MORPHOSYNTAX AT LF[*]

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1 Introduction

Pesetsky (1985) proposed and argued that morphemes are subject to syntactic operations at LF when their selectional properties relevant to semantic interpretations are yet to be satisfied and the familiar syntactic operation of covert Move can fulfill such selectional requirements. I will attempt to support this research program of Pesetsky's, which pursues the maximal parallelism of syntax and morphology. The observations and arguments presented below are in part a summary and in part an extension of the research presented in Kitagawa (1986) and Kitagawa (1995).

2 1AEX and Non-1AEX Effects

The 1-Advancement Exclusiveness Law (**1AEX**) proposed as a universal law in Relational Grammar (RG) is informally stated in (1) (Perlmutter and Rosen 1984:xi:U of Chicago Press).

(1) **1AEX**:   No clause can have more than one advancement to 1 (= subject).

When we combine 1AEX with the assumption that the sentences with *unaccusative*, *passivized* and *raising* verbs all involve obligatory syntactic derivation of 'subject' (= 'advancement to 1' in RG terms), we are necessarily led to the prediction that none of the constructions involving these predicates can be combined together.

One of the most salient 1AEX effects reported in the literature is the contrast between unergative and unaccusative verbs observed in the Welsh impersonal passive construction as in (2b-c) from Perlmutter and Postal (1984b:139, 144-145). See also Comrie (1977:54):[1]

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[1] Advocates of RG claim that impersonal passives involve a dummy nominal that is initially inserted as 2 (= object) and advances to 1 (= subject), whether it shows up overtly or not (Perlmutter and Postal 1984a:106). Baker (1988: 346-347:U of Chicago Press) also reports the 1AEX Effect in Irish, citing Jim McCloskey's observations.

(2) **1AEX** Effect in Welsh Impersonal Passive:
a. Transitive: **Lladdwyd** dyn (gan ddraig).
                        was-killed   man by   dragon
                        'A man was killed (by a dragon).'
b. Unergative: **Dannswyd** gan   y   plant.
                        danced   by   the   children
                        'It was danced by the children.'
c. Unaccusative: *__Gwywyd__   gan   y   blodau.
                        wilt-pass   by   the   flowers
                        'The flowers were wilted.'

It is worth pointing out, however, that since Welsh permits not only unergative but also transitive impersonal passives as in (2a), a fuller paradigm indicating the interaction of passivization and different types of verbs should be presented as in (2a-c).

Despite the initial plausibility of 1AEX, its counterexamples have also been reported in the literature — impersonal passives are possible in Turkish with transitive, unergative and unaccusative verbs:

(3) **Anti**-1AEX Effect in Turkish Impersonal Passive:[2]   (Knecht 1985:49, 60, 62)
a. Transitive: Ban-a **telhon-ed-il**-ecek.   'I will be telephoned.'
                        1_{SG}-DAT telephone-PASS-FUT
b. Unergative: Burada gece-nin geç saat-ler-in-e   kadar   **dans-ed-il**-ir.
                        here   night-GEN late hour-PL-POSS-DAT amount dance-PASS-PRES
                        'It is often danced here until the late hours of the night.'
c. Unaccusative: Şu   orman-da sɨk sɨk **kaybol-un**-ur.
                        that forest-LOC often   disappear-PASS-PRES
                        'It is often disappeared in that forest.

Similar facts in Lithuanian have also been reported by Matthews (1955), Timberlake (1982), and Keenan and Timberlake (1985). The so-called indirect passive in Japanese is also possible with transitive, unergative or unaccusative verbs. Since the absence of the restriction on passivization here constitutes direct counterevidence to 1AEX, I label it as the **Anti**-1AEX Effect.

There is another set of facts that makes us wonder if 1AEX is indeed the correct device to cope with the restrictions on passivization in question. As is well-known, many languages disallow passives not only with unaccusative verbs but also with unergative verbs. Passivization in English, for instance, is possible only with transitive verbs:

(4) **Super**-1AEX Effect in English Passive:
a. Transitive: JFK might have been **killed** by the CIA.
b. Unergative: *John was **swum**.
c. Unaccusative: *Time was **elapsed**.

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[2] The impersonal passive in Turkish is known to reject any *by* phrase (and a 'genuine' subject, which is placed sentence-initially without any case), contrary to the personal passive (Knecht 1985:41).

