ON THE STRUCTURE AND (UN)PASSIVIZABILITY OF *CONTAIN*

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In this paper, I will argue that *contain* and other related verbs as used in a certain type of construction have a different light verb than that which is associated with other transitive constructions. A proposal is made that in that construction, the light verb assigns *structural* partitive Case to the object. It is also shown that the subject and the complement of the verb are in a certain whole-part relation under which it is required that the former c-command the latter, and that this requirement makes it impossible for the construction to undergo passivization.*

Keywords: *Burzio's Generalization, whole-part relation, Binding Condition A, reflexivity*

1. Background

In this paper, I will argue that the verb *contain*, which is often taken to be among the verbs that resist passivization, does not, strictly speaking, deserve to be regarded so, and the involvement of a certain lexical semantic property of the verb and its syntactic manifestation makes a certain form of passive sentence ill-formed. I will also show that much the same can be said of some of the verbs whose unpassivizability would have been explained simply by saying that they are stative predi-

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cates, or they lack transitivity. For expository purposes, I will assume the general framework of Generative Grammar, especially those which have been developed by the name of Minimalist Program, as in Chomsky (1993, 1995, 2001).

Let us begin by making a brief review of Bolinger's (1975: 69) treatment of the verb *contain*. He considers the verb to have the meaning of spatiality, and hence to be an unpassivizable verb, giving the following pair of examples:

- (1) a. The package contained a present.
 b. *A present was contained by the package.

In his terminology, spatiality is a concept that refers to both purely spatial and existential relationships, and stands at the opposite extreme of transitivity: the passive is marked for transitivity, and thus there must be a transitive relationship between the verb and the patient, in the sense that the patient is genuinely affected by the action of the verb. To put technical details aside, statements to the same effect are made in works like Rice (1987: 166) and Langacker (1991: 346–347), in which it is assumed from a cognitive point of view that *a present* in (1a) cannot be considered to be a direct object because it is not connected to the subject through an action-chain analog, and hence the verb is intransitive. Pinker (1989: 142), following Bolinger's ideas, simply remarks that *contain* and verbs of the same class "have no patient arguments and thus do not passivize, period." What cannot be neglected is the fact that these claims are based on the conception that (1b) is the passive counterpart of (1a).

Notice, however, that *contain* can appear in another construction, as illustrated in (2):

- (2) A present was contained in the package.

The question should then be raised of how to capture the triadic relation among them. In this connection, it may be useful to mention Jackendoff's (1972: 31) argument as to how to tell apart the thematic role of Theme: he points out that though it is not clear which DP is Theme and which is Location in examples like (1a), the problem would be solved by comparing it with such an example as in (2), where the preposition *in* acts as an unmistakable mark of a locative phrase. It is concluded then that the DP *a present* in (2) must be the Theme, and so is *a present* in (1a). He makes few statements as to how *the package* is associated between the two sentences, but Anderson (1977: 34) is more explicit in this respect and points out that if one extends Jackendoff's

idea, the subject in (1a) is regarded as Location.¹

Some researchers, including Langacker (1991), Pinker (1989), and Rice (1987), make no mention of *contain* as used in (2). Others refer to that use as a kind of adjectival passive, suggesting the lack of transitivity. Bolinger (1975: 79) claims *contain* to be in a curious apparent passive, motivated by analogy, in face of the impossibility of adding the agentive *by* phrase: *More particles are contained in the first receptacle (*by John) than in all the others combined*. In this view, *contain* as used in *be contained in* bears no relevance to the question as to whether the verb is of the transitive or of the spatial type, and thus does not do harm to the idea that it is of the latter type. I suspect that researchers like Langacker, Pinker, and Rice might also have the same view, and this would be the reason that they do not take this use into consideration. There are still others who assume that it is (2) that is the passive counterpart of (1a). Among them is Gruber (1994: 93), who further claims that Location, a semantic Case that is categorially more specified, blocks Case in the form of *by*. Importantly, Gruber's idea amounts to saying that *contain* is indeed a passivizable verb and that (1b) is ruled out not because of its alleged low transitivity, but because of the wrong choice of preposition.²

¹ In view of the fact that *contain* and other verbs that have similar meanings can have the locative PP that has a pronominal coreferential with the subject, as in *The package_i contained a present in it_i*, Jackendoff (1987: 383) speaks of a possible violation of the θ -criterion, which requires a one-to-one correspondence between arguments and θ -roles. His remark suggests that the subject and the locative PP have one and the same θ -role, and thus the subject is Location.

I return to this issue in section 5, where I will seek to explain the appearance of such an apparently redundant phrase by extending the proposals I will make in between.

² Crucially, I assume along the lines of Perlmutter and Postal (1984) that the *by* phrase in the passive sentence need not be Agent, and consider that the ill-formedness of the example in (1b) cannot be explained by a constraint requiring that it be agentive. On the other hand, Nakau (1994: 391) and Takami and Kuno (2002: 189–193) make the opposite claim, stating that there is a semantic restriction on the *by* phrase: it must be Agent (or Experiencer). Notice that in the latter work, it is further claimed that the examples given in Perlmutter and Postal actually have agentive *by* phrases. However, it should be noted that Takami and Kuno do not cite the whole set of them. I guess that this is not accidental and their motivation is not to avoid redundant repetition, since the subset of examples that they do not give would give rise to difficulties with their claim about the semantic restriction on the *by* phrase. See Morita (2002) for discussion.

