THE EXPLETIVE IT REVISITED

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1. Introductory

It has been the tradition in transformational grammar to introduce the
pronoun \textit{it} into the underlying structure of complement sentences by the same
rules that introduce lexical items into the underlying structure. The \textit{N} in
Chomsky's (1965:100) rule:

(1) \textit{NP} \rightarrow \textit{(Det)}-\textit{N}-(\textit{S})

may underlie lexical head-nouns that precede the sentential complements
in the following examples:

(2) \begin{enumerate}
    \item The idea that he might succeed
    \item The fact of his being guilty
    \item The opportunity for him to leave
\end{enumerate}

or the impersonal \textit{it} of such sentences as:

(3) \begin{enumerate}
    \item It strikes me that he is intelligent
    \item It surprised us for him to have won the race
\end{enumerate}

On the other hand, Rosenbaum (1967:1) postulates the following PS-rule:

(4) \textit{NP} \rightarrow \textit{(Det)}-\textit{N}-(\textit{S})

to generate headless NP complements, where the head is realized as the
proform \textit{it}. However, he does not indicate whether (4) could also generate
headed NP complements of the type instance in (2) above. Most probably
it could, in which case the \textit{N} would dominate a lexical item instead of the
proform \textit{it}. Thus he represents the deep structure of the following sentence:

(5) \textit{That the doctor came} at all surprised me

by the following phrase marker:
where the subject NP has been expanded into a Det, an N that carries the feature [+Pro], and a complement S. In other words, both Chomsky and Rosenbaum generate the proform it in deep structure to function as the head of NP complement constructions. Other linguists, in particular George Lakoff (1968), Robin Lakoff (1968), and Ross (1968) adopt the same analysis where they seem to agree that the grammar should contain a PS-rule that expands the category NP into it S.

2. Arguments that "IT" is a deep structure constituent

As far as I know, there has been no valid syntactic or semantic justification for positing the proform it in the deep structure of sentential complements like the subject that-clause in (5) above.

2.1. The only argument that Rosenbaum cites for generating the proform it in deep structure is that it determines the application of the Extrapolation transformation. In reply to this one may argue that Extrapolation — in Rosenbaum's sense — does not apply on all occurrences of NP complements, for there are contexts in which this transformation cannot apply. This is

1 It is Rosenbaum's contention that Extrapolation does not operate on gerundial clauses. For instance, he considers the following sentence unacceptable:

(1) It annoys me John's playing the bugle

I argue elsewhere that Rosenbaum's claim is not true and cite copious examples from grammar books and linguistic works which clearly show that gerundials are susceptible to Extrapolation (in Rosenbaum's sense). The following is a representative sample with the original punctuation retained (see Mukattash 1973: 839-5):

(2) It was the nearest chance my taking these pills
(3) It is no use this trying to deceive me

2 particularly true if the NP complement is the object of the main verb in the topmost S. In those cases the pronoun is obligatorily deleted (but see the examples in 6):

(7) a. I think that John is coming late
    b. *I think it that John is coming late
(8) a. We assumed that he was absent
    b. *We assumed it that he was absent

It is true that Extrapolation is obligatory in certain contexts. However, very few contexts require the obligatory application of this transformation (with verbs like seem, happen, appear, and chance). In addition, the fact that Extrapolation applies to sentences containing NP complements does not necessitate the generation of the proform it in deep structure.

George Lakoff (1968:5), on the other hand, argues that if we assume that the proform it is to be inserted, we are lost because it appears to him that no general rule for it-insertion can be stated that would handle a sentence like:

(9) I dislike it for John to smoke

In what follows it will be shown that the justifications presented by Rosenbaum and Lakoff do not, in fact, establish solid grounds for positing the pronoun it in deep structure.

2.2. First, Extrapolation — in Rosenbaum's sense — does not apply in many cases to sentences incorporating an NP complement (see 7 and 8 above). A sentence like:

(10) John is sure to win

would, under Rosenbaum's analysis, have the following deep structure:

(11)

(4) What a relief it has been your looking over this chapter
(5) It's such a nuisance everything being shut today
(6) It doesn't matter her disturbing me
(7) It was nice having you to tea last Wednesday
(8) It would be an honour my being invited
(9) I am afraid it vexes Pamela my having brought tidy
(10) Do you think it's any use my trying to vamp him?
The derivation of (10) from (11) is — according to Rosenbaum — effected in the following steps: the Complementizer Placement transformation applies to give:

(12) *It for John to win is sure

Secondly, Extraposition yields:

(13) *It is sure for John to win

Thirdly, the Pronoun Replacement transformation applies to give:

