The Syntax of Relative As–Clauses

—Stowell (1987)'s generalization and its implications—

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1. Introduction

This paper concerns the syntactic aspects of relative as–clauses, especially the syntactic nature and distribution of a gap in an as–clause, which corresponds to a clausal content (proposition) of the matrix sentence. Stowell (1987) proposes a restriction of ECP that: the clausal gap must originate in a lexically governed position at D-structure. This restriction has been widely accepted by linguists, and seems to be a correct generalization. The goal of this paper is to show that this idea can be applied to the cases which he does not discuss, and that the generalization gives a new light on the structure of a certain type of unaccusative verbs like go and follow and evaluative predicates like worth and need.

We will first show that the category of the gap in an as–clause is CP, not NP. In section 2, we will recapitulate Stowell's ECP analysis of the gaps in relative as–clauses, showing that the proposed constraint is basically correct. In section 3, we will indicate that there are some problematic cases with which psychological predicates are concerned, and make clear that psychological adjectival predicates in relative as–clauses should be acceptable in Stowell's framework unless the source position of CP is assumed to be an “external” to X' position in their structure. In section 4, we will discuss the examples which Stowell does not discuss but could be be handled by the constraint.

2. Gaps in Sentential Relative Clauses

2.1. Gaps in as–clauses

Each of the sentences in (1) can be regarded as containing a gap [e] corresponding a clausal content.

(1)  a. He's working on the nightshift, as you know [e].
     b. He's working on the nightshift, which you don't know [e].

Whereas the gaps in (1) in object position are acceptable, subject gaps make the following contrast:

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(2)  a. *She has married again, as [e] delighted us.
    b. She has married again, which [e] delighted us.

This shows that the gap in (2a) has a different property from that in (2b). However, the gaps in (derived) subject position of passives do not make such contrast.

(3)  a. She has married again, as [e] was expected.
    b. She has married again, which [e] was expected.

2. 2. CP gaps and NP gaps

   Usually prepositions cannot take that-clauses as their complements:¹

(4)  a. I convinced Frank *of/φ that Sonia was very competent.
    b. I insisted *on/φ that Sonia attend the interview.

This is not affected by moving that-clauses with Topicalization, as in (5), and NP movement, as in (6).

(5)  a. [That Sonia was really quite competent], I couldn't convince Frank of/*φ [e].
    b. [That Sonia attend the interview], I couldn't insist on/*φ [e].

(6)  a. [That Sonia was really quite competent] was difficult to convince Frank of/*φ [e].
    b. [That Sonia attend the interview] was difficult to insist on/*φ [e].

Thus, it has been widely accepted that the category of that-clause is not NP in surface structure. In connection with this, consider the following contrast:

(7)  a. The room was too small, which everyone complained about [e].
    b. *That horse will win the race, which John is confident [e].

(8)  a. *The room was too small, as everyone complained about [e].
    b. That horse will win the race, as John is confident [e].

This contrast shows that the gaps in relative which-clauses and those in relative as-clauses have different property in that the former have a property as NP since they can follow a preposition, as

¹The exceptional prepositions to this rule are confined to in and except.

(i)  a. This season the orchestra has already taken a step toward the suburbs in that it is giving six subscription concerts for the Orchestral Society of Westchester in the County Center in White Plains. (BROWN)
    b. The nuclear war is already being fought, except that the bombs are not being dropped on enemy targets— not yet. (BROWN)
in (7a), while the latter have a property as clausal CP since they cannot follow a preposition, as in (8a). 2 Therefore, it follows that the category of the gap in a which-clause is NP, while that in an as-clause is CP.

3. Stowell’s analysis

3.1. Test for derived subject

Stowell (1987) claims that relative as-clauses involve null CP operators, and the contrast as in (9), as we have seen in the previous section, derives from the D-structure constraint (11):

(9)  
  a. *John owns the gun, as [Op, t 4 shows/indicates that he is guilty]]
  b. *Hitler broke his promise, as [Op, t 4 made Chamberlain finally change his policy]]
  c. *If Jenny appeared on TV today, as [Op, t 4 convinced/led Jim to visit her]], ...

