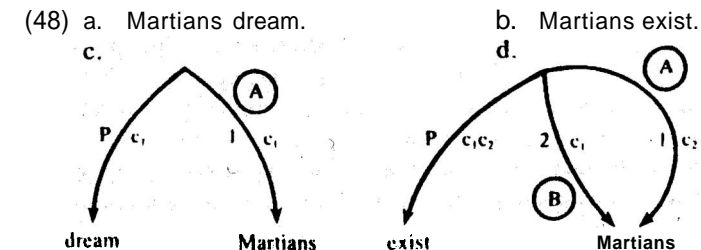
We therefore propose the following terminology, slightly reanalyzing the traditional notions **transitive/intransitive** and introducing the terms '**unergative**' and '**unaccusative**', the former suggested by G. K. Pullum. All of these are taken as characterizations of strata of basic clauses (and hold only for these):

- (46) a. A stratum is **transitive** if and only if it contains a I-arc and a 2-arc.  
b. A stratum is **intransitive** if and only if it is not transitive.  
c. A stratum is **subjective** if and only if it contains a I-arc.  
d. A stratum is **objective** if and only if it contains a 2-arc.  
e. A stratum is **unergative** if and only if it is subjective and intransitive.  
f. A stratum is **unaccusative** if and only if it is objective and intransitive.

In these more precise terms, the traditional classification of **clauses**, interpreted as applying to the initial strata of basic clauses, recognizes only two types, transitive and unergative, both of which are subjective. The claim in (45) can now **be reformulated** as follows:

- (47) The initial stratum of some basic **clauses** is unaccusative.

This means that there **are** two types of intransitive initial strata, unergative and unaccusative. Suppose these are illustrated for English by clauses with **dream** and **exist**. Then the RNs for (48 a,b) are (48c,d) respectively:





lent meaning in other languages will behave in the same way with **respect** to determining initial unaccusativity versus unergativity.

The class of initially unergative clauses seems to correspond closely to the traditional notion of 'active' or 'activity' (intransitive) clauses. These **fall** into (at least) two subcategories.

#### (52) Predicates Determining Initially Unergative Clauses

- a. Predicates describing willed or volitional acts:  
work, play, speak, talk, smile, grin, frown, grimace, think, **meditate**, cogitate, **daydream**, skate, ski, **swim**, hunt, bicycle, **walk**, skip (voluntary), jog, **quarrel**, fight, wrestle, box, agree, **disagree**, **knock**, bang, hammer, pray, weep, cry, kneel, **bow**, curtsy, **genuflect**, cheat, lie (tell a **falsehood**), study, whistle (voluntary), laugh, dance, crawl, walk, etc. This category includes 'manner-of-speaking verbs' such as whisper, shout, **mumble**, grumble, growl, hellow, etc., and predicates describing sounds made by animals such as bark, neigh, whinny, quack, roar (voluntary), chirp, oink, **meow**, etc.
- b. Certain involuntary bodily processes:  
cough, sneeze, **hicough**, **belch**, burp, vomit, defecate, **urinate**, sleep, cry, breathe, etc.

The class of predicates determining unaccusative initial strata is very large, and includes the following:

#### (53) Predicates Determining Initially Unaccusative Clauses

- a. Predicates expressed by adjectives in English:  
This is a very large class, including predicates describing sizes, shapes, weights, colors, smells, states of mind, etc.
- b. Predicates whose initial nuclear term is semantically a Patient:  
burn, fall, **drop**, sink, **float**, slide, slip, glide, soar, flow, ooze, seep, trickle, drip, gush, **hang**, dangle, sway, wave, tremble, **shake**, languish, flourish, thrive, drown, **stumble**, trip, roll, succumb, dry, blow away, boil, seethe, lie (involuntary), **sir** (involuntary), **bend** (involuntary), etc. This includes the class of 'inchoatives', including melt, freeze, evaporate, vaporize, solidify, crystallize, **dim**, brighten, redden, darken, yellow, rot, decompose, **germinate**, sprout, bud, wilt, wither, increase, **decrease**, reduce, grow, collapse, dissolve, disintegrate, die, perish, choke, suffocate, blush, open, close, break, shatter, crumble, crack, **split**, burst, explode, burn up, **burn** down, dry up, dry out, scatter, disperse, **fill**, vanish, disappear, etc.
- c. Predicates of existing and happening:  
exist, **happen**, transpire, occur, take place, and various inchoatives

- such as arise, ensue, result, show up, end up, turn up, pop up, vanish, disappear, etc.
- d. Involuntary emission of stimuli that impinge on the senses (light, noise, smell, etc.):  
shine, sparkle, glitter, glisten, glow, jingle, clink, clang, snap (involuntary), crackle, pop, smell, stink, etc.
- e. Aspectual predicates:  
begin, start, stop, cease, continue, end, etc.
- f. Duratives:  
last, remain, stay, survive, etc. (Perhaps these should be considered a subclass of group (c) above.)

Nothing hinges on the particular subcategories given here; alternative classifications are possible.

The description attempted in (52) and (53) is of course provisional and incomplete, but has the merit of providing a starting point for study of the Universal Alignment Hypothesis. There are traditional reports, equally incomplete, of grammatical phenomena that point to a dichotomy among intransitive clauses along very similar semantic lines. For example, Boas and Deloria (1941) note that Dakota has first and second person pronominal forms of two contrasting types, distributed according to a semantic criterion which they describe as follows (p. 1):

There is a fundamental distinction between verbs expressing states and those expressing actions. The two groups may be designated as neutral and active. The language has a marked tendency to give a strong preponderance to the concept of state. All our adjectives are included in this group, which embraces also almost all verbs that result in a state. Thus a stem like "to sever" is not active but expresses the concept of "to be in a severed condition," the active verb being derived from this stem. The same is true of the concept "to scrape," the stem of which means "to be in a scraped condition." Other verbs which we class as active but which take no object, like "to tremble," are conceived in the same way. the stem meaning "to be a-tremble." Active verbs include terms that relate exclusively to animate beings, either as actors or as objects acted upon, such as words of going and coming, sounds uttered by animals and man, mental activities and those expressing actions that can affect only living beings (like to kill, wound, etc.). There seem to be not more than 12 active words that would not be covered by this definition. . . .

The distinction between neutral and active verbs is expressed by the pronoun. As in many American languages, the object of the transitive verb coincides with the subject of the neutral verb. In Dakota this may perhaps be so understood that the state is expressed in reference to the person pronoun "being strong is in reference to me;" i.e. "I am strong."

Here (48c) is a *monostratal* unergative structure, while (48d) contains two intransitive strata, the first unaccusative and the second unergative. Therefore, A in (48d) is an advancee I-arc, but the I-arc A in (48c) is not. This will be crucial in what follows.

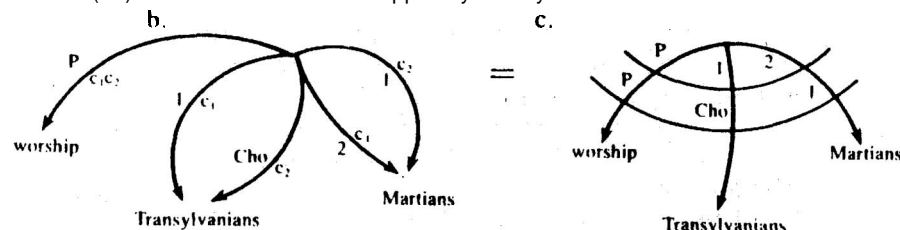
The Unaccusative Hypothesis alone does not determine that the structure of the basic clause in (48b) should be as in (48d). In particular, it does not determine the existence of the I-arc in (48d). It would be consistent with the Unaccusative Hypothesis if the HN of (48b) contained only a single unaccusative stratum. That KN would violate the Final I Law. However, even this law in combination with the Unaccusative Hypothesis does not determine (48d). For both could be met if some other nominal, say a dummy or some originally oblique dependent, headed a final I-arc. All that follows from the Unaccusative Hypothesis and the Final I Law is

- (49) If C is a basic clause whose initial stratum is unaccusative, and if no other node heads a I-arc in the final stratum of C, the head of the initial unaccusative arc must be the head of a final-stratum I-arc (which is hence an advancee I-arc).

While we do not doubt that some initially unaccusative clauses have final I-arcs not headed by the initial unaccusative nominal,<sup>12</sup> for simplicity we will focus on cases like (48d), where the initial 2 advances to 1.

Although structures like (48d) involve a 2 which advances to 1, they are *not* Passive clauses. For in our terms, having a 2 advance to 1 is only a necessary but not sufficient condition for a Passive structure. Rather, Passive is a 2-1 Advancement from a transitive stratum, a condition not met by (48d), for its first stratum contains no I-arc. Hence (50b), the HN for (50a), is Passive in this sense:

- (50) a. Martians are worshipped by Transylvanians.