Note that 1AEX makes no predictions concerning the restrictions on passivization of unergative verbs. Since the restriction observed here obviously goes beyond what 1AEX predicts, I refer to it as the **Super**-1AEX Effect. French passives also exhibit the Super-1AEX Effect.

Finally, we can also observe the asymmetry between unaccusative verbs and transitive/unergative verbs in Japanese with respect to causativization (Miyagawa 1989):

(5) **Quasi**-1AEX Effect in Japanese *ni*-Causative:

a. Transitive: Hanako-ga kodomotati-ni gohan-o **tabe-sase**-ta
    -NOM children-DAT meal-ACC eat-CAUSE-PAST
'Hanako had the children have a meal.'

b. Unergative: kooti-ga sensyutati-ni **hasir-ase**-ta
coach-NOM players-DAT run-CAUSE-PAST
'The coach made the players run.'

c. Unaccusative: *Hanako-ga taoru-ni **kawak-ase**-ta
    -NOM towel-DAT dry-CAUSE-PAST
'Hanako made the towel dry.'

Note that the asymmetry here is essentially identical to the 1AEX Effect, but 1AEX per se does not predict it since, unlike passivization, causativization does not introduce 2-to-1 advancement even in RG terms. We thus will be forced to regard the restriction on the Japanese causative observed here as merely and accidentally corresponding to the 1AEX Effect. Reflecting this situation, I refer to the restriction in (5) as the **Quasi**-1AEX Effect.[3] It makes us question, even more strongly, if the prohibition against passivization of unaccusative verbs indeed stems from the extra derivation of a subject as claimed by the proponents of 1AEX.

We can summarize the compatibility/incompatibility of passive/causative with different types of verbs we have observed so far as in (6):

(6)	Welsh/Irish impersonal passive	Turkish/Lithuanian impersonal passive	English/French passive	Japanese *ni*-**causative**
Transitive	ok	ok	ok	ok
Unergative	ok	ok	*	ok
Unaccusative	*	**ok**	*	*
	1AEX	**Anti**-1AEX	**Super**-1AEX	**Quasi**-1AEX

The possibility of passives with unaccusative verbs (= **Anti**-1AEX Effect) in languages like Turkish and Lithuanian (and Japanese) clearly indicates that 1AEX is too strong to qualify as a universal principle or even as a universally valid descriptive statement. On the other hand, the additional impossibility of passives with unergative verbs (= **Super**-1AEX Effect) in languages

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[3] I limit myself here to the *ni*-causative, in which the causee is marked with dative. Whether the *o*-causative (whose causee is marked with accusative), also exhibits similar restrictions has caused some controversy in the literature (Miyagawa (1984), Miyagawa (1989) and Kuroda (1993), among others). I now believe that the *o*-causative in principle is compatible with transitives, unergatives and unaccusatives under the analysis that the *o*-causative involves an invisible passive construction, which is always transitive in Japanese (Kitagawa 1994). Since the pursuit of this topic goes beyond the scope of this paper, I will leave it for another occasion.

like English and French suggests that 1AEX in fact is also too weak in predicting the correct constraint on passivization in the perspective of universal grammar. The asymmetry between unaccusative verbs and transitive/unergative verbs concerning Japanese causativization (= **Quasi**-1AEX Effect), which mimics the 1AEX Effect observed in passivization, also suggests the insufficiency of 1AEX to capture the full range of facts. One plausible step we can take then is to suspect that the core prediction of ungrammaticality made by 1AEX (indicated with the lightly shaded boxes in (6)) reflects only one specific and non-comprehensive instance of a larger generalization and cross-linguistic variations, which also constrain those darkly shaded boxes. It is clearly preferable if we can offer a single analysis that systematically captures all the restrictions observed here, which seem to be quite intimately intertwined. It is this larger picture that I would like to clarify in the rest of this work.