(Stowell 1987: 16)

(10)  
  a. Bill is a liar, as [Op, t Mary already knows t]]
  b. If the earth is flat, as [Op, t Mary claims t]], then anything is possible

(Stowell 1987: 1)

(11) A null CP operator must be governed by a lexical [+V] head at D-structure.

(Stowell 1987: 20)

In (9), the null operator Op in subject position, i.e. t, is not governed by a lexical [+V] head, and the condition (11) is not satisfied in each case, hence their ungrammaticality. On the other hand, in (10), the D-structure position of the Op is governed by a verb [−N, +V], and therefore (10a) and (10b) meet (11), hence their grammaticality.

Let us see how the constraint (11) explains the following examples:

(12)  
  a. John owns the gun, as __ appears (t to be) t obvious to everyone

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2Nakajima (1993a: 117) claims, contrary to our examples, that his native speakers judge the following as-clauses to be grammatical even with the prepositions.

(i)  
  a. John is a Polish, as everyone is aware (of).
  b. Psych-verbs are not unaccusatives, as John is confident (of).

In fact, he adds in the note that some speakers find the insertion of of improves the sentences in (i) further. However, as we have seen, many linguists (among others, Stowell (1987), Yamanaka (1985–6), Postal (1994)) indicate that the insertion of prepositions makes the sentences ungrammatical:

(ii)  
  a. We know that the earth is round, as Mary is aware (*of)
  b. It seems that Bill will win, as John is certain/sure (*of)

(Stowell 1987: 9)

(iii)  
  a. It’s clear that Bill was lying, as it was widely believed (*of) φ.
   b. We know that the earth is round, as it has been proved/claimed (*of) φ.

(Stowell 1987: 10)

(iv)  
  a. The beast was not, as Everett tried to convince me *of/φ, suffering from malnutrition.
   b. The beast was not, as Everett had insisted *on/φ, suffering from malnutrition.

(Postal 1994: 77)

*It may be governed by Infl or Tense, depending on the theoretical framework, but nevertheless it is a functional head in either case, as Stowell (1987: 20) claims.
b. The earth is round, as ___ was proved to many years ago

c. Hitler broke his promise, as ___ was expected/predicted to happen to

d. If Jenny appeared on TV today, as ___ now seems necessary, ...

e. If Jenny appears on TV today, as ___ would/might convince Jim to visit her

(Stowell 1987: 19)

In each sentence a gap occurs in subject position. Since all of the sentences are perfect (or nearly perfect), the null operator should not originate in this position at D-structure, but it must originate in a governed position to satisfy (11). In (12a) and (12d), appear (be) and seem are raising verbs, and therefore the null operator originates in t, the D-structure position, which position is governed by appear (be) in (12a) and seem in (12d), a desirable result. In (12b) the null operator originates in the object position of the passive verb, while in (12c) it originates in the position governed by happen. In (12e), Stowell assumes that a modal verb like would and might takes a VP small clause complement, and the null operator originates in the subject position, which is governed by the modal verb. In fact this sentence is, as Stowell says, judged as perceptively better than (9c), which is repeated here:

(9c) *If Jenny appeared on TV today, as ___ convinced/led Jim to visit her

Thus Stowell's generalization (11) successfully accounts for the acceptability of (12).

Furthermore, consider the following unacceptable sentences:

(13)  a. *The Contras will attack Managua next week, as ___ clear to the Times

b. *John is a liar, as ___ obvious to his mother

c. *Jim is hoping for Jenny to appear on TV next week, as ___ crucial to the present circumstances*

(Stowell 1987: 34)

(14)  a. *The Contras will attack Managua next week, as ___ unproved to (by/in the Times)

b. *John is a liar, as ___ unknown to (by/to his mother)

c. *Jim is hoping for Jenny to appear on TV next week, as ___ unexpected to the present circumstances

(Stowell 1987: 35)

(15)  a. *If the Contras will attack Managua next week, as ___ likely

b. *John is a liar, as ___ certain/sure

(Stowell 1987: 36)

In these sentences, no movement is involved in the adjectives which causes the violation of (11), hence

*See Cinque (1990: 20, n. 20) for the discussion of possibility of ergative adjectives in English and Italian.
their ungrammaticality. When we insert a governing verb or be or another raising predicate before each adjective, each sentence will become perfect, since those predicates will be able to govern the source position of the CP operators, satisfying (11), as in (16).