I agree with Gruber, at least in that *contain* is indeed a verb that allows passivization, and consider that the others' claim is untenable in view of the fact that some verbs synonymous to *contain* indeed have a passive sentence that can have the agentive *by* phrase, and accordingly, have an active counterpart with the Agent in the subject position:

- (3) a. The package included these files.
- b. These files were included (by the spy) in the package.
- c. The spy included these files in the package.
- (4) a. Her scandal involved John.
- b. John was involved (by Mary) in her scandal.
- c. Mary involved John in her scandal.

It is concluded then that the impossibility of adding Agent is reduced to lexical idiosyncrasies of *contain*;³ in fact, there are many passive sentences which have no felicitous active counterpart.⁴ In any event, it is important to see that these examples are also problematic to Gruber and others with a similar view, who seek to reject *be contained by* in favor of *be contained in*. By way of illustration, take the examples in (3). Now that it has become clear that (3b) is related to (3c), the question to be addressed is whether, in addition to that option, (3b) can be derived from (3a) when the PP *by the spy* is absent, taking the place of the putative form of ... *included by the package*. If so, then (3b) would involve a structural ambiguity associated with its two sources. However, it seems difficult if not impossible to make the case for that. Thus, we cannot take sides with the position represented by Gruber.

³ As shown in (i), *contain* can appear in the existential construction, and thus need not have an external θ -role to assign:

(i) There will contain some arguments against this idea in footnote 22.

This fact seems to suffice for assuming a null subject position for *contain*.

⁴ For example, McCawley (1998: 91) observes that (ia) is consistent with a materialistic view of the origin of the Earth, while (ib) says that there was a Creator, concluding that the former is not a paraphrase of the latter:

(i) a. The Earth was formed 4 billion years ago.
 b. Someone formed the Earth 4 billion years ago.
 c. My brother was drowned in a boating accident.
 d. ?Someone drowned my brother in a boating accident.

He continues that in the context where (ic) is uttered, no one need have been responsible for the brother's death, while its active counterpart, as in (id), brings in a murderer. See also Quirk et al. (1984), Levin (1993), among others.

It seems that we have now been forced back to the starting point, since the presence of *be contained/included/etc. in* does not preclude *be contained/included/etc. by*. In other words, the ill-formedness of the latter form must be explained independently of the presence of the former. But at the same time, to take into account the fact that the same verb *contain* can appear in the former form would provide us with more possibilities of solving the question as to the ill-formedness of the latter.

2. *Contain* in Two Derived Forms

Now the real question to be addressed should be divided into two subparts: one is how to relate each of the three forms of *contain*, as in (1) and (2), to the others. For ease of reference, I repeat and rearrange them here, as in (5):

- (5) a. A present is contained in the box. (= (2))
 b. The package contained a present. (= (1a))
 c. *A present was contained by the package. (= (1b))

The other is how to account for the ungrammaticality of (5c) in relation to the first question. Putting aside the second question for the moment, I assume for a first approximation that (5a) and (5b) are related to each other through a common (or identical in crucial respects) stage of derivation, as shown in (6a),⁵ and are derived in a way schematically shown in (6b) and (6c), respectively:

- (6) a. contain a present_{TH} (in) the package_{LOC}
 b. a present_{TH} T⁰ be contained *t* in the package_{LOC} (for (5a))
 c. the package_{LOC} T⁰ contain a present_{TH} *t* (for (5b))

On this assumption, (5a) is derived by passivization: the passive morpheme *-en* and the verb *be*, along with other functional categories including T, are introduced into the structure subsequently. The DP that immediately followed the verb (that position being designated by *t* in (6b)) has moved to the subject position, and so long as this operation is concerned, there would arise little trouble. (5b), on the other

⁵ In actual fact, it will be shown in section 5 that the Theme argument and the locative phrase constitute a small clause, with the latter being the subject of the clause.

$$(9) \quad v_{\text{comp}} \rightarrow v_{\text{def}}$$

As usually assumed with passivization, the point is that the defective light verb has lost its abilities to assign the external θ -role and to check off the accusative Case feature. This process has two effects: a) no argument can be merged directly into the structure as an external argument, which makes the subject position unoccupied; b) the Case feature of the DP that would have appeared as the object has to be checked off otherwise. Thus, for its Case feature (and the EPP feature of T^0) to be checked off, the DP is raised to the subject position, and becomes the surface subject. Suppose then that the same process is responsible for deriving (6c).⁷ In this sentence, however, it is the locative phrase, not the object DP, that is raised to the subject position and thus, in opposition to Burzio's Generalization, this DP has to have its Case feature checked off in situ. If not, its uninterpretable Case feature is not deleted, and the sentence will be crashed at the LF interface, contrary to the fact:

- [illegible]

Therefore, it is concluded that the putative analysis shown in (10) must undergo modification. What is wrong with (10)?

It seems then that the driving force of the movement involved in (6c) is different from that for passive (and unaccusative) sentences, and there is no reason to assume v_{def} for the former case. My proposal is that another light verb should be postulated in order to exclude the difficulties that would have arisen with respect to the derivation involved in (6c). The supposed light verb should be a complete one, at least in that it has a capacity for checking off the Case feature of the DP that appears as the object. Then, how about its inability of assigning the external θ -role? Wouldn't it give rise to any problem, if such a light

⁷ As assumed in Chomsky (2001), unaccusative verbs also have v_{def} . This might suggest that the process of defectivization in (9) should be better conceived as a process of replacement between types of light verbs. Anyway, this assumption also shows that defectivization is undergone irrespective of whether the passive morpheme and *be* are introduced into the structure or not.

verb is postulated in opposition to Burzio's Generalization?