3 Theoretical Background and Proposal

One generalization we can draw out of the range of facts summarized in (6) is that the passive is selectively compatible with different types of predicates and such selection may differ from language to language. Put differently, there seem to exist cross-linguistic variations in the way natural classes of predicate types are formed. (I will return to the Japanese causative below.) Under this view, 1AEX can be regarded as the correct generalization concerning the languages in which the passive identifies transitive and unergative verbs as a natural class, excluding unaccusative verbs. The **Super**-1AEX Effect, on the other hand, suggests that in some languages, it is unergative and unaccusative verbs that the passive identifies as a natural class, excluding transitive verbs. The **Anti**-1AEX Effect then can be regarded as the characteristics of the languages in which the passive does not discriminate any one type of predicate from another. The tasks we must fulfill in our investigation of passives, therefore, are first, to provide a uniform — and at the same time sufficiently and systematically variable — method of forming a natural class of predicate types, and second, to discover a non-idiosyncratic way of capturing the observed cross-linguistic variations in the compatibility/ incompatibility between passives and different predicate classes.

I would like to point out that both of these tasks can be fulfilled properly when we extend and elaborate Pesetsky's (1985) LF-syntax for morphology, observing the following basic tenets of the minimalist program. First, syntactic operations (a.k.a. computations) are called for only to establish legibility at each relevant interface representation (PF and LF) (Chomsky 1995). Second, they are enacted exactly at the point their need arises in the derivation rather than being achieved in an anticipatory fashion (Collins 1997:MIT Press). Grammar constrained this way should disallow any *pre-Spell-Out* operation triggered in anticipation of PF or LF effects. Some such operations are: (i) "Incorporation" of affixes to achieve their morphological boundness *at PF*, (ii) "Agree" to achieve phonetic effects on verbs *at PF* and to avoid undesirable mixture of valued agreement features on verbs (being uninterpretable) and nominals (being interpretable) *at LF* (Chomsky 2001:5), and (iii) "Overt movement" of a phrase enacted by labeling (via projection) necessitated for *semantic interpretation based on LF* (Chomsky 2013:43-44). The same problem persists even under the phase approach (Chomsky 2000).[4] Although the stance just

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[4] Bošković (2007:*LI*) convincingly argues that overt movement (or overt Internal Merge) enacted by EPP features ("I need a Spec") as viruses (Chomsky 1995, Uriagereka 1998:MIT Press) would also induce, inevitably, a look-ahead problem under Chomsky's phase approach.

outlined may appear to involve excessively radical pursuit of the minimalist program, it in fact merely attempts to follow its tenets more faithfully than generally done.[5]

The θ-Criterion, which now is subsumed under Full Interpretation (FI), has always been and still is the criterion of adequacy to be satisfied at LF (Chomsky 1981:36, 335). With D-structures and the Projection Principle (as a derivational constraint) discarded, this should be even more strictly so. This theorematic standpoint under the minimalist program urges us to reinterpret the Uniformity of Theta Assignment Hypothesis (UTAH: Baker 1988) as an LF constraint and Hale and Keyser's (1993) LRSs as LF representations if we consider that the "syntax-semantics transparency" they attempted to capture is worth establishing in our grammar. This leads us to postulate (7) below as a guiding principle of grammar to be satisfied at LF.

> (7) Revised UTAH (RUTAH):
>
> a. Identical thematic relationships between items are represented by identical structural relationships between those items **at the level of LF**.
>
> b. There exist two distinct sets of θ-roles: External θ-roles and Internal θ-roles
>
> c. Each set of θ-roles is saturated in its designated position as follows:
>
> External θ-roles: $[_{Xmax} \_\_\ ]$ (Immediately dominated by X^{max})
>
> Internal θ-roles: $[\ \_\_\ X^{min}\ ]$ (Being a sister to X^{min})

Coupled with RUTAH is the assumption that the labeling of the projections of a predicate at LF must involve its thematic information due to a requirement at this interface (cf. Chomsky 2013:43). In particular, I would like to propose the hypothesis that the thematic property of a predicate is encoded on each of its projections derived by Merge in such a way that it represents both **how many and what type of θ-roles** are saturated under that particular projection. I will refer to the projection indicating the *number* of θ-roles as the **quantity-sensitive thematic projection** (henceforth **QNT-projection**) and that indicating the *type* of θ-roles as the **quality-sensitive thematic projection** (henceforth **QLT-projection**). Transitive, unaccusative and unergative VPs in general then will be represented at LF as in (8a-c) below, respectively, under the original version of the internal subject hypothesis (Kitagawa 1986). The linear order is indicated here with strict head-initiality.[6]