(16) a. If Jenny appears on TV today, as John considers [ _ necessary] , ...
b. Hitler had broken his promise, as [ _ was [ t clear to the Czechs]]
c. The earth is round, as _ seems [ t to be [ t obvious to most people]]
   (Stowell 1987: 32)

However, the following sentences, in which NP movement is involved, satisfy the constraint (11), since the source position t of the null CP operator is governed at the D-structure.

(17) a. The Contras will attack Managua next week, as _ predicted/proved t (by the Times)
b. John is a liar, as _ known t (by his mother)
c. Jim is hoping for Jenny to appear on TV next week, as _ expected t under the present circumstances

(18) a. John is a liar, as _ considered [ t obvious by everyone]
b. Jenny will appear on TV next week, as _ made [ t necessary ] by recent developments

This contrast between (14) and (17) provides support for the two sources of passives: adjectival passives and verbal passives. NP-movement is involved only in the latter passive participles, as Wasow (1977) shows.

3.2. Psychological predicates

It has been pointed out that psychological (emotive) predicates cannot appear in relative as-clauses:

(19) a. *As is interesting, John is in India.
b. As is well-known, John is in India. (Kiparsky and Kiparsky 1971: 365)

(20) a. *John was fat, as I regretted.
b. John was fat, which I regretted. (Aijmer 1972: 61)

(21) a. *She has married again, as delighted us.
b. She has married again, which delighted us. (Quirk et al. 1985: 1117)

If these sentences are to be accounted for by the constraint, (21a) would be explained as in the case of (9), but (19a) and (20a) will be problematic since the source position of null CP operator seems to be governed by a lexical [ + V ] head: be in (19a) and the verb regret in (20a).
On the other hand, (21a) will be problematic to the unaccusative analysis of psychological predicates proposed by Belletti and Rizzi (1988) (henceforth BR). BR propose the deep structure (23) for the sentences with psychological verbs as in (22).

(22) a. Pictures of himself worry John/him.
   b. That Mary kissed John surprised her mother.

(23) [s e [vp [v' V THEME] EXPERIENCER]]

According to their analysis, the source position of the subject of a psychological verb as in (22) is the object position, which is governed by the verb. However, if the psychological verb has this structure, the constraint (11) cannot account for (21a) and the following sentences in (24) and (25):

(24) *John didn’t understand Mary, as bothered/amused/pleased t her.

(25) a. *Jenny appeared on TV today, as ___ amused Bill.
   b. *Hitler broke his promise, as ___ shocked Chamberlain.
   c. *The earth is round, as ___ surprised Mary. (Stowell 1987: 41)

If psychological predicates are, as BR propose, unaccusative, the null CP operators in these sentences would originate as direct objects at D-structure, satisfying (11). However, this is not borne out by the facts. Thus, this implies, as Stowell indicates, that the subjects of these verbs originate in subject position, which will form a configuration at D-structure that violates (11), a desired result. However, as we have seen in (19), the psychological adjectives are also regarded as not being able to occur in relative as-clauses.

(26) a. *Jenny appeared on TV today, as ___ was amusing to Bill.
   b. *The earth is round, as ___ was surprising to Mary.
   (Stowell 1987: 41)

Since be is an predicate which takes a small clause complement in Stowell’s framework, the null CP operators in (26) are governed by the raising verb be at D-structure and satisfy (11), but these sentences are ungrammatical. To avoid this problem, it might be suggested that the null CPs under discussion are “external” to X’, namely an adjunct out of X’, at D-structure.⁵

Moreover, consider the following sentences:

⁵In fact, Stowell (1991: 124) analyzes MP (mental property) adjectives like smart and wise as having a CP (Event) argument that is “external” to A’ at D-structure.
(i) *John went home, as he was smart ___ .
And also Nakajima (1993) proposes that CP (Theme) arguments of psychological adjectives and verbs are sisters of X’ rather than of X⁶.
(27)  a. *Jenny appeared on TV today, as Bill was amused __
    b. *Hitler broke his promise, as Chamberlain was shocked __
        (Stowell 1987: 42)

Stowell shows that these sentences can be equivalent to the passive sentences in (28):

(28)  a. Jenny will appear on TV today, as Bill was promised __
    b. The earth is round, as Mary was told __
        (Stowell 1987: 42)

From these facts, Stowell suggests that the null CP operator in (27) is not lexically governed at D-structure, which implies that the overt CP, as the following sentences show, does not occupy a V'-internal argument position.