Here not only does the 2 advance to 1, but there is also a I-arc in the last stratum containing the 2-arc, both conditions being necessary to characterize a clause as Passive. We shall speak of the advancement of a 2 to 1 which is *not* Passive as 'Unaccusative Advancement'. Figure (48d) is thus a case of Unaccusative Advancement, not Passive.

Nothing requires that all cases of Unaccusative Advancement involve an initial unaccusative arc. The structure for Inversion clauses, to be discussed later (46.3, §6.5), involves Unaccusative Advancement in which the 2-arc is initially in a transitive stratum.

To sum up: the content of the Unaccusative Hypothesis is that clauses with intransitive initial strata divide into two contrasting subclasses—the unergative type and the unaccusative type—although grammatical tradition by and large seems to have recognized only the unergative type. The Unaccusative Hypothesis predicts that languages will have phenomena with respect to which nominals in some intransitive clauses will behave like subjects, while those in others will behave like direct objects. This question should be investigated.

## 5 The Universal Alignment Hypothesis

Investigation of the Unaccusative Hypothesis depends on discovering syntactic phenomena sensitive to *nonfinal* relations. Research of this sort, insofar as it succeeds in establishing the initial strata of any given class of clauses, would have a direct bearing not only on the Unaccusative Hypothesis, but also on the separate question of how and to what extent initial grammatical relations correlate with semantic roles.

A particularly strong and interesting claim about the linkage between initial relations and semantic roles is one we will call the 'Universal Alignment Hypothesis':

- (51) There exist principles of universal grammar which predict the initial relation borne by each nominal in a given clause from the meaning of the clause.

Our present concern is not with the full range of implications of the Universal Alignment Hypothesis, but only with what it entails about initial unergativity versus unaccusativity. If (51) is correct, the assignment of initially intransitive clauses to the unergative or unaccusative type is completely determined by universal principles. Given the semantic representation of an initially intransitive clause, one could infer whether its initial nuclear term heads a I-arc or a 2-arc in the initial stratum. Hence, if one assumes (correctly, we believe) that the predicate 'exist' determines unaccusative initial strata, it follows under this hypothesis that clauses with this predicate must have unaccusative initial strata in all languages.

There are certain cross-linguistic parallels that lend initial support to the Universal Alignment Hypothesis, indicating that it deserves to be tested thoroughly for a variety of languages. As a necessary first step we attempt to state here, albeit in a very informal and tentative way, the semantic factors that seem to correlate with initial unergativity versus unaccusativity. While the examples cited are English verbs, the basic idea is that predicates with equiva-

Boas and Deloria's description suggests not only that the distinction between initial 1s and initial 2s may determine the choice of contrasting **pronominal forms** in Dakota, but also that at least some transitive clauses (and perhaps also some unergative clauses) are to be analyzed as **complex structures** with an **embedded** initially unaccusative clause. Research on Siouan languages may well add to the existing **body of evidence for the Unaccusative Hypothesis** (see Perlmutter, to appear). Although that **evidence** also bears on the **Universal Alignment Hypothesis**, we do not undertake to evaluate it in this paper.

In what follows, we adopt the **Universal Alignment Hypothesis** and in particular the **view** that the **dichotomy** between initially unergative and initially unaccusative clauses is semantically determined by universal principles, whose effect we have roughly sketched in (52) and (53). Our purpose is to illustrate the predictions that follow from this hypothesis *in combination with the IAEX*. It must be **emphasized**, however, that in addition to their *joint* predictions, each of the claims under study here has **consequences** of its own. The **Unaccusative Hypothesis** in particular has far-reaching implications not discussed here (cf. Perlmutter, to appear).

#### Some Interactions of the Unaccusative Hypothesis and the

#### 1-Advancement Exclusiveness Law

##### Introduction

If the initial 2 of an initially unaccusative clause is a **final 1**, then it must head an advancee 1-arc. Such arcs are regulated by the IAEX, which predicts that where the initial 2 of an initially unaccusative clause is **final 1**, other **advancements to 1** will not be possible.

In this section we give a **number** of examples to illustrate that **clauses** with unaccusative strata (including **Inversion clauses**) do conform to the **restrictions** imposed by the IAEX. In §6.2 we illustrate that initially unaccusative clauses cannot have 'pseudopassives' in English, in §6.3 that **Inversion clauses** likewise have no 'pseudopassives' in English, in §6.4 that initially unaccusative clauses have no impersonal Passives, and in §6.5 that **Inversion clauses** likewise have no Passives, personal or impersonal.

#### The Impossibility of 'Pseudopassives' of Initially Unaccusative Clauses in English

English allows **passivized** intransitive clauses in which 3s and various **oblique nominals** occur as **final 1s** (i.e., 'pseudopassive' clauses) under poorly understood conditions which need not concern us here. These are **examples** like (54).

- (54) a. The **bed** was slept in by the shah.  
b. This hall has **been played** in by sonic of the finest orchestras in Europe

- c. The room was exercised in by Spider Man.  
d. The bridge was skied under by the contestants.  
e. The bed was jumped on by the children.  
f. This hall has been lectured in by **three Nobel** laureates.  
g. **The** package was stepped on by a camel.

The IAEX predicts that the class of *intransitive* predicates occurring in pseudopassive clauses in English **must** be a *subset of the unergative predicates*. **No** genuine unaccusative predicate **can** occur in a 'pseudopassive' clause, given the IAEX and the assumption that in such clauses the initial 2 **advances** to 1. The **Universal Alignment Hypothesis** then predicts that **none** of the predicates characterized in (53) **can** occur in 'pseudopassive' clauses. This is entirely correct:<sup>14</sup>

- (55) a. \*The package was accumulated on **by** dust.  
b. \***The** room was burst in **by** the bubble.  
c. \*The dome was collapsed under by the **model**.  
d. \*The orifice was dripped into by the mucus.  
e. \*The bridge was existed under by trolls.  
f. \*The bed was fallen on by dust.  
g. \*The hill was grown on by grass.  
h. \*The **bed** was happened in by something disgusting.  
i. \***The** hall was increased in by the noise.  
j. \*The bridge **was** jammed under by the cannon.  
k. \*The bedroom was kept up in by the argument.  
l. \*The conference **room** was leveled off in by the **noise**.  
m. \*The oven was **melted** in by the ice cube.  
n. \*The sink was oozed into by the toothpaste.  
o. \***The** ring was perished in **by** the **overage fighter**.  
p. \***ted's** chest was quivered in by the arrow.  
q. \*The hall was recurred in by the argument.  
r. \*The **bed** was shrunk in by Doll Man.  
s. \*The bed was torn in by her underwear.  
t. \*The test tube was united in by the ingredients.  
u. \*The **woods** were vanished in by **Little Red Riding Hood**.  
v. \*The kitchen was waned in by the dispute.

Thus the **Unaccusative Hypothesis** and the IAEX combine to predict correctly the impossibility of English 'pseudopassives' based on unaccusative predicates.

A number of phonological verbs must be analyzed **ambiguously** with respect to unaccusativity, since they are semantically **ambiguous**. Consider, for instance, such fairly well-known examples as<sup>15</sup>

- (56) a. Ted slid into the closet.  
b. The soap slid into **the** closet.

**Example (56a)** is ambiguous, sharing a nonagentive reading with **(56b)**, but also **having** an agentive reading. On the shared reading the individual **denoted by Ted** might **be dead** or unconscious, while on the nonshared reading **(56a)** refers to a **voluntary** act. One way of accounting for **the** ambiguity of **(56a)** is to analyze the **primitive** predicate associated with **slide** as one which **simply** describes a manner of movement of an object. On this analysis, **slide** would determine an unaccusative initial stratum. An adequate grammar **must** also **account** for **examples** such as **(57)**, which many speakers accept:

**(57)** Ted slid himself into **the** closet.

**Example (57)** can be analyzed as a causative of an initially **unaccusative** clause. It would have an initially **biclausal** structure, with **Ted** as initial **1** of **the** matrix predicate **cause** and initial **2** of **slide** in the complement. **One** could then analyze **(56a)** (on the agentive reading) as a reduced form of **(57)**. **Hence** in the **RNs** of **(56a)** (**agentively** interpreted) and **(57)**, **Ted** would head an **initial 1-arc**, not an **advancee 1-arc**.

There is another plausible analysis of **(56a)**, which assigns it a monoclausal structure on both readings. Under this analysis, **slide** with the agentive **meaning** would determine unergative initial strata, while **slide** with the **nonagentive meaning** would determine unaccusative initial strata. Thus, in **(56b) the soap** would head an initial 2-arc and an **advancee f-arc**, as would **Ted** on the **non-agentive** reading of **(56a)**. On the agentive reading of **(56a)**, **Ted** would head an **initial 1-arc**, not an **advancee 1-arc**.