(14) *John is sure for to win

Finally, the obligatory Complementizer Deletion transformation underlies the surface structure form in (10). What is important to notice in this respect is that the Extraposition transformation that motivated Rosenbaum to generate it in deep structure does not always underlie grammatical sentences, as is shown by (13). In fact, the derivation of (10) from (11) may be accounted for in a quite natural way in terms of a more independently motivated transformation, namely Subject Raising. Jaspersen (1940:315) calls the type of syntactic phenomenon present in (10) the “split Subject”: that is to say, the subject infinitival is divided into two parts. Wigzell (1969:32), on the other hand, calls this phenomenon “Infinitival Cleavage”. However, since this phenomenon occurs in object infinitivals as well, we consider Jaspersen’s and Wigzell’s terminology inadequate:

(15) a. We believed that he was sick
b. We believed him to be sick

Langendoen (1969: 56) refers to the transformation that derives (16) from (11) as “Infinitival Clause Separation”, whereas George Lakoff (1968) calls it “Il-Replacement” as does Robin Lakoff (1968). A more satisfactory term has been suggested by Kiparsky and Kiparsky (1970), namely “Raising”, a transformation that applies to an embedded S to raise one of its constituents to a higher S. The elements that have been shown to be capable of Raising are: the subject NP of an embedded S as in (11) above; the object NP of an embedded S as in This river is to cross; the element NEG incorporated in an embedded S, and certain modal auxiliaries (see Langendoen 1970; Lakoff, R. 1969). In the example under discussion — i.e. 10 — it is the subject NP of the embedded S (i.e. John) that undergoes Raising, and hence the term Subject Raising. Under this analysis, the process that derives (10) from (11) actually takes place in one step: the subject NP of the embedded S is turned into the subject NP of the topmost S, and the predicate of the embedded S is simultaneously made part of the highest VP or the highest S.⁹

This type of analysis has more than one advantage over Rosenbaum’s analysis, in the sense that it is simpler and more independently motivated. It is simpler in the sense that Raising does not require the prior application of Extraposition,⁴ and it is more independently motivated in the sense that — under the present analysis — there would be no need for Extraposition to apply “vaguely”. Rosenbaum was obliged to make his Extraposition transformation apply vacuously in order for the Pronoun Replacement transformation to apply. In order to derive:

(16) I want him to go home
the Extraposition transformation has to apply vacuously to a deep structure like:

(17)

[+N +pro] NP VP

Det N
S
S₀

I want it he go home

to yield structure (18). Then the Pronoun Replacement transformation applies to (18) to give (16).

⁹ In the first case the embedded S is added to the right of all the other constituents of the topmost VP. In the latter case a new VP node is created under the immediate domination of the embedded S to dominate the old topmost VP and the remnants of the embedded S. Lakoff (1968: 24) correctly notes that in the latter case the constituent structure is more preserved than in the first case.

⁴ It has been convincingly argued by George Lakoff (1968: 13–20) that Rosenbaum’s (1967) handling of the Pronoun Replacement transformation is incorrect. He also notes that Rosenbaum’s ordering of transformations is wrong.
2.3. The second argument for generating the proform \textit{it} in deep structure is that of George Lakoff (1968:16). Lakoff claims that if we assume that \textit{it} is to be inserted we are lost because it appears to him that no general rule of \textit{it}-insertion could handle (9) above (i.e., I dislike \textit{it} for John to smoke).

In fact, we will be lost if we generate this proform in deep structure, for as we have noticed, it is quite often obligatorily deleted, sometimes optionally deleted, and sometimes obligatorily retained. Thus we have under this analysis to specify: (i) the contexts in which it is obligatorily deleted, (ii) the contexts in which it is optionally deleted, and (iii) the contexts in which it is obligatorily retained. This, of course, would be no easier, if not more difficult, than specifying the contexts in which this proform is to be inserted — if one’s analysis requires that it be introduced transformationally.

Finally, it should be pointed out that both Rosenbaum and Lakoff fail to specify the various contexts in which it is obligatorily or optionally deleted. In fact, Rosenbaum maintains that Extrapolation is usually optional.

We will now consider evidence that the proform \textit{it} cannot be a deep structure constituent.

