

THE DISTRIBUTION OF *THAT* COMPLEMENTS

1. Preliminaries

The distribution of *that* complements will be presented according to: a) the configuration where the clause merges, in other words, the c-selectional properties of the main verb; b) the actual construction where the clause occurs, given by the operations that have applied in the derivation. This description presupposes the prior subcategorization of predicates (verbs, adjectives, nouns) with respect to their ability to govern *that* clauses. All predicates that accept *that* clauses are selectionally characterized by their ability of taking an abstract argument, a proposition, as one of their arguments, while a second argument, if present, is a [+Personal] nominal, interpreted as an Agent (with speech acts verbs, as in (1a)) or an Experiencer (with verbs of propositional attitude, as in (1b-e)):

- (1) a. I claim that he is right.
b. I believe that he is mistaken.
c. He is aware that he is mistaken.
d. It seems (to me) that he is right.
e. It is important (for all of us) that he is still alive.

The distribution of *that* complements will be presented in terms of the (traditional) syntactic functions assigned to *that*-clauses.

2. *That* Clauses as Direct Objects

A large number of transitive verbs are for clausal DOs introduced by *that*: Verbs in group (2a) below are marked in Longman (1979) as allowing the omission of *that*.

- (2) a. admit, allege, answer, apprehend ('understand'), arrange, assume, aver, believe, claim, certify, calculate, consider, confirm, discern, doubt, dream, estimate, expect, fancy, find, feel, fear, forget, figure out, hear, guess, imagine, gather, guarantee, hear, learn, maintain, mean, mind, know, object, prove, pretend, presume, realize, reckon, recollect, remember, regret, rejoin, see, suppose, suspect, think, understand.
b. acknowledge, advocate, anticipate, add, announce, allow, affirm, adjudge, accept, ascertain, attest, aver (= state), avow, assert, bear in mind that, beg, cable, conjecture, conclude, concur, *counter*, charge, comprehend, choose, conjecture, confess, conceive, confide, confirm, contend, contrive, denote, decree, deduce, demand, demonstrate, denote, direct, dictate, discern, disclose, discover, dispute, divine, dread, deny, declare, desire, determine, direct, disclose, discover, exclaim, establish, enact, emphasize, envisage, estimate, explain, forebode, foreordain, forecast, forbid, foresee, foretell, gauge, gesture, grant, guarantee, hold, hypothesize, have (it) that, judge, intend, intimate, imagine, infer, insinuate, intuit, judge, imply, lament, mention, murmur, mutter, muse, mumble, moan out, order, own ('confess'), notice, note, propose, protest, prescribe, profess, pronounce, proclaim, presuppose, preordain, prefer, predicate, pledge, pray, point out, pronounce, reason, recall, recognize, recommend, reflect, repeat, reply, report, require, return, roar (out), rule, scream, smell, sense, settle, speculate, sense, settle,

speculate, state, submit, suggest, smell, surmise, specify, swear, suss, testify, theorize, twig, undertake, urge, volunteer, vow, verify, watch, wish, tolerate

Below is a long list of sentences, illustrating most of these verbs used in sentences containing Direct Object *that* clauses. The dictionary examples (examples in A) are due to the Cambridge Dictionary; the complement clause mood is either the indicative or the subjunctive (examples in B).