3. Burzio's Generalization and the Light Verb

In order to answer the question that have just been raised at the end of the previous section, it is necessary to give a second thought to the implications of Burzio's Generalization that have been largely ignored. Though it was developed as a way of describing a purely formal relation at the time of its conception (cf. Burzio (1984)), it also has a certain semantic import.⁸ Informally speaking, I speculate that what Burzio's Generalization expresses is that a certain semantic property of the subject has much to do with the mechanism for licensing the object. It is true that the relation between the external argument and accusative Case is given a structural basis under the Minimalist conception of Case, since it is the ν that deletes the accusative Case features of the object through Spec-head agreement:⁹

⁸ By this statement, I do not mean that the generalization offers a counterexample to the autonomy thesis. To the extent that a formal device provides a basis for a semantic property but not vice versa, it is autonomous to semantics. Cf. Chomsky (1957).

⁹ Or whatever mechanism may be proposed in its place for associating ν and Obj;

The configuration that is relevant to Burzio's Generalization is represented in bold face in (11). Martin (1999: 12) also points out that Chomsky's (1995) theory of accusative Case and the external argument derives Burzio's Generalization, stating as follows: "Having an external argument implies having ν , and having ν implies having accusative Case. In other words, Burzio's Generalization!"¹⁰ It should be borne in mind, however, that though that conception seems to be on the right track, it still simply makes explicit the locus of explanation, and does not provide a principled answer to the question as to why the same light verb both assigns the external θ -role and licenses accusative Case. The answer would reveal itself by taking into account the speculation I have just made above.

I assume then that a complete ν does not simply check off the Case feature of the object DP, but undergoes that task in reference to what kind of semantic contribution it makes. By this statement, however, I do not mean that the process of Case checking should be sensitive to the distinction among the labels for the external θ -role (say, Agent, Experiencer, etc); I assume along the lines of Hale and Keyser (1993) that these labels are mnemonic, and there is only one kind of external θ -role, if present. Or rather, I propose that the distinction should be made by taking argument linking into account.

In this regard, Pinker (1989: 243) points out that with verbs like *contain* (as used in *DP contains DP*), which designate a certain spatial relation, what emerge as the subject and as the object do not obey the usual pattern in that they do not constitute an Agent-Patient pair, yet they fall into a broader principle, which is originally due to Carter (1976), namely, that the "more important" argument is linked to the subject.¹¹ As Carter (1976: 18) remarks, what counts as "important" is hard to define, and he only assumes a definition by listing. In the case

here I speak of "Spec-head agreement" just for expository purposes.

¹⁰ Similar remarks are made in Hasegawa (2001: 7–6). Notice also that in view of the class of verbs that do not obey Burzio's Generalization, she proposes that the role that Burzio's Generalization plays should be reduced. Yet, it is questionable whether her proposal is carried over to *contain*.

¹¹ Pinker (1989) applies this statement to the Agent-Patient pair as well, though Carter (1976) himself is reluctant to do this. See Carter (1976) for discussion.

of *contain*, what is relevant is the whole-part relation that the subject and the object hold. "The whole is more important than any of its parts," Carter (1976: 17) notes, since the parts are subordinate to the whole, insofar as they are identified as parts in relation to the entity that they are a part of. In what follows, extending their insights, I will use the term *whole-part* more abstractly, and applies to the concept that is opposite to the causal relation that "unmarked" cases of transitive verbs with Agent and Patient allegedly involve.¹²

I differ from Carter (1976) and Pinker (1989), however, in that the surface order in *DP contains DP* does not result from the arguments being linked in that order, in consideration of the other uses of this and other synonymous verbs (see section 1), and Baker's (1988) UTAH (Uniformity of Theta Role Assignment Hypothesis), which requires that the linking patterns be invariant among these uses. The proposal I will make by incorporating their insights is that as the light verb for the "unmarked" transitive verbs partly determines the Agent-Patient pair, so another type of light verb takes care of the whole-part relation. Thus, I propose that the inventory of light verbs does not include just one type of v_{comp} for two-place predicates but it should be divided into two subtypes. Let me dub them v_{acc} and v_{part} . These light verbs are so dubbed in accordance with the type of Case that they check off: the former takes care of accusative Case. On the other hand, the Case licensed by the v_{part} is identified with partitive Case, which was first proposed in Belletti (1988) and has been explored in the Generative literature thereafter. I will make several criticisms on its treatment as inherent Case at the end of this section, but at present let us concentrate on the issue at hand. Taking the discussions made so far into consideration, the proposals that I have just made are summarized as (12) and (13):

$$(12) \quad v_{\text{comp}} = \{ v_{\text{acc}}, v_{\text{part}} \}$$

- (13) a. v_{acc} checks off the accusative Case of the DP that it attracts, with reference to the thematic relation designated by the verb (typically, the causal relation between Agent and Patient).

¹² As with Carter (1976), the whole-part relation here covers such notions as container-content and possessor-possessed relations.

- At first glance, the qualification that is preceded by *with* in (13a) by itself seems to have no meaningful content, and I guess that this would be the reason that it has been overlooked in the Generative literature. But now it has turned out to express an essential property of v_{acc} that plays the crucial role in associating the external θ -role and accusative Case, which would not have revealed itself without making a comparison of v_{acc} with v_{part} .