(29)  a. Bill was amused t that Jenny will appear on TV today
    b. Chamberlain was shocked t that Hitler broke his promise

Furthermore, Stowell supposes that the CP is structurally analogous to the by-phrases in (30):

(30)  a. Bill was amused t by Jenny's appearance on TV.
    b. Chamberlain was shocked t by Hitler's behavior.

If the passive affix -en is assigned the external theta-role of the verb and then transmits the theta-role to the by-phrase NP, the NP is linked to the passive affix. If the passive affix originates outside VP, the by-phrase will be an adjunct and not an internal argument. Stowell extends this account to the null CPs in (29), and his conclusion is that the CPs in (27) are external arguments and are not governed by V at D-structure.

However, it is not so straightforward to regard (27) and (29) as passive sentences, since these participial forms seem to be true adjectives. This is confirmed by adding very before the adjectives.

(31)  a. I am very annoyed at these developments.
    b. I am very bored with these developments.
        (Wasow 1977: 350)

Also they can appear in a typical “adjectival position.”

(32)  a. He acted annoyed at the news.
    b. He acted bored with the news. (Wasow 1977: 350)
    cf. John acted happy.
The facts in (31) and (32) imply that the past participial forms of psychological predicates should not be taken to make passive constructions. If the participles in (27) and (29) are not passive participles, contrary to Stowell’s arguments, they cannot be equivalent to the passive sentences in (28). Therefore we propose the sentences in (27) is ill-formed for the same reason that the following sentences are ill-formed.

(33)  a. *Bill was convicted, as Mary is happy/sad (of). (Stowell 1987: 9)  
     b. *Your son is a vampire, as I’m sorry. (Ross 1973:152)

If these considerations are in the right track, it implies that we need to consider semantic or functional reasons why they are ill-formed. Furthermore, most speakers with whom we checked the following sentences find a pattern of the difference of ill-formedness, regardless of the selection of a psychological predicate.

(34)  a. ?John didn’t understand Mary, as bothered/amused/pleased her.  
     b. ?John didn’t understand Mary, as is bothersome/amusing/pleasing to her.  
     c. *John didn’t understand Mary, as she was bothered/amused/pleased.

What is more, according to Yamanaka (1985), some native speakers find to be acceptable the construction of psychological adjectival predicates as in (34b).⁶ If this difference of acceptability is general, it is clear that we have to explain why there is such a difference in the acceptability status of sentences involving psychological predicates. We are not saying that relative as-clauses should not be analyzed with ECP, but that they may have some semantic or functional factor which is involved in the difference in acceptability of the sentences we have observed so far. Thus it might be said at least that (34) shows that we have to give semantic or functional considerations to the psychological predicates in as-clauses.⁷

4. Other Cases of Subject Gaps

4.1. Unaccusative (ergative) verbs and parasitic gaps

Consider the following sentences:

(35)  a. John is honest, as [e] goes without saying.  
     b. He is guilty, as [e] follows from what she says.

The gaps in these sentences appear to originate in subject position, which would be incompatible with Stowell’s generalization of (11). However, these as-clauses in (35) may be structurally analogous to

⁶Yamanaka’s sentences are as follows:  
(i)  a. As is surprising, John beats his wife.  
     b. John beats his wife, as is surprising.  
⁷I will deal with the functional and semantic aspects of psychological predicates in my forthcoming paper.
the following *as*-clauses:

(36)  a. John is a liar, as happens / often happens *t.*
     b. John is a liar, as appears / it appears (to us) *t.*

(Stowell 1987:)

The predicates in these *as*-clauses are raising verbs, which are included in inaccusative predicates. Therefore, as we have seen above, the null CP operators in (36) originate in *t*, the governed object position at D-structure. This account naturally extends to the null CPs in (35). However, the problem is how we can confirm that. Inaccusative verbs should have the following D-structure:

(37)   ___ [vp V [np/CP]]

At this D-structure, subject position is empty. If the element in object position is not assigned Case, the element is moved up to the empty subject position to receive a Case. When the element in object position is assigned Case, pleonastic element like *it* or *there* can appear in the empty subject position. This is borne out in the case of *happen*:

(38)  a. It happened [that I met him].
     b. It never happens [that John is punctual].