3. Argument that \textit{"IT" is not a deep structure constituent}

3.1. By adopting the suggestion that \textit{it} is the head-noun for all types of sentential complements, we are unable to account for the different co-occurrence possibilities of the different types of headless sentential subjects and objects. In a deep structure configuration like:

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{example.png}
\caption{Deep Structure Representation}
\end{figure}

it is the head-noun in the subject position (i.e. the circled N) that imposes selectional restrictions on the verb dominated by the topmost VP. It is this notion of selectional restrictions that prevents the generation of a sentence like:

(20) *The fact that he lost exhausted me

It has been pointed out by Sandra Thompson (1970:31–38) that relative clauses and sentential complements preceded by a lexical head-noun play no role in subcategorizing the verb or in imposing selectional restrictions on it. In other words, no verb is ever marked for taking a relative clause or a complement to an NP. In contradistinction to relative clauses and sentential complements preceded by a lexical head-noun, sentential subjects and objects like those in (21) and (22) respectively:

(21) His leaving so soon impressed us
(22) I regret his leaving so soon

play an obligatory role in the sense that the verbs impress and regret are subcategorized for a sentential subject and a sentential object respectively. This information will be presented in the lexicon in the following way (cf. Chomsky 1965:94):

\begin{align}
\text{a. } & \text{impress, } (+V, +S) \\
\text{b. } & \text{regret, } (+V, +S) \\
\text{To explain the point under discussion, let us consider the following example:}
\text{(24) } & \text{The idea of spending his life in prison horrified him}
\text{The verb horrify will be subcategorized in terms of the head-noun idea but not in terms of the sequence head-noun + linking morpheme + complement:}
\text{(25) } & \text{horrify, } (+V, +NP) \\
\text{On the other hand, the head-noun idea might be subcategorized in the lexicon in the following way (cf. Chomsky 1965:100):}
\text{(26) } & \text{idea, } (+N, +Det) \\
\text{Briefly, it is the head-noun that subcategorizes the verb and imposes selectional restrictions on it.}
\end{align}

By postulating the proform \textit{it} as the head-noun for all types of sentential subjects and objects, we eliminate the role played by the noun preceding the complement and as a result we will not be able to predict the occurrence of grammatical sentences and the non-occurrences of ungrammatical ones; e.g.,

(27) a. *His having won the prize is exhausting
b. His having won the prize is gratifying

Both exhausting and gratifying co-occur with the pronoun \textit{it}, but while (27b) is perfectly acceptable, (27a) is bizarre. Thus if the external relations of the gerundials in (27a) and (27b) are determined by \textit{it}, then the anomaly of (27a) cannot be explained (see Wizsel 1969:7).

Again, if we assume that all types of sentential subjects and objects are pre-
ceded by the proform it in deep structure, we should expect all the following sentences to be acceptable:

(28) a. I want to go
   b. I want that I go
   c. *I want going

The fact that only (28a) is acceptable indicates that the verb is marked in terms of the complement and not in terms of the proform it, for this proform quite comfortably co-occurs with the verb went. Thus it becomes obvious that the proform it is semantically empty and plays no syntactic role whatsoever with respect to the main verb.

3.2. Morgan (1968:81—93) argues that the analysis of it as head-noun of the NP containing the extrapoosed construction seems a "rather strained usage of the notion head-noun", for if it were a head-noun, one would expect it — he argues — to behave like one with regard to relative clauses. He cites the following two examples:

(29) a. That he is unpopular, which is obvious, does not bother John
   b. *It, which is obvious, does not bother John that he is unpopular

Notice also the acceptability of (30a) and the unacceptability of (30b):

(30) a. The fact, which he remembered, that she was an atheist is irrelevant
   b. *It, which he remembered, that she was an atheist is irrelevant

3.3. Another argument that invalidates the analysis of sentential subjects and objects in terms of a head-noun it plus a sentence resides in the fact that the proform it appears in sentences that embody NP complements with expressed lexical head-nouns, evidence that the it which we encounter in certain complex sentences is not an NP complement head-noun. Consider, for instance, the following examples:

(31) a. It surprised me, the fact that he came late
   b. It is immaterial, the fact of your being an American
   c. It is a waste of time, this business of doing research
   d. It astounded us, the government's plan to increase prices.

where the proform it is understood as referring to the NP complement together with the preceding head-noun. On intuitive grounds, (31a) and:

(32) The fact that he came late surprised me

are interpreted as stylistic variants. In these circumstances it would not be unreasonable to suggest that the relationship between (31a) and (32) is the same type of relation that holds between the (a) and (b) sentences in each of the following pairs (see Wiggell 1968:8; Mukattash 1973:519):

(33) a. Cairo is a big city
   b. It is a big city, Cairo

(34) a. Meeting you here has been just splendid
   b. It has been just splendid meeting you here

(35) a. Getting lifts in Brighton was difficult
   b. It was difficult getting lifts in Brighton

(36) a. The Chinese students are doing well
   b. They are doing well, the Chinese students

In other words, the first and second sentence in each of the preceding pairs have identical deep structures. The transformation that derives the (b) sentences from the structure underlying (a) is effected in two steps: (i) the subject is copied at the end of the sentence, and (ii) the first occurrence of the subject is substituted by the appropriate proform (e.g. the pronoun agrees with the copied subject in number, gender and person).