Under either analysis of the **agentive** reading of such examples, on the **non-agentive** reading **Ted** heads a **2-arc** in an unaccusative initial stratum and an **advancee 1-arc** in the **final** stratum. The **IAEX** therefore rules out a **Passive** of the structure with the **nonagentive** reading. Thus, a **Passive** of **(56a)** should have only the agentive reading. Similarly, the **IAEX** predicts that **(56b)** will have no 'pseudopassive' at all. These predictions are correct:

- (58)** a. The closet was slid **into** by Ted.  
b. \*The closet was slid into by the soap.

That is, in **(58a)** the individual denoted by **Ted** **cannot be** dead or unconscious. **Pairs** like **(56)** thus lend further support to the Unaccusative Hypothesis and the **IAEX**. At the same time, they reillustrate the **point** that the lists in **(52)** and **(53)** refer to **semantic** predicates, not to phonological shapes. In English it is common for a single phonological verb such as **slide** to appear not only in initially unaccusative clauses, but **in** other constructions as well. Hence the claim that the primitive predicate **slide** is unaccusative must not be **misinterpreted** as a claim that **(56a)** is an unaccusative **structure** on all readings.

English provides **many** sets like **(56)**. A few further examples:

- (59)** a. The gorilla sat on the desk  
b. **The** lamp sat on the desk.

- c. The desk was sat on by the gorilla.  
d. \*The desk was sat on by the lamp.  
e. The **fullback** leaned against the **house**.  
f. The ladder leaned against the house.  
g. The house was leaned against by the fullback.  
h. \*The house was leaned against by the ladder,

It is essential to recognize that the ungrammatical Passives cited so **far** in this section **cannot** be accounted for by a constraint requiring that the initial **1** of a Passive clause be animate, or that it be a semantic Agent. Passive in English has no such limitations:

- (60)** a. That hypothesis was refuted by the data.  
b. **Bombers** have been surpassed by missiles in speed.  
c. He was overcome by a feeling of helplessness.  
d. **The** danger of forest fires was increased by the drought.  
e. The situation was exacerbated by increased dependence on foreign oil.  
f. His arrogance is exceeded only by his general unpleasantness.  
g. **I** was reminded of his disappearance by a short news item on page 5.  
h. The class of grammatical sentences is characterized by a set of conditions on well-formed relational networks.  
i. The **roof** is supported by steel columns.  
j. The house is surrounded by tall elms.  
k. His position has been undermined by recent developments.  
l. The consonant cluster is followed by a **morpheme boundary**.  
m. The monotony has been relieved by an **occasional** hurricane.

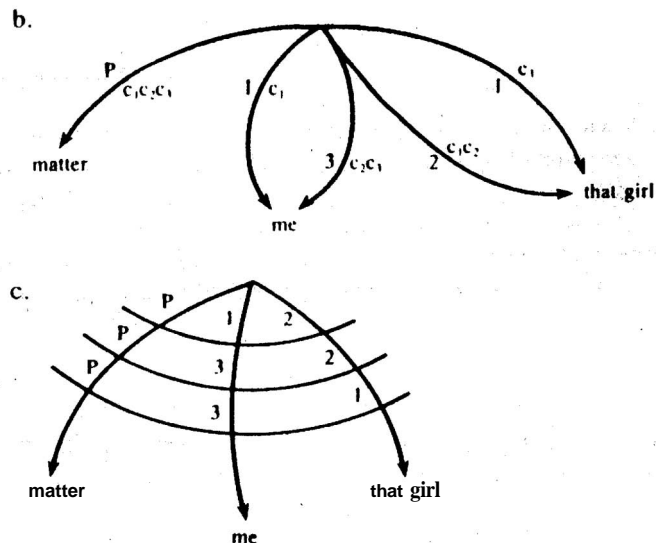
**Examples** like these show that distributional **gaps** in the English Passive construction are definitely not attributable to any requirement that the **chômeur** be either agentive or animate.

### 6.3 The Impossibility of 'Pseudopassives' of English Inversion Clauses

The **IAEX** makes certain predictions about clauses involving Inversion — that is, demotion of a 1 to 3. Evidence for the existence of Inversion in a **number** of languages has been provided by Harris (1976, **1981**, and chaps. 7, **8** below) and Perlmutter (**1978b** and chap. 9 below). The **IAEX** makes predictions about Inversion clauses because these clauses typically (but not necessarily) involve advancement of the initial 2 to **1**.

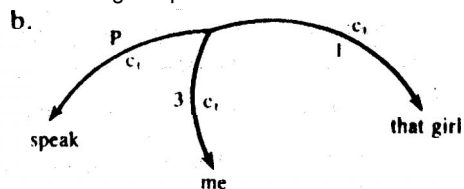
Assuming the Universal Alignment Hypothesis, we consider instances of Inversion those clauses in which a nominal with the semantic role of **Experiencer** or Cognizer is final 3. This is the case with **(61a)**, which we analyze as in **(61b,c)**:

- (61)** a. That girl mattered to me.



Crucially, *that girl* is initial 2 and final I in (61), and thus an advancee. This is in contrast to (62), in which *that girl* is both initial and final I, and thus *not* an advancee.

(62) a. That girl spoke to me.



Example (62a) has a 'pseudopassive':

(63) I was spoken to by that girl.

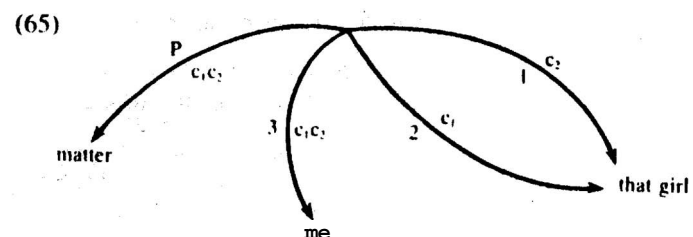
Given the structure in (61), however, the IAEX predicts that (61a) cannot have a 'pseudopassive', which is correct:

(64)\*I was mattered to by that girl.

Since *that girl* heads an advancee arc in (61b), the RN associated with \* (64), in which both *that girl* and I head advancee I-arcs, is ruled out by the IAEX.

Note that this argument does *not* hinge on the presence of a demotion in (61). Rather, the prediction that \* (64) is *ungrammatical* rests on the fact that *that girl* heads an *advancee* I-arc in (61), being initial 2 and final I. The *initial* I-hood of the Inversion nominal *me* is irrelevant *here*, for the IAEX would

still predict the ungrammaticality of \* (64) if the structure of (61a) were not (61h) but rather



Thus, while the *ungrammaticality* of \* (64) lends support to the hypothesis that *that girl* in (61a) is an advancee, it does not directly support the *initial* I-hood of *me* in that example. This holds for the *full* range of cases involving the interaction of Inversion and the IAEX.

While 'pseudopassives' like (63) are possible with the verb *speak*, this is not always the case even with verbs we would analyze as taking initial 3s, as Andrew Radford rightly observes. Thus many verbs that take initial 3s do not permit the initial 3 to be 'pseudopassivized'. However, this is not *relevant* to our claims, for the IAEX does not assert that every clause with a 3 and without an advancee I will have a 'pseudopassive' counterpart, *even* in languages like English which permit 'pseudopassives'. Rather, the claim is that *Inversion* clauses involving advancement are ineligible for 'subsequent' *passivization* of any type. This claim is testable to the extent that *there* are independent grounds for *assigning* particular clauses to the class of Inversion structures. Under the Universal Alignment Hypothesis, the claim that, *e.g.*, *matter* occurs with its Experiencer as initial I entails that any verb with the same meaning *must* have the same analysis in all languages. Thus a language with a verb meaning 'matter' which permitted well-formed analogs of *both* (61) and \* (64) would not be consistent with the *combination* of IAEX and the Universal Alignment Hypothesis.

We would also propose an Inversion analysis of the following:

- (66) a. Harry seems to me to be wrong.  
 b. Louise appears to me to be wrong.  
 c. That belongs to me.  
 d. That occurred to me.  
 e. That happened to me.  
 f. That dawned on me.

The IAEX then predicts correctly that none of these can have 'pseudopassives':

- (67) a. \*I am seemed to by Harry to be wrong.  
 b. \*I am appeared to by Louise to be wrong.

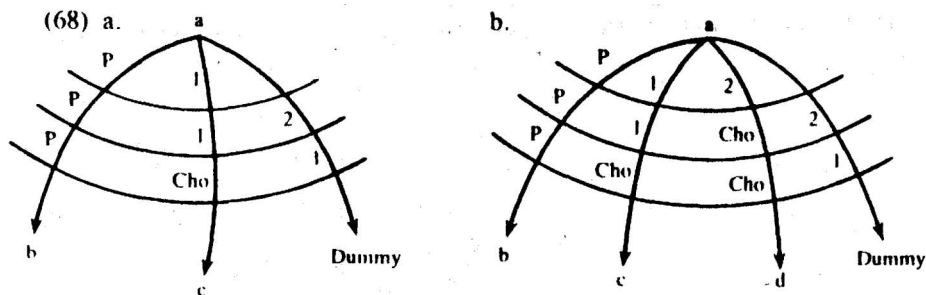
- c. \*1 am belonged to by that.
- d. \*I was occurred to by that.
- e. \*I was happened to by that.
- f. \*I was dawned on by that.