(14) a. v_{part} contain the dot the box

What I have in mind here is, it should be emphasized, that *whole* and *part* are not θ -roles, and hence v_{part} does not assign the status of argument to the DP in [Spec, v P]. Notice that reference to *part* (and Patient, as well) is not crucial for v to undergo the process of Case checking *per se*; it is the complement of V that designates *part*, and the DP that has its Case feature checked off need not be *part*, as is evident

from the fact that partitive Case is also checked off in the ECM (Exceptionally Case Marking) configuration (to which I will return shortly). The relevance of *part* to Case checking is quite restricted, and indeed *part* seems to be playing no role but making explicit the emergence of *whole* (and thus, the relevant light verb is v_{part}) by entailment. The same is true of Patient's role in Case checking, and thus what are involved in Burzio's Generalization can be summarized as follows:

- (15) a. v_{acc} : <Agent, accusative>
 b. v_{part} : <*whole*, partitive>

Why should this be so? I suppose that it is part of the inherent properties of v_{part} that allows it to have an entity that designates *whole* merged into its Spec position. If it is not a θ -role, what status does that *whole* have in syntax? Though its exact nature is still uncertain, the whole-part relation that *whole* enters into has much to do with such semantic concepts as Theme-Rheme structure or Categorical sentence. One might think of the "figure-ground" structure (in the reversed order; it is reasonable to suppose that *whole* corresponds to *ground*, and *part* to *figure*.) Since I have nothing to say more at present, I simply assume that the whole-part relation has semantic properties of these sorts, and v_{part} is a mechanism for introducing it into the syntactic structure. It can be conceived, however, that in syntactic terms, *whole* is just a mnemonic label for the element that appear in [Spec, v_{part} P], as is the case with the relation between Agent and v_{acc} . If it *can* (but not *should*) be given an appropriate characterization by listing, I assume that the expletive *there* in the *there* existential construction also has the relevant whole-part relation, by taking into consideration Langacker's (1991) conception of *there* as designating "abstract scene setting." I will show that there are other constructions that should be given the same analysis in due course.

Finally, a few words are in order on my conception that partitive Case is structural, contrary to the assumption that has been widely made in the Generative literature. Belletti (1988) proposed that in some constructions including the existential construction, the DP that immediately follows the verb is not assigned accusative Case on the basis of their structural configuration, but instead is assigned inherent partitive Case, which is based on θ -marking. Notice that θ -marking is undergone by the sister relation between a predicate and its argument, and accordingly, licensing of inherent Case should also be subject to this restriction. Yet, examples like (16) have occasionally been cited

which would cast doubt on the plausibility of such an assumption:

(16) There will be [a man available]

An attempt to solve this problem is made in Lasnik (1995: 627–629). He assumes that in (16), *a man* is θ -marked by the complex predicate [*be-available*] in a “Spec-head” configuration. That solution, however, makes use of the configuration non-distinct to that for licensing a structural Case, and thus is all the more questionable. Moreover, Lasnik’s idea about θ -marking is based on *be* being a light verb, which does not have its own θ -role and inherits one from the small clause predicate. This idea hardly seems to be carried over to *contain* and other verbs of the same class, which are also assumed in this paper to have v_{part} . Moreover, de Hoop (1996: 67) points out that the observation on Finnish indefinite DPs that is based on Belletti’s theory of inherent Case is not correct. She gives some examples which show that it is not true that there is an incompatibility between partitive Case and a definite DP in Finnish. If this is indeed the case, there is no need to associate partitive Case with θ -marking any longer. Thus I conclude that partitive Case is a structural Case, and is licensed by a light verb that is specifically designed for partitive Case, namely, v_{part} .¹³

4. On the Unpassivizability of Verbs with v_{part}

Before proceeding, notice also that the analysis I am exploring here is indeed very similar to that which Perlmutter and Postal (1984: 91–92) proposed in order to explain the absence of the passive counterpart of a certain type of sentences. For illustration, compare (5) and the following sets of examples:

¹³ Incidentally, de Hoop (1996: 111) also provides a piece of evidence that sentences with *contain* in Dutch also have v_{part} . As she puts it: “... the transitivity of a verb such as [i] is beyond doubt; yet only the weak reading of a weak [DP] is allowed and scrambling is not possible:”

- (i) a. omdat een krant meestal enkele artikelen bevat
because a paper mostly some articles contains
- b. *omdat een krant enkele artikelen meestal bevat
because a paper some articles mostly contains
“because a paper mostly contains some articles”

- (17) a. A lot of heroin was bought for five dollars.
 b. Five dollars bought a lot of heroin.
 c. *A lot of heroin was bought by five dollars.
- (18) a. The United States was found on the brink of disaster in 1939.
 b. 1939 found the United States on the brink of disaster.
 c. *The United States was found on the brink of disaster by 1939.

I do not reproduce here an argument against Perlmutter and Postal's account of the ungrammaticality of these (c) forms in terms of Relational Grammar's *I-Advancement Exclusiveness Law* (see Morita (2002) for discussion), but in any event, the analysis given in (6c) (for (5b)) is essentially analogous to that which Perlmutter and Postal (1984: 91–92) give to the (b) sentences. For example, (17a) and (17b) are associated with each other in a parallel way that is shown in (6):

- (19) a. buy a lot of heroin_{TH} (for) five dollars_{OBL}
 b. a lot of heroin_{TH} T⁰ be ν_{def} bought *t* for five dollars_{OBL}
 (for (17a))
 c. five dollars_{OBL} T⁰ *t* ν_{part} buy a lot of heroin_{TH} *t*
 (for (17b))

Again, (19a) shows a common intermediate stage of derivation, from which (19b) is derived by passivization. On the other hand, (19c) is analyzed as involving the raising (or *advancement* in Perlmutter and Postal's terms) of the oblique phrase (ultimately) to the subject position.