(8)   a. Transitive: b. Unaccusative: c. Unergative:

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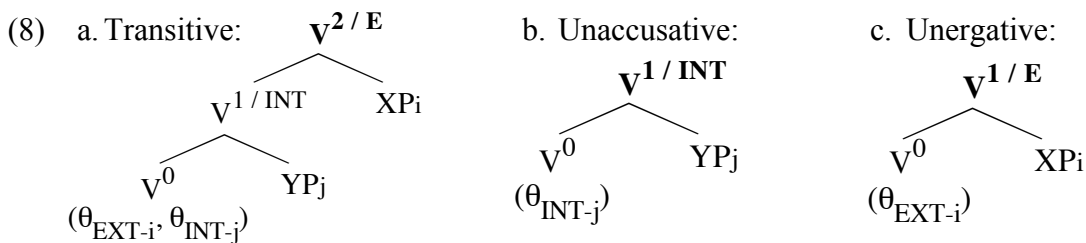
[5] Further pursuit of this issue will lead us to the following concern expressed by Richards (2010:215, footnote 1): "Taken together, the look-ahead problems suggest that our understanding of the interfaces is flawed in some way," which I will refrain from pursuing in this work. See Kitagawa (2013) and Kitagawa (To appear) for discussion.

[6] How the *v*-analysis fares with the thematic selection in question will be discussed below. Kitagawa (1986) and Kitagawa (1995) argue that VPs in English are "base-generated" by Merge strictly head-peripherally and unidirectionally (as VOS, VS or VO), where VP-internal subjects may surface *in situ* in the extraposition and presentational constructions, e.g., *It* [VP *proves his innocence* [CP *that he has come back*]], *There* [VP *walks* [NP *the best reliever in MLB*] *to the mound*]*!*, *There* [VP *arose* [NP *a storm*] *in the south*]*!* (cf. Belletti 1988: *LI*).

In these abstract representations, the **QNT**-projection $\mathbf{V^1}$ represents the verbal projection under which one θ-role is saturated and $\mathbf{V^2}$ represents the verbal projection under which two θ-roles are saturated. The **QLT**-projection $\mathbf{V^{INT}}$, on the other hand, represents the verbal projection under which the internal θ-role is saturated and $\mathbf{V^{E(XT)}}$ represents the verbal projection under which the external θ-role is saturated. Note also that the absence of θ-saturation within the minimal projection of a verbal predicate is represented by V^0. Since we have adopted RUTAH, we can correctly let external θ-saturation take place immediately under the maximal projection within transitive and unergative VPs (V^E in (8 a&c)), and we can also let internal θ-roles be successfully saturated under the (lowest) medial projection within transitive VPs and under the unaccusative VPs (V^{INT} in (8 a&b)). (Ditransitives are to be analyzed as 2-place predicates (Kitagawa 1994).)

An important consequence of adopting the QNT-projection in addition to the QLT-projection is that we now have a means to identify a VP headed by an unaccusative verb and one headed by an unergative verb, while at the same time to distinguish them from each other in the identical one-level, binary-branching bare phrase structure as in (8b-c). When we pay attention to the QNT-projection, their maximal projections can be regarded as identical, being V^1. This means that unaccusative and unergative verbs can be regarded as forming a natural class in terms of the QNT-projection, excluding transitive verbs. When we pay attention to the QLT-projection, on the other hand, the maximal projections of unaccusative and unergative verbs must be distinguished, unaccusative VPs being V^{INT}, while unergative VPs being V^E. In other words, unergative verbs can, but unaccusative verbs cannot, make up a natural class with transitive verbs in terms of the QLT-projection. We can summarize these consequences as in (9) below, where the two distinct shaded areas indicate two distinct natural classes.

(9) Thematic Projections:	Transitive	Unergative	Unaccusative
QNT-projection	V^2	$\mathbf{V^1}$	$\mathbf{V^1}$
QLT-projection	V^E	V^E	V^{INT}

Thus, by making an appeal to the notion "thematic projection" and its two-fold aspect in terms of quantity and quality of θ-roles, we can fulfill our first task of providing a uniform, and at the same time, sufficiently and systematically variable method of forming a natural class of predicate types.