- (3) A. He had long *advocated* that the country should become a republic. / He *affirmed* that he was responsible. / I cannot *accept* that he is to blame. / She *acknowledged* that the equipment had been incorrectly installed. / As a postscript to his letter, he *added* that he loved her. / I *admit* that I was wrong. / He *allowed* that I had the right to appeal. / The director *announced* that she would resign. / She *answered* that she preferred to eat alone. / We *anticipate* that demand is likely to increase. / I *appreciate* that you may have prior commitments. / I *ascertain* that the report is accurate. / She *averred* that there was no risk. / I'd love to play tennis with you, but please *bear in mind* that this is only the second time I've played. / She *begged* that her husband might be released. / She *cabled* that she would arrive on 15 May. / Scientists have *calculated* that the world's population will double by the end of the century. I think I remembered to turn the oven off but you'd better *check up* that I did. / The tribunal has *commanded* that all copies of the book must be destroyed. / I cannot *conceive* that he would wish to harm us. / The jury *concluded* that she was guilty. / He *confessed* that he had not been telling the truth. / He *confided* that he had applied for another job. / When asked, she *confirmed* that she was going to retire. / He conjectured that the population might double in ten years. / We *consider* that you are not to blame. / I would *contend* that unemployment is our most serious social evil. / We *contrived* that she would leave early that day. / I pointed out the shortcomings of the scheme, but he *countered* that the plans were not yet finished. / The king *charged* that his ministers had disobeyed instructions. / The minister *certified* that his trip abroad was necessary. / I soon discerned *that* the man was lying. / I declare *that* the war is over. / Fate *decreed* that they would not meet again. / If $a = b$ and $b = c$, we can *deduce* that $a = c$. / He *demand*s that he be told everything. / The first six months' results *demonstrate* convincingly that the scheme works. / The mark λ *denotes* that a word has been left out. / He *denied* that he had been involved. / We *determined* that we'd make an early start. / We soon *discerned* that there was no easy solution. / The government *disclosed* that another diplomat had been arrested for spying. / We *discovered* that our luggage had been stolen. / I don't *doubt* that he'll come. / He *emphasized* that careful driving was important. / Please *ensure* that all the lights are switched off at night. / It is *envisaged* that the motorway will be completed by next spring. / We've *established* that he's innocent. / Council officials *estimated* that the work would take three months. / He had *exclaimed* that he had never even met her. / He *explained* that his train had been delayed. / He *fancied* that he heard footsteps behind him. / He sometimes fantasized that he had won a gold medal. / He *foresaw* that the job would take a long time. / The teacher *forecasts* that only five of these pupils would pass the examination. / She's never a cheerful person, she always *forebodes* that the worst will happen. / The gypsy *foretold* that she would never marry. / He *gestured* that it was time to go. / They *guarantee* that the debts will be paid. / 'Can you guess her age?' 'I'd *guess* that she's about thirty. / I still *hold* that the government's economic policies are mistaken. / Copernicus *hypothesized* that the earth and the other planets went round the sun. / Are you *implying* that I'm wrong? / She *indicated* that I should wait a minute. / It can be *inferred* that the company is bankrupt. /

Are you *insinuating* that I am a liar? / He *judged* that it was time to leave. / They *lamented* that so many hedges had been destroyed. / *Learn* that it's no use blaming other people. / He has always *maintained* that he was not guilty of the crime. / I never *meant* that you should come alone. / It is worth *mentioning* that banks often close early before a holiday. / Mr Chairman, I *move* that a vote be taken on this. / *She mumbled* that she didn't want to get up yet. / He murmured that he wanted to sleep. / I *objected* that he was too young for the job. / She *observed* that he'd left but made no comment. / Fate *ordained* that they would never meet again. / She *perceived* that he was unhappy. / The union have *pledged* that they will never strike. / They *prayed* that she would recover. / She *predicted* that the election result would be close. / I would prefer that you did not print this story. / Police regulations prescribe that an officer's number must be clearly visible. / Approval of the plan presupposes that the money will be made available. / The doctor *pronounce* that he was fit enough to return to work. / She *protested* that she had never seen him before. / I *read* that he had resigned. / She *reaffirmed* that she was prepared to help. / She *realized* that he had been lying. / He *reasoned* that if we started at 6 am we would be there by midday. / He reasserted that all parties should be involved in the negotiations. / She *recalled* that he had left early that day. / They failed to *recognize* that there was a problem. / I *recollect* that you denied it. / I *regret* that I cannot help. / Let me *reiterate* that we are fully committed to this policy. / *Remember* (that) we're going out tonight. / He *replied* that he was busy. / A special news bulletin *reported* that he had died. / He *retorted* that it was my fault as much as his. / I can now *reveal* that the Princess is to marry in August. / The chairman *ruled* that the question was out of order. / *Semaphore* that help is needed. / Ellen *shouted* that she couldn't hear properly. / The figures clearly *show* that her claims are false. I could *smell* (that) he had been smoking. / The judge *ruled* that he must stop beating his wife. / I could *smell* that the milk wasn't fresh. / A police surgeon *stated* that the man had died from wounds to chest and head. / The job advertisement *stipulated* that all applicants should have at least 3 years' experience. / I must *stress* that what I say is confidential. / The Counsel for the defence *submitted* that his client was clearly innocent. / His cool response *suggested* that he didn't like the idea. / I strongly *suspect* that they are trying to get rid of me. / She *swore* that she'd never seen him. / He *taught* that the earth revolves around the sun. / The hijackers *threatened* that they would kill all the passengers if their demands were not met. / I *trust* (that) she's not seriously ill. / I quite *understand* that you need a change. / The computer will verify that the data has been loaded correctly. He *vowed* that one day he would return. / They *verified* that he was the true owner of the house. / In his latest book, he *writes* that the theory has since been disproved