Now that I have argued that the active counterparts of the following examples have ν_{part} as their proper light verb, let us proceed to explain their unpassivizability:

- (20) a. *a present T⁰ be ν_{def} contained by the package (for (5c))
 b. *a lot of heroin T⁰ be ν_{def} bought by five dollars
 (for (17c))
 c. *the United States T⁰ be ν_{def} found on the brink of disaster by 1939
 (for (18b))

The forms in (20) have resulted from having undergone passivization, which is induced by the process of defectivization that I have schematically shown in (9). By that mechanism, the original ν_{part} has been made inert, yielding ν_{def} . Notice, however, that contrary to what might be expected, it seems impossible to attribute the ill-formedness of these examples to the light verb ν_{part} *per se*, by stipulating it to be

unable to undergo defectivization; to the extent that passivization is an indiscriminate and autonomous syntactic operation, there seems to be little reason for any light verb, so long as it is a complete one, to resist passivization. In other words, since v_{part} is a kind of v_{comp} as well as v_{acc} , it is natural to assume that v_{part} can also be made inert by the process of defectivization, which can now be restated in a more general form, like this:

$$(21) \quad v_X \rightarrow v_{\text{def}}$$

Here *X* is a variable that ranges over any type of light verb, and rule (21) in itself is applicable indiscriminately. Thus, some mechanism is called for in order to prevent the sentence that contains v_{part} from undergoing passivization. I consider that this is not an unnecessary complication, nor is that mechanism an otherwise unmotivated and ad hoc one; on the contrary, the mechanism gives us another important insight into the nature of the whole-part relation involved.

In this connection, recall that it is pointed out in Helke (1979) and Bresnan (1982) that a DP that expresses a body-part is in a certain local relation with the subject that designates the whole. To use more recent terminology, what these works show is that the former, being an anaphor, is bound by the latter.¹⁴ Compare the following sets of examples, which are drawn from Helke (1979: 33–62) and arranged in a way that makes the parallelism between a body-part DP and a reflexive clearer:

- (22) a. The poor girl lost her mind.
 b. *The poor girls lost her mind.
 c. *The rich girl's husband lost her mind.
 d. *Her mind was lost by the young lady.
- (23) a. The poor girl hurt herself.
 b. *The poor girls hurt herself.
 c. *The little girl's farther hurt herself.
 d. *Herself was hurt by the poor girl.

By identifying the whole-part relation observed in (22a) and (23a) with that of the sentences in (20), I assume that the unpassivizability of both

¹⁴ The fact that a body-part DP behaves as an anaphor has often been given cognitive and typological supports. For discussions, see König and Siemund (1999), Schladt (1999), and references cited therein.

Importantly, what is essential to my proposal of identifying these elements as anaphors is that in (22a), the body-part DP as a whole acts as an anaphor, and thus the genitive DP that appear in its Spec position just acts as a marker to designate the whole-part relation established the subject and the object; otherwise it seems impossible to capture the parallelism found between (22) and (23) (if not, how is it possible for the genitive DP *her* to satisfy Binding Condition A despite of the DP boundary intervening, as shown in [_{D(=DP)} *her mind*]?) Notice also that to conceive their parallelism that way prompts us to reconsider the nature of the antecedent-anaphor relation: that *herself* in (23a) designates its identity with *the poor girl* is not crucial for it to be anaphoric, since that identity relation is subsumed under the same whole-part relation that holds between *the poor girl* and *her mind*. To put it more precisely, it shows that the relevant whole-part relation is *reflexive*, in the logical sense of the term (not the grammatical one): *part* need not be a proper part of *whole*. Thus, what is crucial is to conceive that *herself* is a part (but not a proper part) of *the poor girl*, and it is concluded

that the “coreference” statement in (24) should be reinterpreted accordingly.

There is another case in which v_{part} plays an important role: the ambiguity of *break*. It has often been pointed out in the literature that sentences like (26a), in which a body-part DP appears as the object, can have either an Agent or an Experiencer subject, while when it is passivized, as in (26b), the Experiencer reading disappears:¹⁵

- (26) a. John broke his leg. (ambiguous: Agent/Experiencer)
 b. His leg was broken. (Agent only)

In the account I am exploring in this paper, the difference in reading is due to the difference of the light verb involved: if agentive, v_{acc} assumes the whole responsibility, and if in the Experiencer reading, v_{part} takes its place, as shown in (27):

- (27) a. $\text{John}_i \text{ T}^0 v_{\text{acc}} \text{ break his}_{i/j} \text{ leg}$ (Agent-Patient)
 b. $\text{John}_i \text{ T}^0 v_{\text{part}} \text{ break his}_i \text{ leg}$
 (whole-part; obligatory coindexation)

Again, the unpassivizability of (31b) is reducible to the c-command relation that is required between the *whole* subject and the partitive object. Notice also that the Experiencer reading of the subject is due to the nature of v_{part} . That light verb does not assign the Agent role to the subject, or more precisely, it seems that the subject does not receive any kind of θ -role at all; the label of *Experiencer* for the subject of the verbs used in this way seems to have no grounds other than that

¹⁵ Abney (1987: 140) attempts to account for the ambiguity of (26a) by stipulating a different underlying structure for each reading, as shown in (i):

- (i) a. John broke his leg (Agent)
 b. [] broke John his leg (Experiencer)

The point of his idea is that (ib) is parallel to the ditransitive structure of *give*. He further claims to identify the unpassivizability of (26a) in the Experiencer reading with that of the ditransitive construction. As he puts it: “As with *give*, the second object (the “displaced” direct object) cannot be easily passivized: ??*The book was given John*, likewise, *his leg was broken* only has the agentive reading, where someone intentionally broke John’s leg.” (p. 140) Notice, however, that the unpassivizability of the two verbs is so different that they cannot be regarded as of the same class; in contrast with the rigidity in judging the unacceptability of *break*, that of *give* is far from clear and is subject to variation among native speakers. Thus, Abney’s analysis is untenable.

it is non-agentive.¹⁶ Thus, *John* in (27b) is included in the numeration of lexical items and is directly merged into the structure¹⁷ in order to establish the whole-part relation between the subject and the object that is required for checking of the partitive Case feature. Its semantic contribution to the sentence is not made in θ -theoretic terms, but on the basis of the whole-part relation, as I have argued in section 3.