The last piece of the puzzle allowing us to capture the observed cross-linguistic variations can be obtained when we extend Pesetsky's (1985) LF-syntax of morphemes to their analyses. That is, the thematic selectional properties of each morpheme must be satisfied at LF, and a syntactic operation is triggered to fulfill this task. This goal can be achieved when we allow Chomsky's (2008) *Internal Merge* to apply to a bound morpheme introduced to syntactic objects as the head of a morphologically complex predicate, and hence as its label. This LF operation, which I call *Internal Head Merge* (IHM), is schematically and derivationally described in (10a-c).

(10) Internal Head Merge (IHM):
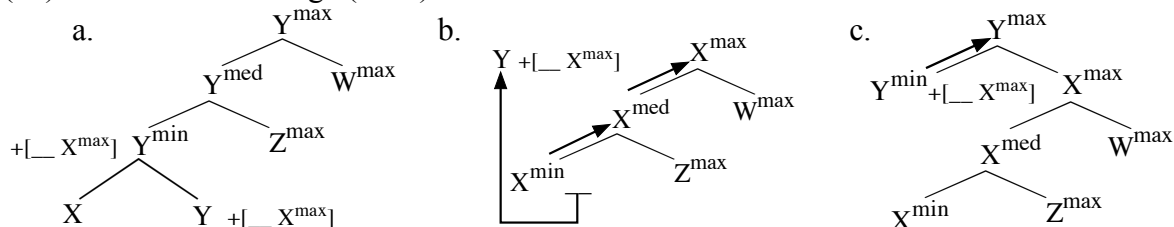
In (10a), the selectional property of Y ($+[\_\_\ X^{max}]$) as the morphological head of the complex predicate $[_{Ymin}\ XY\ ]$ would remain unsatisfied if it remained in the same position. This launches the application of IHM as in (10b). X^{min} now becomes the newly derived head of the entire predicate phrase and determines its label X^{max}, presumably to satisfy its selectional requirement ((θ_{EXT}, θ_{INT})). IHM can now let Y merge with X^{max} as in (10c), project its label, and have its selectional property $+[\_\_\ X^{max}]$ satisfied. This operation is induced to satisfy FI in the derived LF representation, thereby avoiding any anticipatory application of syntactic operations.[7]

Suppose now that the thematic selection by a predicative morpheme is specified in terms of the QNT- or QLT-projections just sketched out above, and that such thematic selectional properties may vary cross-linguistically as to the choice between the QNT-projection and the QLT-projection, for example, with respect to passives, as in (11).

(11) a. $+[\ V^2\ ]$:   English/French Passives
     b. $+[\ V^E\ ]$:   Welsh/Irish Impersonal Passives
     c. None: Turkish/Lithuanian Impersonal Passives, Japanese Indirect Passives

In one language, in English for example, a passive morpheme may select a specific QNT-projection, V^2 to be exact as in (11a). In some other language like Welsh, on the other hand, the passive morpheme may select a specific QLT-projection, V^E to be exact as in (11b). Let me refer to such a lexical property as *quantity*-**sensitive thematic selection** (**QNT-selection**) and *quality*-**sensitive thematic selection** (**QLT-selection**), respectively. QLT-selection as a lexical specification of passive morphemes combined with the application of IHM as an option of UG immediately allows us to capture the **1AEX** Effect observed in languages like Welsh and Irish — impersonal passivization in these languages becomes legitimate when the passive morpheme selects V^E (= transitive or unergative VPs) at LF as in (12a-b) below, but it fails to satisfy FI when it ends up selecting V^{INT} (= unaccusative VPs), as in (12c).

(12) Welsh Impersonal Passives at **LF** — **1AEX** Effect:

a. Transitive LF:	**-wyd**	$[_{V^E}$	lladd__	dyn (gan	ddraig)]
	-PASS		kill	man by	dragon
	'A man was killed (by a dragon).'				
b. Unergative LF:	**-wyd**	$[_{V^E}$	danns__	gan	y	plant]
	-PASS		dance	by	the	children
	'It was danced by the children.'				
c. Unaccusative LF:	*__-wyd__	$[_{V^{INT}}$	gwy__	gan	y	blodau]
	-PASS		wilt	by	the	flowers
	'The flowers were wilted.'				