The IAEX predicts the impossibility not **only** of 'pseudopassives', but also of **ordinary** Passives, in Inversion clauses involving Unaccusative **Advancement**. An environment for ordinary Passive would **potentially** arise in those Inversion clauses where the Inversion nominal subsequently advances from 3 to 2. Clauses of this type are discussed in §6.5.

We have given examples where the IAEX correctly predicts the **incompatibility** of 'pseudopassives' and Inversion. We have cited examples from English, but since the IAEX is claimed to be a linguistic universal, it **makes the** parallel distinction for all languages. To our knowledge, no other explanation of such cases of ill-formedness has ever been given, nor have they **even** been **systematically** noted. The ungrammaticality of the **Passives** we have cited supports simultaneously both the IAEX and the hypothesis that the **clauses** in question involve Unaccusative Advancement (in the Inversion construction).

#### 4 The Impossibility of Impersonal Passives of Initially Unaccusative Clauses

A great many languages have so-called impersonal Passives. In our terms, impersonal Passive clauses involve a dummy nominal which is a 2 and which advances to **I** (chap. 4 **below**).<sup>16</sup> Under our analysis, typical **impersonal** Passive clauses have the structures shown as stratal diagrams in (68), (a) being an initially intransitive clause and (b) an initially transitive clause.



The necessary presence of a dummy entailed by our conception of **impersonal** Passive clauses is often obscured by its absence from the superficial forms of sentences in some or all environments. One consequence of the **dummy** advancement view of impersonal Passive clauses is that in every such clause, whether or not the **dummy** appears overtly, there is an advancee **I**-arc. This view of **impersonal** Passives combines with the IAEX and the **Unaccusative Hypothesis** to make the following extremely strong prediction about impersonal Passive clauses:

- (69) No impersonal Passive clause in any language can be based on an **unaccusative** predicate.

This must hold for the same reasons that block English '**pseudopassives**' with unaccusative predicates. Since the initial 2 advances to **I**, if a dummy does also, there are necessarily two distinct neighboring advancee **I**-arcs. It is thus predicted that in every language with impersonal **Passives**, *the class of intransitive predicates permitting impersonal Passive clauses is a subset of the class of unergative predicates*. Further, if initial relations are **semantically** determined in the way we have hypothesized, it follows that predicates **meaning** 'exist', 'ooze', 'drip', and the others represented by (53), will **not** permit impersonal **Passives** in any language.

This claim receives initial support from the Dutch **impersonal** Passives cited in Perlmutter 1978a. The examples reproduced below **reveal** a systematic contrast between unergative and unaccusative predicates. Initially unergative clauses are compatible with the impersonal Passive construction:

- (70) Er wordt hier door de jonge lui veel gedanst.  
'It is danced here a lot by the young people.'
- (71) Er wordt voor de koning geknield.  
'It is kneeled before the king.'
- (72) Hier wordt (er) veel gewerkt.  
'It is worked here a lot.'
- (73) Er wordt in deze kamer vaak geslapen.  
'It is often slept in this room.'
- (74) Over dit probleem wordt er vaak gesproken/gepraat/gedacht.  
'About this problem it is often spoken/talked/thought.'
- (75) Door deze mensen wordt er altijd gevochten.  
'By these people it is always fought.'
- (76) Er wordt hier veel geskied.  
'It is skied here a lot.'
- (77) Er wordt geblaft/gehinnikt/gekrast/gemiauwd.  
'It is (being) barked/whinnied/crowed/meowed.'
- (78) Er wordt gehuild.  
'It is (being) cried/howled.'
- (79) Er wordt op de deur geklopt.  
'It is (being) knocked on the door.'
- (80) Er wordt geniesd/gehoest/gehikt.  
'It is (being) sneezed/coughed/hiccoughed.'

- (81) Er wordt **gebeden**.  
'It is (being) prayed.'
- (82) Er wordt **geschreeuwd/gemompeld/gemummeld/gefluisterd**.  
'It is being screamed/grumbled/mumbled/whispered.'
- (83) Door de kindren wordt altijd gelachen.  
'By the children it is always laughed.'
- (84) Door de jonge lui wordt er nu vaak **gemediteerd**.  
'By the young people it is now often meditated.'
- (85) Door jonge meisjes wordt (er) vaak **gedagdroomd**.  
'By young girls it is often daydreamed.'
- (86) Er wordt door de kinderen in de tuin **heen en weer gerend**.  
'It is run back and forth in the garden by the children.'
- (87) Er wordt door hem altijd **gedubd**.  
'It is always thought deeply by him.'
- (88) Er wordt door de kinderen **nog niet gerookt**.  
'It is not yet smoked by the children.'

And.  $\mathfrak{a}$  (69) predicts, initially unaccusative clauses do not have **well-formed impersonal Passives**. In each example below, an initially unaccusative clause is contrasted with its impersonal Passive **counterpart**, which is **ungrammatical**:

- (89) a. De lijken zijn **al** gerot/**ontbonden**.  
'The corpses have **already** rotted/decomposed.'  
b. \*Door **de** lijken werd **al** gerot/**ontbonden**.
- (90) a. In dit weeshuis **groeien de kinderen erg** snel.  
'**In** this orphanage the children grow very **fast**.'  
b. \*In dit weeshuis wordt (er) door de **kinderen erg** snel **gegroeid**.
- (91) a. Het water was binnen een kwartier verdampt.  
'The **water** had evaporated in a quarter hour.'  
b. \*Er werd door het **water** binnen een kwartier verdampt.
- (92) a. De **kinderen** zijn in Amsterdam gebleven.  
'The children **remained** in **Amsterdam**.'  
b. \*Er werd door **de kinderen** in Amsterdam **gebleven**.
- (93) a. Het concert **heeft** een hele tijd geduurd.  
'The concert lasted a **long** time.'  
b. \*Er werd door het concert een hele tijd **geduurd**.
- (94) a. Zijn moeder **alleen** overleefde.  
'**Only** his mother survived.'  
b. \*Er werd **alleen** door zijn **moeder** overleefd.

- (95) a. Het water **sijpelde/drippede** uit de rots.  
'The water **seeped/dripped** out of **the** rock.'  
b. \*Er werd door het water uit de rots **gesijpeld/gedripped**.
- (96) a. **Het** water **gutste** uit de kraan.  
'The water gushed from the tap.'  
b. \*Er werd door het water uit de kraan **gegutst**.
- (97) a. **Een heleboel bommen** zijn gisteren ontploft in Belfast.  
'A lot of bombs exploded yesterday in Belfast.'  
b. \*Er werd gisteren door een **heleboel bommen** ontploft in Belfast.
- (98) a. De bloemen **waren** binnen een paar dagen **verflenst**.  
'The flowers had wilted in a few **days**.'  
b. \*Er werd door de bloemen binnen een paar dagen **verflenst**.
- (99) a. Vele kindren verdwijnen uit dit weeshuis.  
'Many children disappear from this orphanage.'  
b. \*Uit dit weeshuis wordt (er) door vele **kinderen** verdwenen.
- (100) a. Vele **kinderen** zijn in de rook gestikt.  
'Many children suffocated in the smoke.'  
b. \*Er werd door vele **kinderen** in de rook gestikt.
- (101) a. De grassprietjes zijn vannacht ontsproten.  
'The grass sprouts sprouted last night.'  
b. \*Er werd door de grassprietjes vannacht **ontsproten**.
- (102) a. De **kinderen** bungelden aan de kabel.  
'The children dangled from the cable.'  
b. \*Er werd door de **kinderen** aan de **kabel** gebungeld.
- (103) a. **Zulke dingen zijn** hier nooit gebeurd.  
'Such things have never happened here.'  
b. \*Hier werd er door **zulke dingen nooit** gebeurd.
- (104) a. Dat blok hout **heeft goed** gebrand.  
'That **block** of wood burned well.'  
b. \*Er werd door dat blok hout **goed** gebrand.
- (105) a. In dit ziekenhuis sterven de patienten dikwijls.  
'In this hospital the patients often die.'  
b. \*In dit ziekenhuis wordt (er) door de patienten **dikwijls gestorven**.

The overall pattern of the data, then, can be represented by the following pair. *Zwemmen* 'swim' denotes a willed activity, determines an **unergative** initial stratum and is therefore compatible with impersonal Passives. With *verdrinken* 'drown', on the other hand, the nuclear term is semantically a patient, the initial stratum is unaccusative, and the impersonal Passive is predictably ungrammatical.

- (106) a. In de zomer wordt er hier vaak **gezwommen**.  
 'In the summer it is swum here frequently.'  
 b. \*In de zomer wordt er hier vaak verdrongen.  
 'In the summer it is drowned here frequently.'