And note that pleonastic *it* can appear with *go* and *follow* in (35) as well.

(39)  a. It goes without saying that John is honest.8
     b. It follows from what she says that he is guilty.

This shows that the D-structure constraint (11) successfully accounts for the sentences in (35) if we analyze *go* and *follow* as inaccusative verbs.9

Note that (35a) has the structure of parasitic gap, as follows.

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8When we insert a pleonastic *it* into the subject position in (35a), it makes the sentence less acceptable for some reason.

9Consider the following sentences:

(i)  a. *is* honest, as it goes without saying.
     b. *is* honest, as he explains himself.

In (i) the middle construction verbs, which can be regarded as inaccusative (ergative in the Zurzio’s sense), appear in the *as*-clauses. (cf. Hale and Keyser 1993: 82) Therefore, the CP gaps in these sentences should originate from object position at D-structure, which would be compatible with (11). However, unlike the case of (35), the sentences in (i) are marginal. However, the following sentences seem to be perfect.

(ii)  a. That love is blind applies well to everyone.
     b. That John is honest explains itself.

(iii)  a. It applies well to everyone that love is blind.
     b. It explains itself that John is honest.

In (i) there may be a conflict between the discourse function, i.e. assertion, of the matrix sentence and the generic meaning of the middle verbs: the middle sentences state propositions that are held to be generally true.
(40) John is honest, as \[\text{Op}_1 \text{ [goes } t] \text{ without saying } pg, \]

This will raise a problem to the analysis of parasitic gaps because the general view about parasitic gaps is that their category is NP. Consider the following sentences:

(41) a. * \[\text{[How sick], did John say he left } t_1 \text{ before getting } pg?\]
    b. * \[\text{[How long], did John drink } t_1 \text{ before lecturing } pg?\]

(Postal 1994:64)

If the category of \(pg\) in (40) is CP, it will violate the NP constraint. But relative \(as\)-clause structures seemingly license parasitic gaps, as follows:

(42) a. Those forms are true clitics, which, Clyde had claimed \(t_1\) without proving \(pg\).
    b. Those forms are not, as, Clyde asserted \(t_1\) without proving \(pg\), true clitics.

(Postal 1994: 76)

Likewise, topicalized \(that\)-clause in (43a) and right-node-raised \(that\)-clause in (43b) can license parasitic gaps:

(43) a. That John left, Mary claimed \(t\) without really believing \(pg\). (Postal 1994: 67)
    b. We suggest \(t\) to our employees without actually requiring \(pg\) of them [that they wear a tie] (Authier 1991: 731)
    c. Albert commented to the doctor \(t\) without commenting to the nurse \(pg\) — [that his ears were swollen]. (Postal 1994: 72)

Postal argued that these gaps are not true parasitic gaps but RNR (right node raising) cases, and that they have different properties from those of true parasitic gaps. Although we do not go into detail of the analysis, it might be suggested that such parasitic gaps of CPs are more dependent on real gaps than true parasitic gaps. We have to leave this for further research.

4.2. Evaluative predicates

It has been pointed out that a "evaluative" predicate like \(worth\) has the similar paradigm that an \(easy \ (tough)\)-type predicate has.\(^\text{10}\) Consider (43) and (44):

(44) a. It is worth considering this issue further.
    b. This issue is worth considering further.
    c. *This issue is worth considering it further.

\(^\text{10}\)See Fukuyasu (1984) and Safir (1991). "Evaluative" predicate, which I use here, is the term that Safir uses to refer to the adjective \(worth\) and verbs like \(need\) and \(deserve\).
(45)  a. It is easy to trust John.
     b. John is easy to trust.
     c. *John is easy to trust him.\textsuperscript{11}

This paradigm in (44) shows that the understood object of the gerundive complement in the (44b) can be construed as identical to the matrix subject, and \textit{worth} allows pleonastic \textit{it} to appear in the matrix subject. The same is true of the infinitival complement in (45). This implies that it ought to be possible for these predicates to appear in the relative as-clauses. This prediction is borne out by the facts:

(46)  a. The witness says that John was in the room, as is worth considering.
     b. John was in the room, as is easy to believe.