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[7] IHM is a subcase of *set-Merge* (Chomsky 2000:133-134), in which the label projects from the selector to satisfy its selectional requirement. It freely applies in the course of "bottom-up" multiple transfer although it allows the derivation to converge only when it applies at the right time. Note also that derivational morphology is assumed here to take place entirely in the lexicon, contrary to the assumptions of the Distributed Morphology. In this way, the "boundness" of morphemes, that is, their need to be pronounced as part of the base they are affixed to, comes to be satisfied at PF without necessitating any syntactic operation.

Another advantage of this approach over 1AEX (as a constraint) is that we can now completely assimilate the **Quasi**-1AEX Effect observed in the Japanese causative construction to the **1AEX** Effect observed in the Welsh/Irish impersonal passive construction. In both cases, the QLT-selection $+[$ V^E $]$ of a higher predicate (the causative morpheme and the passive morpheme, respectively) fails to be satisfied when it ends up with selecting V^{INT} after IHM applies at LF. Observe that the LF-paradigm of the *ni*-causative construction in Japanese as in (13) below is completely parallel to that of the impersonal passive construction in Welsh as in (12) above.

(13) Japanese *ni*-causative at **LF** — **Quasi**-1AEX Effect:

a. Transitive LF:	Taroo-ga	$[_{V^E}$	kodomotati-ni	gohan-o	tabe __]	**-sase**
	-NOM		children-DAT	meal-ACC	eat	-CAUSE
b. Unergative LF:	kooti-ga	$[_{V^E}$	sensyutati-ni		hasir __]	**-sase**
	coach-NOM		players-DAT		run	-CAUSE
c. Unaccusative LF:	*Taroo-ga	$[_{V^{INT}}$	tyawan-ni		ware __]	**-sase**
	-NOM		bowl-DAT		break	-CAUSE

The **Super**-1AEX Effect in English (and French) passives can also be correctly captured in terms of QNT-selection by the passive morpheme $(+[$ V^2 $])$ at LF, as in (14).

(14) English Passive at **LF** — **Super**-1AEX Effect:
   a. Transitive LF: JFK_1 might have been **-EN** $[_{V^2}$ kill__ ~~JFK~~$_1$ by the CIA]
   b. Unergative LF: *John$_1$ was **-EN** $[_{V^1}$ swim__ ~~John~~$_1$]
   c. Unaccusative LF: *Time$_1$ was **-EN** $[_{V^1}$ elapse__ ~~Time~~$_1$]

Arguably, we can also verify the QLT-selection $+[$ V^{INT} $]$ with Japanese *neologisms*, as in the following deverbal compounds: e.g., $[_{VINT}$ *dote-kuzure__* $]$ -$\varnothing_N$ 'bank-collapsing', $[_{VINT}$ *kuruma-migaki__* $]$ -$\varnothing_N$ 'car-polishing' vs. *$[_{VE}$ *inu-boe__* $]$ -$\varnothing_N$ 'dog-barking'. The QNT-selection $+[$ V^1 $]$ in English can also be verified with its zero causative, e.g., *This fertilizer* -$\varnothing_{CAUSE}$ $[_{V1}$ *grows__ tomatoes very fast*], *This biofuel* -$\varnothing_{CAUSE}$ $[_{V1}$ *runs__ LA's city buses*] vs. **This biofuel* -$\varnothing_{CAUSE}$ $[_{VE}$ *runs__ the city buses LA*] (or *-$\varnothing_{CAUSE}$ $[_{VE}$ *LA runs__ its city buses*]).

If this approach is on the right track for the empirical puzzle involving variations of "1AEX Effects" in (6), it has a significant theoretical implication for the standardly adopted *v*-analysis of the Internal Subject Hypothesis. If one adopts Chomsky's (1995:315) earlier *v*-analysis (and Kratzer's (1996) voice-analysis), transitive and unergative projections are analyzed as *v*Ps and unaccusative projections as VPs. It therefore can capture the contrast between V^E and V^{INT} but not that between V^2 and V^1. In Chomsky's (2001:7) revised *v*-analysis, on the other hand, all verbal projections are analyzed as *v*Ps. Those involving only transitive and unergative verbs are characterized as having an external θ-role to assign $([+θ_{EXT}])$. On the other hand, only those involving unergative and unaccusative verbs are characterizable as lacking an internal Case to assign $([-ACC])$, with which we would be able to recognize V^1 as a natural class. If any Case property is retained at LF, however, FI would not be satisfied. Either version of the *v*-analysis therefore does not seem to properly capture the **Super**-1AEX Effect.