As noted earlier, many verbs are ambiguous with respect to agentivity (see (56a,b)). The verb **vallen** 'fall' may denote a willed act, in which **case** it belongs to the unergative class and permits an impersonal Passive, as in (107). But in nonagentive uses such as (108), it determines an unaccusative initial stratum and is incompatible with impersonal Passive.<sup>17</sup>

- (107) a. De nieuwe acteur is in **het** tweede **bedrijf** op het juiste ogenblik gevallen.  
 'The new actor fell at the right **moment** in **the** second act.'  
 b. In het tweede **bedrijf** werd er door de nieuwe acteur op **het** juiste ogenblik gevallen.  
 (108) a. Twee **mensen** zijn uit de venster van de tweede verdieping gevallen.  
 'Two people fell out of the second-story **window**.'  
 b. \*Er werd door twee **mensen** uit de venster van de tweede verdieping gevallen.

In short, the distributional gaps predicted by (69) show up systematically in Dutch impersonal Passives, a **fact** which lends support to the I AEX.

The prediction in (69) must be tested for a variety of languages. With the exception of Perlmutter 1978a, the existing literature does not generally consider the question of which predicates permit impersonal Passives and which do not. Although **many** works discuss impersonal Passives from **one** or another point of view, to our knowledge there is no work which even **attempts** to give a reasonably exhaustive account of the lexical possibilities for impersonal Passive clauses. One is often left with the impression that in a language having such forms, an impersonal Passive is possible with **any** intransitive verb. For example, Dillon and ÓCróinín (1961, p. 110) remark about Irish:

As **the form** occurs in both transitive and intransitive verbs, it is **best** described as passive-impersonal . . . the verb *téim* 'I go' also has **these** forms: *téitear ann gach Domhnach* 'People go there every Sunday'; *do téit go minic ann fadó* 'long ago people used often to go **there**', and so on for any intransitive verb, as occasion may arise.

In a similar vein, Comrie (1977, p. 54) states:

In Welsh, the **same** impersonal passive forms are used with all **verbs**, whether transitive or intransitive.

From (69) it would follow that these statements **must be** false for Irish<sup>18</sup> and Welsh, as well as for all other languages with impersonal Passives. To test

(69) seriously, masses of negative data from many languages are **needed**—that is, examples of verbs which **cannot** occur in impersonal **Passive** clauses.

Although the existing literature **does** not **offer** this kind of data, it does provide a very preliminary data base against which (69) can **be** tested. since (69) predicts **that** in all citations of impersonal **Passives** of intransitive verbs, the verbs in question must be unergatives. The available citations are in fact compatible with (69).<sup>19</sup>

**One** scholar who poses the question of which intransitive verbs can have impersonal Passives and which cannot is Curnie (1952). He cites impersonal Passive clauses in German based on the intransitives 'run', 'chat', 'joke', 'laugh', 'dance' and 'sleep'. **Moreover**, he actually gives some **negative** data, and even states an informal rule (1952, p. 338):

This construction can only be used with intransitives which **express** an activity **or** condition that stands in a relation to a free moral agent: *Es wird gegessen, geschlafen* They (indefinite) are eating, sleeping, but not *Es wird gefunktelt, geblitzt, gerauscht* There is sparkling, it is lightning, there is a rushing of water.

Strikingly, this statement seems to us to characterize fairly well the class of unergative predicates, and thus, in a different way, to corroborate (69).

In general, the intransitives cited by various authors documenting impersonal Passives **fall** fairly clearly into the unergative class (see **note** 19). However, we would not **like** to give the impression that **there** are no **problem** cases. For example, we take the primitive predicates corresponding to 'bleed' and 'die' to be unaccusatives, and hence verbs representing these are incapable of occurring in impersonal Passive clauses, given (69). However, **on** the same page where Curnie states the **rule** above, he cites the following complex example:

- (109) Für den **lieben** König und Herrn wird **alles** **getan**,  
 for the beloved King and lord is everything **done**  
 wird **treulich** gekämpft, wird **willig** **geblutet**, wird  
**is** faithfully battled, is willingly bled, is  
 freudig in den **Tod** gegangen, für ihn wird mehr **als** **gestorben**.  
 happily in the death gone, for him is more than died

The clauses containing the italicized verbs are impersonal Passives, although these verbs are respectively translated as **bleed** and **die**. The question arises then whether (109) is inconsistent with (69). As is clear from their close juxtaposition, **Curme** did not consider this example inconsistent with **his rule**, which claimed that impersonal Passives in German must express an activity or condition standing in relation to a 'free moral agent'. Thus, in (109) the initial **Is of** *geblutet* and *gestorben* were, for **Curme**, evidently **representing** 'free moral agents'. However, this need not be the case with predicates **meaning**



'bleed' and 'die'. For instance, 'bleed' can be predicated of lifeless objects (*The corpse continued to bleed*), while 'die' can be predicated of unconscious animals (*He died in a coma*). But as the sense of the somewhat poetic German example makes clear, *geblutet* really means something like 'allow one's blood to be shed', 'allow oneself to suffer', while *gestorben* means something like 'sacrifice one's life', 'allow oneself to die, be killed'. Hence our suggestion is that the relation between the meaning of, e.g., *gestorben* in (109) and the primitive predicate 'die' is rather like the relation between the two meanings of *slid* in (56). Whether this occurrence of *gestorben* is an instance of a ('let') causative of the primitive predicate 'die' or simply one with an unergative initial stratum, the relevant clauses would not be initially unaccusative and would have no bearing on (69). Where *bluten* means 'bleed' rather than 'shed one's blood' and *sterben* means simply 'die' rather than 'allow oneself to die/sacrifice one's life\*', impersonal Passives of these verbs are not possible:

- (110) a. \*In diesem Krankenhaus wird oft gestorben.  
'In this hospital it is often died.'  
b. \*Bei solchen Krankheiten wird fast nie geblutet.  
'In the case of such diseases it is almost never bled.'

This supports the claim in (69) that clauses with unaccusative initial strata will not have well-formed impersonal Passives. The ability of phonological verbs such as *sterben* and *bluten* in German to have impersonal Passives is clearly linked to their meaning. Our claim is that these differences in meaning are associated with differences in whether or not the nominal heading a final I-arc in an active clause also heads an initial I-arc. The differences in the ability of such verbs to form impersonal Passives under their different meanings then follows from the IAEX.

We have dealt with Curme's German example in some detail because it points up some of the practical difficulties in testing a hypothesis which in principle identifies predicates semantically, but in practice must initially do so via specification of phonological verbs.

In sum, the existing literature on impersonal Passives does not make it possible to test (69) effectively. The Dutch facts cited here strongly support (69), and future research should test it in a variety of other languages.

### The Impossibility of Impersonal Passives of Inversion Clauses

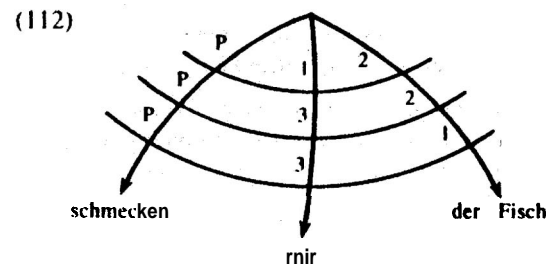
Initially transitive clauses involving Inversion have a *noninitial* unaccusative stratum.<sup>11</sup> The Inversion nominal, which heads a I-arc in the initial stratum, heads a 3-arc in the second stratum. Since the Stratal Uniqueness Law (Perlmutter and Postal 1977, 1983) guarantees that there can be no more than one I-arc in the initial stratum, the second stratum is consequently an unaccusative stratum, with a 2-arc (and a 3-arc), but no I-arc. Since this typically (but not necessarily) stimulates advancement of the initial 2 to I, when the initial 2

advances to I, it heads an advancee I-arc in the next stratum. The IAEX then predicts that no other advancement to I will be possible in the clause. Since impersonal Passives under our analysis involve advancement (of a dummy) to I, this analysis of impersonal Passives and the IAEX together predict that impersonal Passives will not be possible in (such) Inversion clauses.

We illustrate here with examples from German. Consider

- (111) Der Fisch schmeckt mir.  
'The fish tastes good to me.'

*Der Fisch* is the final I of (111), standing in the nominative case, triggering verb agreement, and behaving in other respects as the final I of the clause. The Experiencer *mir* is the final 3 of the clause, standing in the dative case, not triggering verb agreement, and behaving in other respects like a final 3. Under the Inversion analysis that we propose, the stratal diagram of the RN associated with (111) is



In (112), *der Fisch* heads an advancee I-arc. Since impersonal Passives also involve an advancement to I (by a dummy), the IAEX predicts that impersonal Passives with *schmecken* will be ill formed in German. This is correct:

- (113)\*Es wird rnir fast niemals geschmeckt.  
'It is almost never tasted good to me.'