Finally, let me consider how the whole-part structure can also be extended to *have*. A related issue to be considered is Kayne's (2000) analysis of possessive *have* as a derivative of existential *be*.¹⁸ My proposal about the structure of *contain* seems to have much in common with his analysis. Indeed it can be assumed along the lines of Kayne (2000) that possessive *have* has as its complement a structure common to the DP with a genitive DP, as in [_{DP} DP's NP], and the surface order of the *have* sentence is derived by raising the genitive DP. What is crucial for the analysis I am exploring here is the fact that the genitive DP and the whole DP (or the NP) can be regarded as designating a whole-part relation, as discussed in Barker (1995: 66). Thus, a sentence with possessive *have* can be given the following analysis, with the absence of its passive counterpart attributed to the whole-part relation involved:

- (28) a. Mary has an attractive appearance/a sister.
 a'. Mary_{whole} T⁰ v_{part} have [_{DP} *t* an attractive appearance/a sister]
 b. *An attractive appearance/a sister is had by Mary.

Notice, however, that Kayne (2000) makes few statements about the

¹⁶ It is clear from the fact that non-animate DPs can emerge in this type of construction, as in *The car broke its suspension*, that the label of *Experiencer* is misleading. The reason that the label has been widely used is, I suspect, that this kind of construction is very often used as one of "Sensation Expressions," to borrow Hasegawa's (2001) terminology.

¹⁷ According to the proposal made in Hasegawa (2001), the relation between *John* and *his leg* should be captured by assuming the movement of *John* from the position of *his*, with the auxiliary assumption that *his* is a kind of resumptive pronoun. I do not take sides with her proposal, however, since this movement operation would give rise to some difficulties including locality of movement and how to give an appropriate conception of resumptive pronoun.

¹⁸ An anonymous *EL* reviewer has brought my attention to the relevance of Kayne (2000).

unpassivizability of *have*, and it is not certain how he applies his analysis of *have* as the incorporation of abstract P (or D/P) into BE to the explanation of that fact. If the most likely explanation would be in terms of the stativity of BE, then one might say: "As BE is a stative predicate, so is *have*. The verb *have* cannot be passivized because it is stative." But if this were the only explanation of the unpassivizability of *have* that can be made under Kayne's (2000) system, I could conclude that my analysis is more plausible, since it is impossible to claim that a verb cannot be passivized because it is stative. As I have pointed out above, to the extent that passivization is an indiscriminate and automatic operation, it should be applicable to any two-place verb. Of course, there could be other explanations that are compatible with Kayne's basic insights and do not make reference to the notion of stativity; my analysis would not be less plausible than them.

5. Extension of the Reflexive Relation of *Contain*

As I have pointed out in the previous section, the whole-part relation that I am exploring in this paper is a *reflexive* relation, and thus *part* need not be a proper part of *whole*. I consider that *reflexivity* is one of the essential properties of the whole-part relation expressed by v_{part} ; this whole-part relation is not involved in other sentences that have a similar derivational history but are distinguished in that they have v_{acc} . For illustration, compare the following sets of examples:

- (29) a. The package included these files.
- b. 1977 saw the 200 anniversary of Independence Day.
- c. Five dollars bought a lot of heroin.
- (30) a. The spy included these files in the package.
- b. They saw the 200 anniversary of Independence Day in 1977.
- c. They bought a lot of heroin for five dollars.

I use slightly different examples here in order to avoid irrelevant details and to make comparison easier. The point of my proposal for assuming a certain whole-part relation in (29) is that the relevant whole-part relation is not contingent, and there must be a certain mechanism for introducing such a relation into the structure. It is v_{part} that I postulate to play such a role. By contrast, the alleged whole-part relation between the object and the PP that follows in their corresponding sentences in (30) are specified often by the lexical semantics of the verb

(as in (30a)), and sometimes by entailment (as in (30b)),¹⁹ but it is not always the case that a similar kind of relation is as easily recoverable. It is obvious that in (30a), a whole-part relation is found between *the package* and *these files*, which is in part manifested in the preposition *in*; the same is true for (30b) in the sense that a particular time consists of a series of particular events.²⁰ One might guess, however, that it would be very questionable to assume such a relation for (30c), in view of the presence of the preposition *for*, which would designate a replacement (or equivalence) relation. Nevertheless, the price of a commodity must not be higher than the amount of money with which to buy it, but not vice versa. In this sense, the amount of money and the price of a commodity can be said to be in a reflexive whole-part relation, which I consider is realized in (29c). In fact, the relevance of reflexivity is also confirmed by the well-formedness of *The box contains itself*.

¹⁹ The oblique phrases in (30a) and (30b) do not constitute a homogeneous set in that of the two, only the latter is an adverbial temporal phrase (i.e. an adjunct); it is not the case that the phrase is selected by the verb (with the assumption that *see* is a three-place predicate), nor is it predicated of the DP that immediately precedes (the complement of *see* not being regarded as a small clause).

²⁰ Onoe and Suzuki (2002: 37) propose that *see* in the relevant use is divided into two subtypes: when the verb has an “existential” sense, it expresses (central) coincidence between a place/time/event in the subject and an event in the complement; with a “causative” sense, on the other hand, the verb is interpreted as expressing a sequential connection between the two events in the subject and complement positions.