The achievement of descriptive adequacy here, I believe, is a great step forward, and it provides us with good motivation to further pursue the proposed approach. This approach may be maintained with its weak claim — that each predicative morpheme in a given language may have its own lexically specified thematic selectional property. The claim can also be made a

notch stronger, attempting to answer another theoretical question — how does the variation in (11) arise? This question would lead us to explore a rather strong hypothesis as in (15) below concerning the possible cross-linguistic variations in thematic selection.

(15) In any given language:
  a. The thematic sensitivity of morphemes is **only quantitative**,
  b. The thematic sensitivity of morphemes is **only qualitative**,
  c. The thematic sensitivity of morphemes may be **either quantitative or qualitative**, or
  d. **No** morpheme has **thematic sensitivity**.

According to this hypothesis, in a language of the type (15a), all morphemes that exhibit any thematic sensitivity must uniformly have the QNT-selection. Likewise, in a language of the type (15b), all thematically sensitive morphemes must uniformly have the QLT-selection. On the other hand, in a language of the type (15c), morphemes that have the QNT-selection and those which have the QLT-selection may co-exist. This possibility must also be permitted since in Dutch, for example, one type of passivization (impersonal passive) identifies transitive and unergative verbs as a natural class and exhibits the **1AEX** Effect (+[V^E]) while the other type of passivization (personal passive) rejects unergative and unaccusative verbs as a natural class and exhibits the **Super**-1AEX Effect (+[V^2]) (Perlmutter and Postal 1984a:107-108, Marco Haverkort p.c.). Finally, in a language which is **strictly** of the type (15d), no predicative morpheme may exhibit thematic sensitivity. Let me refer to each of these types of languages in (15) as **QNT-language**, **QLT-language**, **QQT-language**, and **TI-language**, respectively. The table in (16) below summarizes a quite tentative classification of the languages we have examined so far in accordance with the thematic sensitivity of passive morphemes only.

(16) Cross-linguistic Variation in Thematic Sensitivity:	English French	Welsh Irish	Dutch	Turkish Lithuanian
Possible Type of Thematic Sensitivity	QNT	QLT	QQT	TI

Presumably, TI is an option that is universally available in any language. Even if a language adopts one particular type of thematic selection, that does not preclude this language from having a predicative morpheme which is thematically insensitive. For example, the **Quasi**-1AEX Effect (+[V^E]) in the causative construction in Japanese suggests that this language has the QLT-selection. On the other hand, Japanese also permits a passive construction which exhibits thematic insensitivity and hence the **Anti**-1AEX Effect (+[V^{max}]). In French as well, thematic sensitivity and thematic insensitivity co-exist, but in the opposite way from Japanese — the passive in French exhibits the **Super**-1AEX Effect (+[V^2]) while the causative predicate *faire* 'make' exhibits the **Anti**-1AEX Effect (+[V^{max}]). Although the existence of TI-languages, in which absolutely no morphemes exhibit thematic sensitivity, is certainly a logical possibility, it sounds somewhat too strong. Even if future research proves that no language of the world takes this option, however, it does not necessarily preclude us from pursuing the proposed approach incorporating the notion of thematic selection. In fact, it will simply strengthen the assumption that thematic selection is an option made available by UG along with thematic insensitive selection.[8]   <<Many thanks to two anonymous reviewers for useful comments.>>

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[8] Kishimoto (1996) argues that some unergatives and unaccusatives in Japanese behave alike when their subjects are non-volitional "effectors/actors" (though his diagnostic test is not entirely reliable). Even if it turns out that we need

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(cross-linguistically varied) lexical semantics to capture split intransitivity (cf. van Valin 1990), we can adopt it in distinguishing external and internal θ-roles in a given language, which allows us to maintain the proposed approach as is. We must also appeal to some additional lexical semantic property that cuts across QNT- and QLT-selection in order to rationalize, e.g., the restriction on the zero causative in English, which selects $+[V^1]$ headed by *grow*, *melt*, *run*, *gallop*, etc. but not by *fall*, *sneeze*, *laugh*, etc. (cf. Hale and Keyser 1993, Brousseau and Ritter 1991).