The impossibility of impersonal Passives with *schmecken* contrasts with their grammaticality for other clauses with final 3s—clauses which do not involve Inversion and in which the final I is also the initial I:

- (114) Es wird rnir fast niemals geholfen.  
'It is almost never helped me.' ('I am almost never helped.')
- (115) Es wird rnir fast niemals widersprochen.  
'It is almost never contradicted to me.' ('I am almost never contradicted.')

In the RNs of these examples, the only advancee I-arc is headed by the dummy *es*, and there is no violation of the IAEX.

Another German predicate that always triggers Inversion is *gefallen* 'like':

- (116) Solche Sachen gefallen mir nicht.  
'I don't like such things.'

In (116), *solche Sachen* is the final **I** of the clause, standing in the nominative case, triggering verb agreement, and otherwise behaving like the final **I**. Under the Inversion analysis, it is the initial 2 of the clause and consequently heads an advancee **I-arc** in the RN of (116). The **IAEX** then correctly predicts the impossibility of impersonal Passives of clauses with *gefallen*:

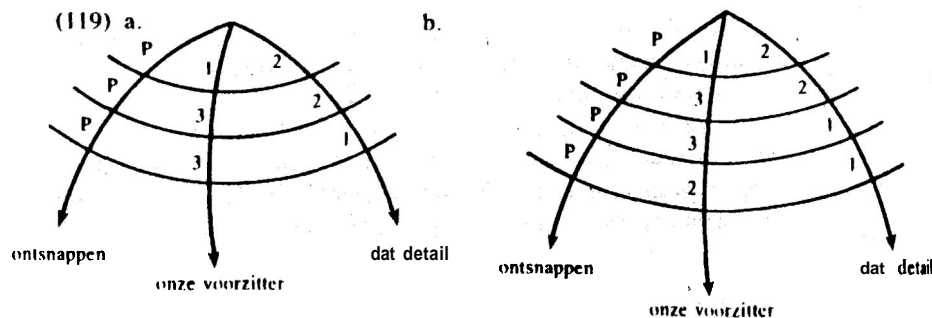
- (117)\*Mir wird fast niemals gefallen.  
'To me it is almost never liked.'

To our knowledge, the ungrammaticality of impersonal Passives of such Inversion clauses has never previously been systematically noted, much less explained. Given the Inversion analysis of such clauses, the ungrammaticality of these impersonal Passives is a consequence of the **IAEX**.

If a clause contains an Inversion structure parallel to (112), and also contains subsequent 3-2 Advancement, the result is a transitive stratum. This structure, we suggest, is exemplified in Dutch by such finally transitive clauses as (118b). The verb *ontsnappen* 'escape' occurs in two constructions: in (118a) *onze voorzitter* 'our chairman' is marked with the preposition *aan* typical of final 3s in Dutch, while in (118b) it is prepositionless and immediately postverbal, as is typical of final 2s in Dutch.

- (118) a. Dat detail ontsnapt iedere keeraanonze voorzitter.  
b. Dat detail ontsnapt onze voorzitter iedere keer.  
'That detail escapes our chairman every time.'

Our suggestion is that *ontsnappen* is an Inversion predicate, and that the Inversion nominal may, in addition, advance from 3 to 2. We assign to (118a,b) the RNs abbreviated as (119a,b) respectively, which differ only in that (119b) has a fourth stratum with 3-2 Advancement.



Like the other Inversion clauses just discussed, both these structures involve Unaccusative Advancement, and consequently the **IAEX** predicts that they

cannot co-occur with any subsequent advancement to **I**. First, for the same reason given for \*(113) with *schmecken* and \*(117) with *gefallen*, the **IAEX** predicts that there can be no impersonal Passive corresponding to (118a):

- (120) a. \*Er wordt aan onze voorzitter door dat detail iedere keer ontsnapt.  
b. \*Aan onze voorzitter wordt (er) door dat detail iedere keer ontsnapt.  
c. \*Door dat detail wordt (er) aan onze voorzitter iedere keer ontsnapt.  
'It is escaped to our chairman every time by that detail.'

But besides precluding impersonal Passive with *ontsnappen*, the **IAEX** also precludes a personal Passive. Since (118b) is finally transitive, a priori there is no obstacle to passivizing it by advancing *onze voorzitter*. From the **IAEX**, however, it follows that a clause containing structure (119b) cannot have any subsequent advancement to **I**. The **IAEX** thus correctly predicts that (118b) will not passivize:

- (121)\*Onze voorzitter wordt door dat detail iedere keer ontsnapt.  
'Our chairman is escaped by that detail every time.'

To English clauses with the verbs *escape* and *elude* we attribute a structure parallel to (119b).

- (122) a. The reason for that escapes me.  
b. His motivations elude me.

The Inversion analysis expressed in (119b) entails that (122a,b), unlike monostratal transitive clauses, will lack personal Passive counterparts, since these would violate the **IAEX**. This prediction too is borne out:

- (123) a. \*I am escaped by the reason for that.  
b. \*I am eluded by his motivations.

In sum, the examples cited here from German, Dutch, and English illustrate that Inversion clauses in which the initial 2 advances to **I** are ineligible for subsequent passivization, personal or impersonal. This is exactly what the **IAEX** predicts.<sup>21</sup>

We know of no examples in any language where Inversion clauses have Passive counterparts, personal or impersonal (but see the appendix). This domain of data thus provides further support for the **IAEX**.

## 6.6 Conclusions

In §6 it has been shown that the Unaccusative Hypothesis and the **IAEX**, taken together, predict that no clause with an unaccusative initial stratum can have a Passive. We illustrated this with English 'pseudopassives' and Dutch impersonal Passives. We have also shown that the **IAEX** predicts that Inversion clauses with an advancement to **I** cannot have Passive counterparts in any language. The examples showed that Inversion clauses have no 'pseudopassives' (English), that they have no impersonal Passives (Dutch, German).

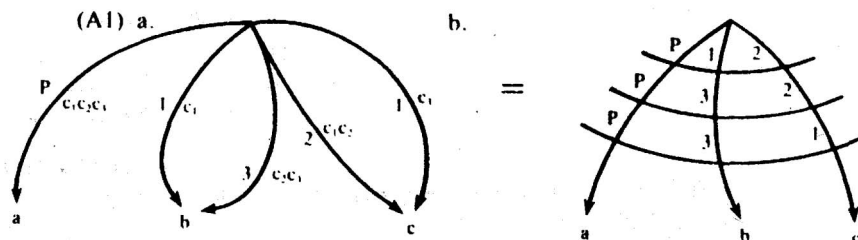
and that clauses with Inversion plus 3-2 Advancement cannot contain a subsequent personal Passive (Dutch, English).

## 7 Conclusions

In this paper we have formulated the IAEX and discussed a number of its predictions. In §3 we showed that the IAEX, by allowing at most one advancement to 1 per clause, correctly predicts a variety of facts in Cebuano and English. In §6 we showed that the IAEX predicts the impossibility of other advancements to 1 in clauses with an unaccusative stratum, which we illustrated with examples confirming that all varieties of Passive arc incompatible with initially unaccusative clauses and Inversion clauses.<sup>22</sup>

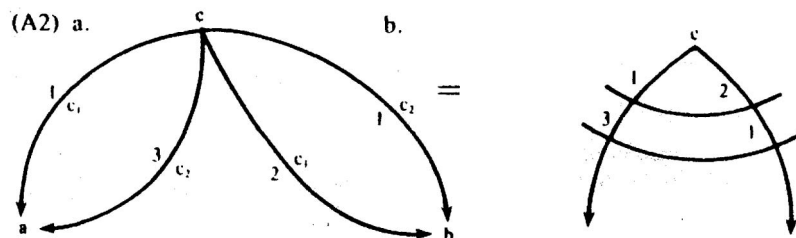
## Appendix On the Interaction of Passive and Inversion

In §6.3 it was shown that the IAEX characterizes as ill formed certain structures involving both Passive and Inversion. However, this does not imply that all combinations of Passive and Inversion are impossible in a single clause. In the cases considered in §6.3, what is blocked are Passives of structures of the form



In such structures, some nominal advances from 2 to 1 by Unaccusative Advancement and hence heads an advancee I-arc. Subsequent passivization would involve another nominal advancing from 2 to 1, and hence a distinct advancee I-arc, in violation of the IAEX.

However, the IAEX does not preclude 'simultaneous' Inversion and Passive, that is, structures of the form:



Such structures are precluded by the Chômeur Law. But they would be possible if, as suggested in Perlmutter and Postal (1983, §8) and Johnson and Postal (1980, chap. 8), this law must be abandoned. Structures like (A2) are not banned by the IAEX because, although they involve both Inversion and Passive, they contain only a single advancee I-arc.