Acknowledging that my attention has been restricted to the former case, let me make several comments on their proposals. First, it seems that their concept of coincidence is not restrictive enough; by contrast, the whole-part relation I am exploring in this paper makes a stronger prediction, namely that it will never be the case that in the relevant constructions, the subject expresses *part* and the object *whole*. Notice also that coincidence can be subsumed into the whole-part relation, because *part* need not be a proper part of *whole*, as I will discuss shortly. Second, it would seem very doubtful, at first glance, that such a whole-part relation is involved in examples with *see* in the “causative” sense, as in *The outbreak of war in September 1939 saw him at the regimental depot at For George on the Moray Firth* (p. 31), as well. Yet, the question is whether it can be justifiable to consider that when we say, “*event*₁ sees *event*₂,” we are viewing the former as containing (involving) the latter. If we admit of the involvement of a certain metonymic process, we should be able to say that the set of (sub)events associated to (*or* viewed as caused by *etc.*) *event*₁ includes *event*₂. Thus it seems no less natural to consider that a whole-part relation is also in effect with “causative” *see*.

Thus, it is reasonable to regard not only (29a, b) but also (29c) as including the relevant whole-part relation.

In addition, reflexivity has much to do with the issue I have touched on in footnote 1, where it is pointed out that verbs like *contain* can have the locative PP that has a pronominal coreferential to the subject. For illustration, observe the following:

- (31) a. The box contains the ball (in it).
b. The list includes my name (on it).

Examples of the same sort have often been given in the literature (e.g. Gruber (1976, 1994), Harley (1997, 1998), Jackendoff (1987), Pinker (1989), Nakau (1994, 1998)). Moreover, the undeletability of the corresponding locative phrase with *have*, as shown in *The oak tree had a nest *(in it)* (Harley (1997: 76)), has been pointed out no less occasionally. I consider that the undeletability of that locative phrase should be due to its (subsidiary) role in disambiguating various uses of *have*, and otherwise *have* as used in this way should be treated on a par with examples like (31).

As I have also pointed out in footnote 1, the presence of a locative phrase of that sort is sometimes conceived to be an argument for casting doubt on the θ -criterion. What I would like to show is not only that the grounds for such an argument have now been lost, but also that such a conception was based on a misconception about the relation between the subject and the locative phrase. What is relevant here is the fact that the locative pronoun can be replaced by a DP inalienably possessed by the subject, as shown in (32):

- (32) a. *E. coli* contains about 3000 genes in its genome.
b. The list includes my name on its/the first page.
(Jackendoff (1987: 383))
c. The oak tree had a nest on a twisted branch.
(Harley (1997: 78))

There seems to be a hidden assumption that sentences with an oblique pronominal are more basic forms than the corresponding sentences, in which a DP that contains a genitive pronoun appears in the place of the pronominal, and thus the examples in (32) are marked in some sense or other. Now that the relevance of a *reflexive* whole-part relation has been made explicit, the relation between the two kinds of expressions is to be understood the other way round: it is sentences with such a DP as in (32) that should be taken to constitute unmarked cases. In other words, the subject and the locative phrase just happen to have an iden-

tical referent in examples like (31),²¹ and thus it is impossible to make a general statement that both of them assume one and the same θ -role, and to speak of a possible violation of the θ -criterion. Once again, it is important to bear in mind that what is relevant for the notion of whole-part in question is that the relation is reflexive and *part* need not be a proper part of *whole*. Thus, neglecting pragmatic infelicitousness, it seems that even examples like the following, which are given in Gruber (1976: 131), are semantically no more odd, and have no redundancy at all:

- (33) a. It is axiomatic that the bucket contains itself.
 b. It is axiomatic that the bucket contains itself in it.

Now let us consider in detail the whole-part relations that would hold among the subject, the object, and the locative phrase. For a first approximation, I assume an analysis as shown in (34a) for the example in (32a), and consider that the logical whole-part relations involved can be represented as in (34b):

- (34) a. [*E. coli*]_{whole} contains [about 3000 genes]_{smaller part} [in its genome]_{larger part}
 b. *whole* $\geq$ *larger part* $\geq$ *smaller part*

Note the disparity between the surface order of constituents and their logical relations. The question that immediately arises is how to cope with it. Of course, it is not the surface order in question but the c-command relations holding among the three that should match with the logical relations. It might be the case that even in their surface order, *whole* c-commands *larger part*, which in turn c-commands *smaller part*. Yet, it seems impossible to make an argument for those putative c-command relations, and thus I do not explore that possibility. Instead, I will argue that the relevant c-command relations have held in a certain stage of derivation for (34a), where the logical relations among the constituents and their c-command relations closely correspond to each other.

Now, in order to make explicit the relevant structure to (34a), it is useful to take into account the fact that pronominal *it* but not reflexive *itself* appears in the locative phrase, as shown in (35):

²¹ Similar remarks are also made in Nakau (1998: 94).

- (35) a. The bucket contains water in it.
 b. *The bucket contains water in itself.

(Gruber (1976: 131))

Despite Jackendoff's (1987: 382) conjecture that there ought to be a reflexive for all the usual structural reasons, the exclusion of a reflexive from there suggests that the locative phrase and the subject are not in the same domain D for binding, and it can be assumed, for concreteness, that there is a boundary that blocks such a binding relation in one of the following ways:

- (36) a. [[_D the bucket contain water] [_{PP} in it/*itself]]
 b. [the bucket contain water [_D [_{PP} in it/*itself]]]

Of the two, it is rather obvious that (36a) is untenable; if it were the case, the locative PP would be adjoined to IP (= D) or some higher projection. In that way, there would occur more problems than solutions. Specifically, how the whole-part relation that is supposed to hold between *the bucket* and *in it* (being *whole* and *larger part*, respectively) is warranted in the analysis given in (36a)? The supposed whole-part relation, on the other hand, is in conformity with the configuration given in (36b), where the PP (*in it*) is embedded within the domain D, which in turn is in a certain position that is c-commanded by *the bucket*. It follows then that (36b) is an appropriate representation for (35a, b).