These sentences are not problematic to the constraint (11), since it is assumed by Stowell (1987) that \textit{be} is the predicate that takes the small clause complement and that the subject originates as the subject in the small claususe. This means that \textit{be} governs the null CP operator at D-structure, as the following structures show:

(47)  a. The witness says that John was in the room, as [Op₁ [\textit{is} \textit{[t}_1\textit{ worth considering]}]]
     b. John was in the room, as [Op₁ [\textit{is} \textit{[t}_1\textit{ easy to believe]}]]

However, consider the following sentences:

(48)  a. The witness says that John was in the room, as deserves considering.
     b. The witness says that John was in the room, as needs thinking about.

The evaluative verbs \textit{deserve} and \textit{need} in the relative as-clauses of (48) do not seem to have the structures as in (47), nor do these verbs appear to be unaccusative verbs. However, these were judged as being acceptable by speakers with whom we checked them. We assume that this judgement has some common and general property. Then, what structure should the sentence like (48) have?

If these verbs are transitive verbs, (48) would violate the constraint (11) since the null CP operators would not be governed at D-structure, as the structures in (49) show:

(49)  a. ..., as [Op₁ [\textit{t}_1\textit{ deserves considering}]]
     b. ..., as [Op₁ [\textit{t}_1\textit{ needs thinking about}]]

\textsuperscript{11}Compare these sentences with the following sentences:
(i)  a. It is easy to believe that John is honest.
     b. That John is honest is easy to believe.
On the contrary, if these verbs belong to the class of unaccusative verbs, these relative as-clauses would have the following structures:

\[(50) \begin{align*}
\text{a.} & \quad \ldots, \text{as } [\text{Op}_i \ [\_ \text{deserves t}_i \ \text{considering}]] \\
\text{b.} & \quad \ldots, \text{as } [\text{Op}_i \ [\_ \text{needs t}_i \ \text{thinking about}]]
\end{align*}\]

This structure, however, has not been attested in earlier work on evaluative predicates. Based on the structures proposed for the evaluative adjective *worth*, the following different structures can be proposed for evaluative verbs (See Fukuyasu 1984 and Safir 1991).

\[(51) \begin{align*}
\text{a.} & \quad \text{This matter deserves } [\text{Op}_i \ [\text{PRO considering } t_i ]_{CP}] \\
\text{b.} & \quad \text{This matter deserves } [\text{PRO, considering } t_i ]_{CP}
\end{align*}\]

In either case, the existence of PRO and \(t_i\) may be justified by the Extended Projection Principle. Note that there must be a gap in the gerundive clause as in the case of the proposed structure to *easy*-type predicates in (46b). (51a) is the structure derived by the movement of a null operator to \(\text{[Spec, CP]}\) position. The null operator is then controlled by the subject of the main clause. On the other hand, (51b) is the structure derived by NP-movement as in the case of the passive construction. The PRO in (51b) is moved from the underlying object position \(t_i\). The PRO is controlled by the matrix subject. However, if the gruntive verb in (51b) can assign Case to the NP trace, there will be a Case conflict. Therefore, to avoid the problem, some sort of reanalysis would have to apply in this case, as in the following:

\[(52) \quad \text{[This matter], deserves-PRO-considering } t_i\]

Note that this structure as a whole is very similar to the one of an unaccusative verb, as we have seen in (37), and that this is the structure in which \(t_i\) will be governed by the complex verb \([\text{deserves-PRO-considering}]\) which would have a lexical \(+V\) head. Then if we assume this structure for the evaluative predicates in (48), we could account for their acceptability. Also note that evaluative predicates allow the pleonastic \(it\) in subject position as follows:

\[(53) \begin{align*}
\text{a.} & \quad \text{It is worth considering } \text{[that he was in the room]} \\
\text{b.} & \quad \text{It requires thinking about } \text{[that he was in the room]}^{12} \\
\text{cf.} & \quad \text{*It deserves thinking about this idea.}^{13}
\end{align*}\]

\[^{12}\text{It is indicated in *Genius English-Japanese Dictionary (s.v. *worth*) that in (ia) *it* is a lexical element which denotes a mountain, while *it* in (ib) is a pleonastic element which is associated with the right-moved climbing.}\]

\[^{13}\text{This sentence is from *Safir (1991:103). It indicates that evaluative verbs, unlike *worth*, do not permit an impersonal subject.}\]
Thus we can assume for the relative as-clauses in (48) the following structures:

\[(54)\]
\[
a. \ldots, \text{as } [\text{Op}_i [\_ [\text{deserves-PRO-considering}]_v t_i]] \\
b. \ldots, \text{as } [\text{Op}_i [\_ [\text{needs-PRO-thinking-about}]_v t_i]]
\]

These would not violate the constraint (11) since the null operators are governed by the complex verbs at D-structure. Then these structures can successfully account for their acceptability.