Observe that sub-RN (A2) does contain Passive as characterized in Perlmutter and Postal 1977: a 2-1 Advancement from a transitive stratum. This situation contrasts with 'standard' Inversion clauses like (A1). In these, the presence of an 'extra' stratum permits Inversion in clauses which, unlike (A2), are consistent with the Chômeur Law. While (A1) and (A2) both contain Inversion, that is, demotion of a 1 to 3, (A1) does not contain Passive but rather Unaccusative Advancement. a 2-1 Advancement from an intransitive stratum. Since structures like (A1) are not Passive, they are appropriate for Inversion clauses like (A3), which lack Passive morphology:

(A3) That girl matters to me.

It is an open question whether combinations of Inversion and Passive like (A2), blocked by nothing but the (rejected) Chômeur Law, are actually attested. They are, at best, certainly far rarer than Inversion structures like (A1), which are common in lexically restricted cases (sometimes called 'psych movement verbs' in the transformational literature) and have productive uses in such languages as Georgian."

To support structures like (A2), it would suffice to find good evidence for clauses which manifest (a) Inversion, and (b) properties distinguishing Passive clauses from Unaccusative Advancement clauses—say, some Passive marker nor also used to mark Unaccusative Advancement.

The best evidence for (A2) we have so far encountered is the data from Sinhalese cited in Berman 1975, most of which is from Gair 1970. In citing Sinhalese examples we modify Berman's transcription in accordance with information provided to us directly by Gair. Final 1s and 2s are not inflected in Sinhalese. Final 3s are marked with fa. Hence:

(A4) Berman's (2-57)

mama lamea-Ta salli denawa  
I child-DAT money give  
'I am giving money to the child.'

That *ta* is a systematic marker of final 3s is supported by its appearance on the nominal which is the final 1 of a transitive complement in a causative clause union. For in that construction, the final 1 of a finally transitive complement heads a 3-arc in the matrix clause (see Postal 1977; Aissen and Perlmutter 1976; Johnson and Postal 1980, chap. 8, §6). Consider:

(A5) Berman's (2-67)

karoolis waDuhaasunnacheeTə kiəla ændakhadawəwəwə

Carolis carpenter-DAT bed make-CAUSE-present  
'Carolis is having the carpenter **make** the bed.'

Sinhalese has a Passive construction in which what we take to be the advancement **chômeur** is marked with *atin* 'by hand of'. Compare:

- (A6) a. **Berman's (2-58)**  
lamea kurullawa maraawi  
child bird kill  
'The child might kill the bird.'
- b. **Berman's (2-59)**  
lamea atin kurullawa mæreewi  
child by-hand-of bird kill-PASS  
'The bird might be killed by the child.'

The Passive morphology on the verb is **manifested** as vowel fronting.

Significantly, alongside the normal active (A7a) and previously illustrated **Passive (A7b)**, Sinhalese has another construction (A7c) in which the **verb** has **Passive** morphology but the initial 1 is marked with the dative *ta* instead of *atin*. Compare:

- (A7) a. **Berman's (3-1)**  
mama pol kaDenawa  
1 coconuts pick  
'I am picking coconuts.'
- b. **Berman's (3-2)**  
mama atin pol kæDenawa  
I by-hand-of coconuts pick-PASS  
'I can pick coconuts.'
- c. **Berman's (3-3)**  
maTə pol kæDenawa  
I-DAT coconuts pick-PASS  
'I have to pick coconuts.'

Given the systematic use of the dative to mark final 3s in Sinhalese, this suggests that (A7c) has a final 3, and thus may well have the structure (A2). This is further suggested by the fact that the dative pattern in (A7c), whose semantic contrast with Passives like (A7b) is systematic in Sinhalese, is not possible when the clause contains an independent 3:

- (A8) **Berman's (3-7)**  
\*maTə lamea-Ta salli dewenawa  
I-DAT child-DAT money give-PASS  
'I have to give money to the child.'

Given an analysis like (A2), this restriction could be simply stated as a prohibition against demoting to 3 a 1 co-occurring in a stratum with a 3, or as a prohibition against 3-chdmeurs.

Our tentative conclusion is that the pattern in (A2) is found in Sinhalese, and that neither the **Chômeur** Law nor any other law precluding (A2) can be a valid part of universal grammar.

## Notes

1. This is the relational hierarchy that we have posited since **beginning** work on relational grammar. It is like the hierarchy posited by Keenan and Comrie (1977) in ranking the 1-relation, the 2-relation, and the 3-relation in that order, and in ranking the three term relations above all nonterm relations. Keenan and Comrie's relational hierarchy differs from ours in not recognizing the term-nonterm distinction as such and in giving positions in the hierarchy to 'genitive' and 'Object of Comparison'.

2. Gary and Keenan (1977, p. 113) suggest that the ATL can be significantly generalized, as follows:

The ATL states, in effect, that a term derived by an advancement rule cannot be demoted by any other advancement rule (on any cycle). In fact, to the best of our knowledge, the ATL can be generalized as follows: **No derived term of any sort can be demoted by an advancement rule.**

We have ourselves experimented with various generalizations of this sort, including one we named the Antigravity Law. This principle said, in effect, that no noninitial term of any sort could be demoted by any rule whatever. However, we are convinced now that such generalizations are too strong to stand. For example, the data from Kinyarwanda discussed in the text below, where an instrumental that advances to 2 is put on chômage by the subsequent advancement of a locative to 2, violates both the Antigravity Law and the ATL (rule (3) in the text above), as well as the generalization of the ATL proposed by Gary and Keenan in their paper on Kinyarwanda. Chichwa (Trithart 1976) and Chi-Mwi:ni (Kisseberth and Abashikh 1977) also provide evidence against these principles. One might propose instead a principle precluding demotion of just noninitial 1s. For discussion of such a principle, see chapter 5 below.

3. An example of this kind is to be found in Georgian, where there is more than one advancement to 3, but these are subject to a stronger restriction which leaves no role for the ATL. See Harris 1976, 1981.

4. This account does not predict that (27a) necessarily has a Passive counterpart, since nothing precludes the possibility that some constraint independent of the 1AEX might exclude Passive in any particular case.

5. This premise is not to be confused with the much stronger Universal Alignment Hypothesis, which asserts that semantic roles map onto initial relations in a manner that remains invariant for all predicates in all languages. For purposes of the preceding illustration, the only domain within which we need to assume a constant alignment between semantic roles and initial relations is the set of clauses with the verb buy in English. The Universal Alignment Hypothesis is examined in later sections (§5 ff.)

6. Some speakers accept examples like (38b). We suggest that these speakers use by as a variant of instrumental by means of in a wider class of environments than the present authors do. Our claim is that for these speakers, by a large bribe is not a

chômeur but an instrumental in the acceptable version of (38b). Thus we predict that these speakers also accept:

(i) Ted obtained **that** passport for Sally yesterday **by** a large bribe.

This is ill-formed for us, but would be well-formed if *by* were replaced by *with* or *by means of*. Hence our claim is that examples like (38b) are accepted only when they have a structure consistent with the IAEX, a structure in which the *by*-phrase is an instrumental. The same holds, *mutatis mutandis*, for the (b) sentences in (34–37).

7. The question of the overall structure of 'pseudopassive' clauses is an important one which, however, is not strictly pertinent to the present discussion. All that is relevant here is that they involve an advance I-arc.

H. Some potential counterexamples are discussed briefly in note 22.

9. For further discussion of the Unaccusative Hypothesis, see Perlmutter, to appear.

10. 'Stratum' is defined in Perlmutter and Postal 1077, 1983 and in Johnson and Postal 1980.

11. For discussion of this subset of clause nodes, see Perlmutter and Postal 1983 and Johnson and Postal 1980, chapter 7.

12 For example, this would be the case in

(i) There exist purple gorillas.

where the final I-arc is headed by a **dummy** nominal rather than by the nominal which heads the initial **unaccusative** arc. It is also the case in

(ii) **Gerald** tends to sing.

where the final I-arc (in the *tends* clause) is headed by a nominal which is a constituent of the complement, the whole complement being the head of an initial unaccusative arc

13 Verbs of motion, for example, have been omitted entirely from these lists because the clauses where they occur are very often ambiguous with respect to agentivity and are thus open to more than one analysis. Regarding this problem, see the discussion of *slick* in §6.2, items (56–59).

14. In the cases in (55), an initial unaccusative 2 advances to I, with the IAE<sub>X</sub> then blocking subsequent 'pseudopassivization'. An interesting set of somewhat more complicated cases is exemplified by pairs like:

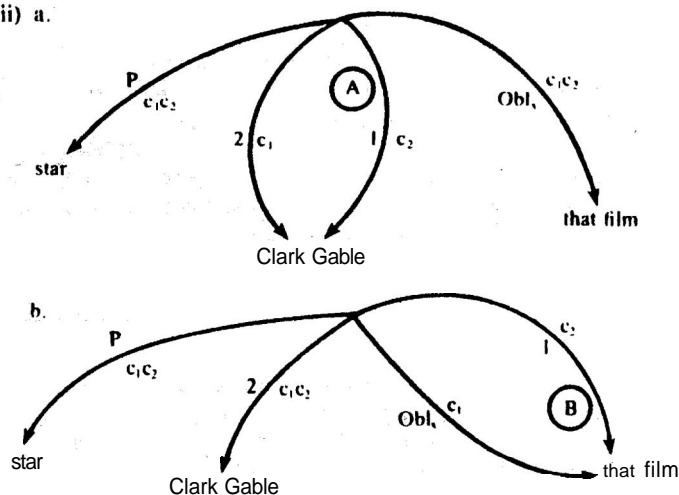
- (i) a. Clark Gable starred in that film.  
h. **That film** starred **Clark Gable**.