On the same basis we could argue that the it in, say:

(37) It surprised me that he came late

is a pronounal remnant of the copied subject that-clause. Such an assumption gains credibility from the fact that (37) and:

(38) That he came late surprised me

are intuitively understood as stylistic variants just as are (33a) and (33b); (34a) and (34b); (35a) and (35b); and also (36a) and (36b). If this is so, it becomes obvious that (37) derives from the structure underlying (38) and notice versa; evidence that the proform it does not exist in deep structure. It becomes clearer that the proform it is a pronounal remnant if the copied subject is a gerundial clause as in (34) and (35). By way of further exemplification let us consider the following example where the copied gerundial clause is preceded by a comma that might be realized in speech as an open syntactic juncture:

(39) It annoyed her, missing the train like that

3.4. By accounting for extrapoosed elements in terms of a copying transformation, not only do we satisfy our linguistic intuition but we are also enabled to account for other syntactic phenomena. Indeed this transformation could be generalized to account for almost all occurrences of the impersonal pronoun

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1 Emmons (1970:88) argues that in order for the Extrapolation of the gerundial clause to produce an acceptable sentence, a "comma-like pause" should precede the extrapoosed gerundial and thus facilitate the following sentence unacceptable:

(1) It was understandable John's owning two cars

To many native speakers of British English this sentence is perfectly acceptable. Furthermore, none of the extrapoosed gerundial clauses in the examples cited in footnote 1 above is preceded by a comma. In an experiment conducted in the phonetics laboratory at the University College of North Wales in Bangor it was found that in many of their occurrences extrapoosed gerundial clauses are not preceded by a noticeable syntactic juncture (pause or lengthening in the pre-pausal segment). The instruments used in this experiment were an electro-acoustic and a magnetograph (see Mukattash 1973: 533—41).

4 The term "copying" is used by Kiparsky and Kiparsky (1970) and Langendoen (1969).
4. The factive "IT"

4.1. In a joint paper entitled "Facts", Paul Kiparsky and Carol Kiparsky (1970) distinguish between two types of the impersonal form of "it". The first, which they call "factive" it, serves as an optional reduction of the NP complement antecedent head-noun fact, e.g.

4.2. The second type, which they call "expletive" it, is considered by them as a semantically empty prop which is automatically introduced in the place of extraposed complements in sentences like:

"It is obvious that Michael has lost his marbles"

Another distinction that they draw between the factive it and the expletive it is that the presence of the former blocks the formation of relative clauses while the latter permits it. They cite the following two examples:

"It's the book which you reported it that John plagiarized"

"That is the only thing which it is obvious that he had expected.

A moment's reflection, however, will convince us that the Kiparsky's two criteria for distinguishing between the two types of it are not solid.

4.3. The first argument against the Kiparsky's analysis is that the head-noun fact is not always replaceable by the proform it. For instance, the verb forget is marked by the Kiparsky's for a factive complement, and as a matter of fact it does co-occur with a factive complement, for witness the acceptability of:

"She has forgotten the fact that I sold my car a long time ago"

However, the substitution of the head-noun fact by the proform it does not seem to produce an acceptable sentence, though it should under the Kiparsky's analysis. Witness the doubtful acceptability or rather the unacceptability of the following sentence:

"She has forgotten it that I sold my car a long time ago"

Another verb that is marked by the Kiparsky's for a factive complement is ignore, but - like forget - this verb can take, as its object, an NP complement preceded by the head-noun fact but not an NP complement preceded by the proform it, cf.

"I ignored the fact that she was my sister"

"I ignored it that she was my wife"

Secondly, it is worth noting that the head-noun fact when preceding a gerundial clause instead of a that-clause is never replaceable by it, evidence of the unreliability of the Kiparsky's analysis. Consider a verb like regret, which the Kiparsky's use to support their analysis, when followed by the sequence fact -gerundial clause:

"She regrets the fact of your having lost the race"

"She regrets it of your having lost the race"

Thirdly, and contrary to the Kiparsky's claim, the expletive it can precede certain non-factive complements functioning as objects to the main verb. For instance, the verb believe is specified by the Kiparsky's for a non-factive NP complement and thus it cannot -- they argue -- co-occur with an NP complement that is preceded by it. However, the acceptability of the following sentence invalidates their claim.