B. We *advised* they should start early. ('recommended'). / I *wish* you hadn't told me all this. / I *arranged* that we could borrow their car. He *demand*s that he be told every thing. The regulations *specify* that calculators may no be used in the examination. / They *requested* that they free the hostages. / The situation *requires* that I (should) be there. / The law *dictates* that everyone be treated equally. / The court *directed* that he should pay a substantial fine. / I *insist* that you take immediate action to put this right. / The evening didn't turned out as I intended (that it should). / I *intend* that you shall take over the business after me. / The judge *ordered* that the prisoner should be released. / It was *proposed* that membership fees should be increased. / A clause in the agreement *provides* that the tenant shall pay for repairs to the building. / She *urged* that there should be no violence during the demonstration. /

While the basic construction is the one amply illustrated above, other structural possibilities of realizing the complement construction, summed up in the paradigm below by the factive verb *know*, are available.

- (4) a. The police already know that Oliver is a spy.
- b. The police already know Oliver is a spy.
- c. That Oliver is a spy, the police already know t.
- d. The police have known it all along that Oliver is a spy
- e. That Oliver is a spy is already known by the police.
- f. It is already known by the police that Oliver is a spy.

2.1. **THAT Deletion**

In what follows we will examine these patterns in turn. Sentences (4b) and (5) illustrate *that* Deletion.

- (5) a. I guess you're feeling tired after your journey.
- b. How dare you infer (that) she is dishonest?

The omission of *that* is an optional rule influenced by structural, lexical and register factors. In the previous chapter we have identified the structural constraints on *that* deletion: namely, it is impossible for subject and topicalized clauses (i.e., in preverbal position), but possible in postverbal position. The lexical factor which influences *that* Deletion is the nature of the main verb; only some verbs (listed in (2b) above) allow *that* Deletion. Here are a few examples in sentences:

- (6) The prisoner alleges he was at home on the night of the crime. I automatically assumed he had told her. / She still believe the world was flat. / I dare say you are British, but you still need a passport to prove it. / I dreamt I could fly. / I expect I'll be back on Sunday. / I fear he may die. / We all feel our luck was about to turn. / I figured you wouldn't come. / God / Heaven forbid (that) she's fallen down the cliff. Did you forget I was coming? / I gather you wanted to see me. / I grant (that) she's a clever woman, but I wouldn't want to work for her. / I heard you were ill. / Imagine you are on a desert island. / She noted his hands were dirty. / I noticed (that) he left early. I own (that) it was entirely my fault. / I presume (that) you still want to come. / I reckon (that) he's too old for the job. / I'd recommend (that) you see a solicitor. / I know it's not right for me to talk like this about my father. / She pretended (that) she was not at home when we rang the bell. / He said (that) his friend's name was Sam. / Although she didn't say anything, I sensed (that) she didn't like the idea. / What makes you suppose (that) I'm against it? / We can only surmise (that) he must have had an accident. / She felt she was on the way to worshipping him.