Neither type of active example with *star* permits a **Passive**:

- (ii) a. \*That **film** was starred in **by** Clark Gable.  
b. \*Clark **Gable** was starred hy that film.

Suppose we **assume** that the predicate **associated** with the instances of *star* in (i) is **one** determining unaccusative initial strata and occurring with some sort of **oblique** nominal **as well as the** initial 2. The **RNs** for (i-a, b) would be, respectively.

- (iii) a.



Since both **A** and **B** in (iii) are advancee **I**-arcs, the **IAEX** then correctly predicts the impossibility of Passive counterparts for (i-a,b) documented in (ii).

Especially interesting about **structures** like (iii-b) is the fact that they illustrate for the **first** time in this work (see Johnson and Postal 1980), a case where an **initial**-stratum **unaccusative** clause is a **later** stratum **transitive** clause. It then follows from the **IAEX** that some transitive clauses, in particular those like (iii-b), must lack Passive counterparts. For other types of transitive clauses that the **IAEX** predicts lack Passive counterparts, see (18b) and (122), as well as (27b) and (34–38).

15. Examples of this type are discussed by Emonds (1976, pp. 103–4). See also Jackendoff 1972, pp. 43–46.

16. It should be stressed that the presence of a 2-1 Advancement headed by a dummy is only a necessary and not a sufficient condition for characterizing impersonal Passives. The main clauses in examples (i-b,c), for example, have dummy nominals which are 2s that advance to 1. Yet, in contrast to the genuine German impersonal Passive clause in (i-a), these are not impersonal Passives.

- (i) a. Es **wurde hier gestern** getanzt.  
'It was danced here yesterday.'  
b. There **are** believed to be gorillas **in** Australia.  
c. It is believed by everyone to have rained on Friday.

In (i-b,c), *there* and *it* are dummy **nominals** which are 2s in their **main** clauses (as a result of Raising), and these 2s advance to **I**. Yet we do not wish to characterize clauses like (i-b,c) as *impersonal* Passive clauses. Rather, they are personal **Passives** in which the advancees happen to be dummies. Thus (i-b,c) are simply **special cases** of a wider class of Passive structures which involve no restriction on the class of 2s which can advance (more accurately, no restriction to dummies).

Informally, this distinction can be characterized somewhat differently by **observing** that in an impersonal Passive like (i-a), the dummy exists only as a function of the passivization. On the contrary, in cases like (i-b,c), **the dummies** exist **independently** of the passivization. Alongside (i-b,c) there are unpassivized actives **which contain the same dummies**.

A characterization of impersonal Passive clauses which **goes** beyond the necessary but insufficient requirement that **these** involve **advancement** of a dummy 2 to **I**-hood. a **characterization** which reconstructs precisely the vague notion that impersonal Passives involve **dummies** whose **existence** is linked to the **passivization**, is **given** in the APG framework in Johnson and Postal 1980, **chapter** 10.

17. **Below** are some further examples of ambiguous verbs which, like *vallen* 'fall', show a **predictable correlation** between meaning and **eligibility** to **appear** in an impersonal Passive. In each set, the first pair is an initially **unergative clause** with its impersonal Passive counterpart, the second an initially **unaccusative clause** with a corresponding impersonal Passive, which is ungrammatical.

- (i) a. De edelen huigen voor de koning.  
'The nobles bend (bow) before the king.'  
b. Er wordt door de edelen voor de koning gebogen.  
c. De bloemen buigen in de wind.  
'The flowers bend in the wind.'  
d. \*Er wordt door de bloemen in de wind gebogen.
- (ii) a. De kinderen staan altijd op deze tafel wanneer zij uit het raam willen kijken.  
'The children always stand on this table when they want to look out the window.'  
b. Op deze tafel wordt (er) altijd door de kinderen gestaan wanneer zij uit het raam willen kijken.  
c. Het beeldje staat altijd op deze tafel.  
'The figurine always stands on this table.'  
d. \*Op deze tafel wordt (er) altijd door het beeldje gestaan.
- (iii) a. Het publiek murmelde gedurende het concert.  
'The audience murmured during the concert.'  
b. Er werd door het publiek gedurende het concert gemurmeld.  
c. Het beekje murmelde zachtjes.  
'The brook murmured gently.'  
d. \*Er werd door het beekje zachtjes gemurmeld.

18. James McCloskey has informed us that this **statement** is indeed false for Irish.

19. Dillon and ÓCróinín (1961) cite only two impersonal Passives based on intransitive verbs ('come', 'go'). Awbery (1976) in her study of another Celtic language, Welsh, also cites only two ('go', 'run'). Allen, in his *grammar* of Latin (1874), mentions only two ('conic', 'fight'). Breckenridge (1975) cites only two from German ('dream', 'work'). Lichtenberk (1975), in a study of impersonal Passives in Czech and Turkish, cites only two Turkish examples based on intransitives ('walk', 'go'). Comrie (1977) in a study of impersonal Passives cites two cases from Polish based on intransitives ('knock' (at a door), 'walk'), one relevant case from Finnish ('live' in the sense of 'exist in a certain manner'), one from German ('dance'), one from Dutch ('whistle' (said of people)), one from Latin ('fight'), and one from Welsh ('go' (said of people)). Jespersen (1937, p. 27) gives one intransitive impersonal Passive from German ('dance'). Maling and Zaenen (1978) cite three from Dutch ('dance', 'sing', 'work') and one from Icelandic ('dance'). Haiman (1976) cites one each from Turkish, German, and Latin ('fight'). Timberlake, in an intensive study of impersonal Passives in North Russian regional dialects (1976), cites several examples based on intransitive verbs ('get up' (of people), 'run', 'live' (exist in some fashion), 'walk', 'go off to', 'go out', 'rest', 'run', 'arrive'). Kirsner in an

intensive study of impersonal Passives in Dutch (1976) also cites several based on intransitives ('whistle', 'live', 'walk', 'sleep', 'strike' (labor dispute), 'laugh', 'scream', 'salute', 'perform' (artist), 'curse', 'dance', 'swim', 'play', 'talk') Sharp and Strothmann (1955, p. 221) cite three from German: ('work', 'marry', 'sing').

20. See the appendix for discussion of a class of cases for which this **statement** does not hold. Such cases are ignored here.

21. As pointed out in §6.3, the IAEX's prediction **here** does not depend on the analysis of the Inversion nominal as initial **I**, but rather on the analysis of the final **I** as an advancement to **I**. Thus, the same predictions would be made if the second stratum in (119) were taken to be the initial stratum.

22. There are sentences in Spanish and Italian which, under some analyses, would counterexample the IAEX as it is formulated in (18). Examples are (i) and (ii), cited by Contreras (1974) and Radford (personal communication), respectively.

- (i) Spanish  
Se es juzgado por la posteridad.  
'Unspecified is judged by posterity.'
- (ii) Italian  
Quando si è giovani, non si è rispettati da nessuno.  
'When Unspecified is young, Unspecified is not respected by anyone.'

These sentences have the morphology characteristic of Passive clauses in these languages, both with respect to verb morphology and the marking of the Passive *chômeur* by the prepositions *por* and *da*. They also manifest the reflexive morphology (Spanish *se*, Italian *si*) characteristic of reflexive advancements (chap. 4, 94 below). Under some analyses of these sentences, the reflexive morphology would be associated with an advancement to **I**. Its co-occurrence with Passive morphology might therefore be taken as *prima facie* evidence for the presence of two distinct advancements to **I**. But this objection loses force when we consider that the reflexive clitic is by no means an unambiguous signal of advancement. There are clauses involving no advancement at all which nevertheless contain a reflexive clitic—for instance, reflexive clauses involving so-called *coreference*. Sentences (i) and (ii) could stand as counterexamples to the IAEX only if it were shown that their reflexive clitic actually marks an advancement to **I**.

23. On evidence for Inversion in various languages, see Harris (1976, 1981, and chap. 7, 8 below) and Perlmutter (1978b and chap. 9 below). For the transformational literature on 'Psych Movement', see Rosenbaum (1967, pp. 98–99), Lakoff (1968, pp. 38–43), Davison (1969), Kachru (1970), Lakoff (1970, pp. 126–27), and Postal (1970, II.B.5; 1971, pp. 39–54). For an account of Inversion in terms of taxonomies of subject properties, see Sridhar 1976a, b.

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