"I can't believe it that he came to see me"

Here are some more examples where the it precedes non-factive that-clauses and infinitival clauses (Mukattash 1973:525):

"They doubt it that you will go"

"Everyone would prefer it for you to come early"

"Alexander believed it that John was here yesterday"

"I would dislike it for my wife to smoke in public"

"We expect it of you to do your best"
4.3. The second criterion which the Kiparskys employ to distinguish between the factive it and the expletive it is the susceptibility of sentences containing the latter to Relativization, while the presence of the former — they maintain — blocks this transformation. In other words, they maintain that no element contained in an NP complement preceded by the factive it may be relativized, while elements contained in an NP complement that has been substituted by the expletive it are not subject to this constraint. This seems to suggest to them that Ross's Complex NP constraint is operative on the former type but not on the latter.

Again this does not seem to be as valid a criterion as the Kiparskys think it to be. First, it has been pointed out by Ross (1969:68) that the presence of the proform it before an NP complement does not block the relativization of any constituent NP in the complement. The following two examples are considered by Ross both acceptable and grammatical:

(54) The hat which I believe it that John was wearing is red
(55) This is a hat which I'm going to see to it that my wife buys

Admittedly, not many speakers would attest the acceptability of (54) and (55), but whether these two sentences are acceptable or not has nothing to do with the factivity — in the Kiparskys' sense — of the NP complement, for under their analysis verbs like believe and see to should not be followed by the sequence it-that-clause.

Secondly, the unacceptability of sentence (56) which was cited by the Kiparskys, which I repeat here for convenience as (56):

(56) *This is the book which you reported it that John plagiarized

is due to the fact that the embedded sentence itself is unacceptable. Sentence (56) derives from embedding the structure underlying:

(57) *You reported it that John plagiarized the book into the predicative NP of the structure underlying:

(58) This is the book

where (57) sounds unacceptable. Thus we would not expect (56) to be acceptable since (57) itself is not.

Thirdly, not all NPs contained in a factive complement are sensitive to Relativization. To use the Kiparskys' example, the subject NP of the that-clause in the following sentence:

(59) It is obvious that the professor has not expected this

is insensitive to Relativization as the unacceptability of the following sentence shows:

(60) *The professor who it is obvious that has not expected this is my uncle

I argue elsewhere (Mukattash 1973:652—55) that the relativization of constituent NPs incorporated in a that-clause, an infinitival clause, or a gerundial clause is governed by general syntactic principles that are independently motivated and that the acceptability or unacceptability of sentences like those cited by the Kiparskys (46 and 47) is not a function of the presence of a "factive" or an "expletive" it.

Thus far I have shown some evidence that the distinction between a "factive" and an "expletive" it is insufficiently motivated. It is my contention that all the instances of the proform it that we have encountered in this paper are pronominal remnants of copied constituents.

5. Concluding remarks

It seems that there are various semantic restrictions holding between an embedded S that underlies a sentential subject or object and the main verb (also the predicative nominal or the predicative adjectival) of the topmost S. The following data are self-explanatory:

(61) a. His having passed the exam surprised the board of examiners
   b. *His having passed the exam exhausted the board of examiners

(62) a. Ken's sitting on her knees tired Jane out
   b. *Ken's lying on the floor tired Jane out

(63) a. Fred is keen on playing tennis
   b. *Fred is keen on appreciating music

(64) a. Being cautious all the time gets on my nerves
   b. *Being intelligent gets on my nerves

This type of phenomenon is also noticeable in sentences incorporating infinitival clauses:

(65) a. John intends to meet Mary next week
   b. *John intends to love Mary next week

(66) a. Sue agreed to be a headmistress
   b. *Sue agreed to be fortunate

(67) a. He condescended to have a drink with us
   b. *He condescended to have a heart attack

The oddity of the (b) examples in the preceding pairs is obviously due to semantic and not syntactic reasons, in particular semantic incompatibility between the main verb in the embedded S and the main verb of the matrix sentence. As far as I know, no available analysis of noun phrase complementation (or sentential subjects and sentential objects) can account for, or even predict, the unacceptability of (61b), (62b), (63b), (64b), (65b), (66b) and (67b). Thus we need machinery to predict the ungrammaticality of such sentences and consequently to block their generation. The postulation of certain semantic features in the deep structure of embedded sentences without reference to an antecedent head-noun seems to be the answer. In other words, headless sentential subjects and objects should be assigned certain semantic features similar
to those assigned to derived nominals; witness the anomaly in the (b) examples in the following pairs:

(68) a. Your mother's death is distressing  
       b. *Your mother's death is boring  
(69) a. His arrival on time was helpful  
       b. *His arrival on time was cheap

REFERENCES