However, the retention or deletion of *that* is largely a matter of *register*. In conversation, the omission of *that* is the norm, while the retention of *that* is exceptional. At the opposite end, the retention of *that* is the norm in academic prose. Several factors, midway between syntax and discourse, may favour the omission of *that* (cf. Longman Grammar): a) the use of frequent main verbs like *think* or *say* in the main clause; b) the occurrence of a (coreferent) pronominal subject in the subordinate clause, marking the boundary of the clause:

- (7) a. I think I'll make a shopping list today.
- b. He said he probably would not have come back before President Gorbachev launched his perestroika policy.

Other discourse circumstances favour the retention of *that*. First *that* tends to be retained under co-ordination:

- (8) The major conclusion of both studies was *that* the nation and particularly the state of Florida must quickly reduce their large reliance on foreign oil *and that* conservation measures and increased reliance on the abundant national supply of coal were the major alternatives.

b) A passive main clause also favours the retention of *that*

- (9) I was told *that* both the new right and those who support the government's view had been excluded.

c) Proximity or distance to the main verb is also important. An intervening NP, PP, AdvP etc. favours the retention of *that*:

- (10) He *testified under oath* *that* he had not been at the scene of the crime

2.2. *Topicalization*

Direct Object clauses may be topicalized. They appear in sentence initial position, and represent known information with respect to previous discourse and with the rest of the complex sentence .

- (11) [That Oliver is a spy] the police have known all along t.

Technically, the topicalized clause moves to some left periphery position. Topicalization is an operator variable construction, which means that the trace left behind should be case-marked. When the topicalized clause is a Direct Object, the trace left behind is case-marked by the main clause verb.

2.3. *Heavy NP Shift*

Sentences in (12) are the outcome of Heavy NP Shift. The DO clause is focussed and thus undergo Heavy NP Shift, over a PP, or an AdvP.

- (12) Antonia suggested of her own accord [that she might go down and stay with Alexander at Rambers]. / He knew from experience [that the boy hated being asked what he was reading]. / I think honestly [that this is a good thing]. d. You knew bloody well [that this would hurt me]. / She minded very much [that he had not come]. I shall prove to you that the witness is lying.

2.4. *Passivization*

A direct object clause may be passivized as in (4e), (13a). Passive may combine with Extraposition, as in (13 b-e). More on the passivization of *that* clauses in section below:

- (13) a. That he would let her do it sooner or later was expected by all of them.
b. It was declared by my nurse first that I was destined to be unlucky in life, and secondly that I was privileged to see ghosts and spirits.
c. It must be admitted that on this particular Sunday morning he had received and refused two invitations.
d. It has been decided that the book should be revised.
e. It was enacted that offenders be brought before Council

2.5. *Clausal substitutes*

With weak assertive verbs generally, but with other verbs as well (e.g. *know, declare*), the DO clause may be replaced by *so* in addition to the pronominal substitutes *it/ that*. *So* may be fronted, in operator position, as in (14c), and it appears in idiomatic constructions such as *I told you so*, etc.

- (14) a. 'Is he coming?' 'I believe so.'
b. 'Will you be late?' 'I expect so.'
c. They've split up – or so I've been told.
d. He loves to say 'I told you so' when things go wrong.

2.6. *Object Extraposition*

This structure has already been discussed in detail. The two practical points we have established are the following. This construction is possible when the pronoun *it* may be interpreted as designating an event, rather than merely a proposition. The CP is presupposed to be true, so that the verb either is factive or acquires a factive reading.

- (15) The police know it for a fact that he is a spy.