Some questions immediately arise about the reason why the locative PP is included within D. Notice also that as assumed in section 4, D is a clausal domain of some sort, and this suggests that the PP is embedded within a clause. Why? A natural answer that covers these questions can be given by taking into consideration the other whole-part relation, namely, the one into which the PP, assuming the role of *whole*, enters with the object. I assume then that each instance of the whole-part relation corresponds to one clausal domain, within which only one *whole* and only one *part* can appear. In other words, I conclude that the locative phrase, the Theme argument, and an empty predicate that selects them actually compose a small clause, which renders itself to be D, as shown in (37a):

- (37) a. [_{D(=SC)} [_{PP} in it] *pred* water]
 b. the bucket contain [_D [_{PP} in it] *pred* water]
 c. [_{D(=IP)} the bucket contain water *t* [_D [_{PP} in it] *pred t*]]

Details of the small clause are still uncertain, but, since it has two arguments, namely, Location and Theme, one of them must be merged as the subject of the small clause. Which one? A certain version of Thematic Hierarchy could be assumed in which Location is higher than Theme. Admitting that this would be highly likely, I assume instead that the arrangement of these arguments are based on their whole-part relation, where the locative phrase is the subject and the Theme DP is the object. Then, as the derivation proceeds, the matrix verb *contain* is merged into the structure in accordance with its selectional properties, and so are other constituents. Here I cannot go into detail about the mechanism responsible for the movement of Theme shown in (37c), but the point is that the DP in the PP does not block such a movement, since it is Case-checked there (and thus does not itself move), and does not c-command the Theme (inducing no Minimal Link Condition violation); otherwise, I simply assume it to be analogous to object raising of the kind that has been well-established under Minimalist assumptions. On that assumption, the object actually has moved to the Spec position of some functional category or adjoined to the VP, and then the V head is preposed around the object, yielding the surface order. See Chomsky (1995, 2001) and references cited there for discussion. Notice also that it cannot be the case that *it*, being *part* in relation to the matrix subject, undergoes object raising, and *water* remains in situ. In that case, there is nothing to check off the Case feature of *water*, with the assumption that there is not any preposition that marks *part*.

To sum up the discussion made in this section, it has become clear that the disparity between the surface and logical orders that is found in the putative analysis of the example in (32a), as in (34), is merely apparent, and that example should be more appropriately represented as in (38):

- (38) a. [*E. coli*]_{whole₁} contains [_{part₂} about 3000 genes] [_{part₁} [in its genome]_{whole₂} *t*]
 b. *whole*₁ ≥ [_{part₁} *whole*₂ ≥ *part*₂]

Note the involvement of object raising, which has given rise to the apparent disparity in question at the surface.

Now that it has turned out that the verb *contain* can take a small clause complement, it can be assumed that the same is true for its use with two arguments, so as to reduce the supposed redundancies among different uses of the same lexical item in the lexicon. Putting aside

irrelevant details for simplicity, the derivations involved in the example in (1) can be shown as in (39):

- (39) a. [_{SC} [the package]_{whole} *pred* [a present]_{part}]
 b. contain [_{SC} [the package]_{whole} *pred* [a present]_{part}]
 c. [_{IP} [the package]_{whole} contain [a present]_{part} [_{SC} *t pred t*]]
-

The derivations concerning the verb and the object are the same as in (37), and the movement of the *whole* DP to the matrix subject position is, as I have assumed in section 2, partly motivated by the absence of the preposition for the locative phrase. Notice also that there is no possibility that the *part* DP is raised to the matrix position and the *whole* DP is realized either as the matrix object, because v_{part} requires the *whole* DP to emerge in [Spec, vP], to begin with.

6. Concluding Remarks

To summarize the discussion so far, I have argued that *contain* as used in DP_1 contains DP_2 is derived by raising DP_1 , which designates *whole*, in order to license the Case of DP_2 , and that in this case, a certain whole-part relation is involved that holds between the subject and the complement of the verb. I have proposed that the type of Case licensed in this way is identified with partitive Case, which is checked off by v_{part} , a light verb different from that which is assumed in the “unmarked” cases of transitive verbs. I have explained the unpassivizability of *contain* and other verbs that have v_{part} , by proposing that the whole-part relation must be subject to Binding Condition A, which guarantees the establishment of the whole-part relation. I have also demonstrated the relevance of reflexivity (in the logical sense of the term) of the whole-part relation, and by taking this issue into consideration, I have sought to make more explicit the structure that *contain* takes.

In conclusion, I would like to make it clear that the conception that the inventory of light verbs contains v_{part} , as well as v_{acc} , means that which one of the light verbs is incorporated into a verb will make the most basic typology of verbs. One type of verb, in virtue of v_{acc} , designates the causal relation between Agent and Patient; the other type, with v_{part} , designates a certain abstract whole-part relation. In either case, the light verb involved takes care of the different type of Case that the object has, in accordance with the difference in semantic con-

tribution between v_{acc} and v_{part} . In this sense, it can be said that Burzio's Generalization still holds in a more generalized form. What is regarded as one of the most basic typology of transitive verbs, namely, their passivizability, should be reducible to which kind of light verb, v_{acc} or v_{part} , is present.

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