But these structures are still problematic in two points. First, this NP-movement structure is not supported by any of earlier work on evaluative predicates. There are a lot of evidence that gerundive complements to evaluative predicates are derived by operator-movement as in (51a) and not by NP-movement. Though we do not have enough space to discuss them thoroughly, we can draw two arguments against the NP-movement analysis. One argument is that if sentences with evaluative predicates are derived by NP-movement as in the case of the passive construction, we could expect that a by-phrase would be added, but this is not possible, as indicated below:

\[(55)\]
\[
a. \ast \text{This issue is worth considering by experts.} \\
b. \ast \text{These proposals do not merit working on by the doctors.}^{14}
\]

(Safir 1991: 101-2)

Another argument is that it is possible that the subject of the gerundive complement is not controlled by the subject of an evaluative predicate. Consider the binding of the reciprocal element in the following sentences:

\[(56)\]
\[
\text{The men, thought that John would be worth PRO, introducing to [each other].} \\
\text{(Safir 1991: 102)}
\]

This binding relation is not possible in the NP-movement analysis.\(^{15}\) Though, to assume the structures in (54), we need to discuss these problems and present arguments for NP-movement analysis of evaluative predicates, we have to leave these for further research.

Secondly, as we have seen section 1.2, the category of the gap in a relative as-clause is not NP but CP. Consider (8), which is repeated here.

\[(8)\]
\[
a. \ast \text{The room was too small, as everyone complained about [e].}
\]

\(^{14}\)However, by-phrases become viable when a specifier is present in the complement clauses and when the matrix predicates are the verbs of requirement like want and need. The judgements are Safir’s:

(i) a. These proposals merit some working on by experts.
   b. That idea doesn’t deserve any talking about by serious scholars.
   \text{(Safir 1991: 104)}
(ii) a. This student needs looking after by a caring parent.
    b. That overcoat wants cleaning by an expert.
    \text{(Safir 1991: 105)}

\(^{15}\)For other arguments against the NP-movement analysis, see Fukuşsu (1984) and Safir (1991).
b. That horse will win the race, as John is confident [e].

The stranded preposition as in (8a) is not permitted. But note that (48b), which is also repeated here, permits such stranding:

(48b) The witness says that John was in the room, as needs thinking about [e].

We have assumed that this sentence has the structure in (54b):

(54b) ..., as [Op₁ [__ [needs-PRO-thinking-about]v t₁ ]]

Thus, the fact in (8) implies that the gap in (48b) should be different from that in (8) in property. We may be able to attribute the acceptability of (48b) to the effect of the reanalysis: since the preposition about is reanalyzed with the evaluative verb, it has no categorial feature as preposition.⁶

5. Conclusion

In this paper we have seen that Stowell’s (1987) constraint in (11) that CP gap must be governed by a lexical [+V] head at D-structure is basically correct in the case of relative as-clauses. But we have also shown that it encounters a number of minor difficulties in the treatment of psychological predicates and evaluative predicates. To the former case, we have suggested that there may be some semantic or functional factor concerning the difference of acceptability. To the latter case, we have proposed the structures in (54) and we have shown that they would not violate the constraint (11) but some relevant facts are left unexplained.

References


⁶The reanalysis seems to be necessary in the following case of derived nominal, too:

(i) The witness says that John was in the room, as deserves consideration.

The structure for this relative clause would be as follows:

(ii) ..., as[Op₁ [__ [deserves-PRO- [consideration]u]v t₁ ]]


Stowell, T. 1987. “As so, not so as,” Unpublished paper, UCLA.


Tanaka, S. (forthcoming) “Setsu nai o ukeru as-setsu no dentatsu kino.”