Thirdly, there is a class of idiomatic constructions where the extraposed construction is obligatory: *have it that...*, *see to it that*, *take it from smb that*, *lay it down that*, etc. The *it + CP* structure is a means of recategorizing the verb, which turns into a clause-taking verb with a specialised meaning:

- (16) a. He has it that the trains are running late. b. The Madrid rumour will have it that the leading candidate to succeed Arias eventually would be Jose Maria Areilasa. c. Looking back on the scene, I felt admiration for the way in which from the start, Palmer *took it that* something catastrophic and irrevocable had occurred. / I *take it* you won't be coming to Sophie's party. d. Take it from me – he'll be a millionaire before he's 30.

2.7 *Direct Object that clauses and Phrasal Verbs*

Like other transitive verbs, complex verbs may also appear with *that* complements. As will be seen, the distribution of *that* complements confirms the view that particles are intransitive prepositions, possibly, ergative prepositions. Essentially the claim is that ergative prepositions cannot assign case. This forces the movement of the object to a position where it is assigned case by the verb.

- (17) He looked up the word.
He looked the word up.

Den Dikken (1995) proposes that particles are *heads of small clauses* in the complement of the verb. A well-known empirical argument for the small clause analysis of particle constructions is the fact that subextraction from the "object NP" in constructions of the type in (18a) is ungrammatical, just as subextraction from small clause subjects in general yields an ill-formed result. Generally extractions are not felicitous when one extracts out of a subject (The Subject Island, see (19)), or, more generally from constituents on left branches of the tree. (The Left Branch Condition proposed by Ross (1967)):

- (18) They looked the *information about the way* up at once.
*What did they look [[the information about t] up]?
- (19) They consider *the brother of Tom* a fool .
*Who do they consider the brother of a fool?

The impossibility of extraction argues that the DP object merges as the complement of the particle, but must raise to a specifier (left branch position) in order to get case from the verb. This is what blocks extraction. The final representation of a small clause headed by a particle might look like the following:

- (20) a. They looked [_{PP} Spec P⁰ up the word]
b. They looked [_{PP} the word_j P⁰ up t_j]

Coming back to clausal objects, the hypothesis that the particle is ergative may explain the following contrast, between the examples (21a) and (21b) below. The clause must follow the complex verb.

- (21) a. *They made it out that John was a liar.
a' They made out that John was a liar.
(22) b. They made it indisputable that John was a liar.
b' They made indisputable that John was a liar.

The data in (21) prove that the finite clause in (21) is projected as the complement of the particle *out*, which is ergative. The clause remains in first merge position. On the other hand, the adjective *indisputable*, in sentences (22) is unergative, the complement clause merges as a subject and must undergo Extraposition, with the concomitant insertion of the expletive *it*, which gets case from the verb

To conclude, with phrasal verbs the clause appears in post-particle construction, being the complement of the (ergative) particle. Here are more examples:

- (23) I couldn't figure out that he would quit his job. / He made out that he had been robbed. / I must point out that further delay would be unwise. / He screamed (out) that there was a fire. /

3. Other Predicates that select DO *that* clauses

A second subcategory of verbs takes a clausal DO and an IO or PO. They occur in the context

[--DP∩PP] and are mostly 'communication' verbs. Many of these verbs present an alternation between the prepositional Dative construction (24a) and a double object construction (24b). The relation between (24a) and (24b) used to be described in terms of the Dative Movement Transformation (Green (1974), Serban (1982)). Many alternative accounts are available. (Kayne (1984), Larson (1988), Marantz (1993), Koizumi (1996), Anagnostopoulou (1999), Mc Ginnis (1999) a.o). We will not discuss this here, but refer to construction (24b) as the Double Object or Dative Movement construction from now on:

- (24) a. They read the story to the child.

b. They read the child the story.

The Longman Grammar mentions the following verbs as registered in the pattern verb + to NP + that clause, thus appearing in the prepositional Dative construction

- (25) (notably common verbs) :suggest, indicate, prove, cable, convey, demonstrate, pray, reveal, signify, submit, write; (other verbs) admit, announce, insist, acknowledge, boast, complain, concede, confess, confide, cry, declare, demonstrate, emphasize, explain, express, explicate, grant, hint, imply, mention, mutter, point out, proclaim, propose, radio, remark, recommend, reply, read, report, reveal, respond, repeat, shout, shriek, state, stress, swear, testify telephone, vow, whisper, fax, e-mail, etc

Semantically, these are speech act verbs (e.g. *announce, complain, confess, declare*), manner of communication verbs (*shout, read, write*) or instrumental communication verbs (*telephone, cable, fax, etc*) As shown in detail in Green (1974: 86), for some of these verbs, the double object construction (the Dative Movement structure) is marginal (e.g. *explain, recommend, recount*), and there are also quite a few verbs of communication which permit *only* the prepositional Dative construction (*mention, mumble, admit, shriek, confess, declare, narrate, report, utter, voice, reveal, repeat, demonstrate, explicate, confide* a.o.)

When these verbs select a clausal DO, the clausal DO is preferably placed in final position through the application of one of the rules that has this effect: Dative Movement, producing the double object construction (examples (26). Complex NP Shift (27), Extraposition (28). Extraposition is again associated with idiomatic constructions and factive readings. (e.g. *owe it to smb that, put it to smb. that, etc.*)

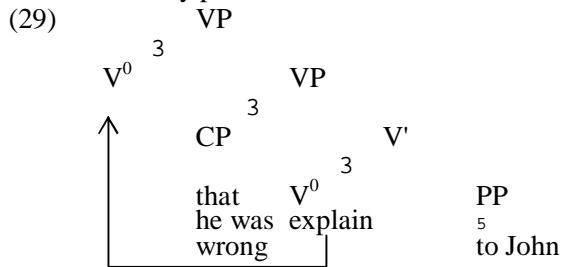
(26) *The double object construction*

- a. They telegraphed us that father had died. (Lg)
- b. He cabled her that she should join him at once.
- c. She promised him that she'd never lie to him again. She promised me (that) she would be here.
- d. The thief signalled his friend that the police were coming.
- e. She wired us that she would be delayed.
- f. We radioed (them) that we were in trouble.
- g. They've told us (that) they're not coming.

(27) *Heavy NP Shift*

- a. They acknowledged to us that they were defeated.(Lg)
- b. Her face betrayed to an observer that she was seriously ill.(Lg)
- c. The priest preached to large crowds that God would destroy the evil world.
- d. Ely confided to me that something out of this world had taken place.
- e. It was in vain to represent to her that some conveniences, teaperhaps included, resulted from this objectionable practice.(Di)
- f. She has already hinted to me that I've won the prize.
- g. The lawyer represented to the court that the defendant was mentally unstable
- h. She has intimated to us that she no longer wishes to be considered for the post.

- (28) *Extraposition*
- I explained it to John that the car was out of order.
 - He owes it to his father's influence that the committee appointed him to the position. / We owe it to our customers to give them the best possible service.
 - I put it to you that he knew everything from the beginning. / I put it to you that you are the only person who had a motive for the crime.



In the prepositional constructions, the DO merges as the specifier of a lower verb shell, as in (29). The complement clause may be passivized in patterns with prepositional Datives. Passive may be accompanied by Extraposition (and HNPS of the former object clause, as in (32)).

- They suggested a good solution to us.
 - A good solution was suggested to them by us.
- They suggested to us that it might be better to wait.
 - That it might be better to wait was suggested to us by them
 - It was suggested to us by them that it might be better
- It has often been said to the press that it was the African and Arabs who prevented Israel from becoming a member of the European regional group.

The IO is also passivizable, only in the double object construction, however.

- He was told that she had checked out of the hospital. (LONG) b. And worried executives of the Australian news network have been told that visas to Indonesian Timor, normally available within three days, will now take three weeks to process.

In addition to the subclass of Dative Movement verbs, there are several verbs that take a clausal DO and a [+Human] PO:

- blame, beg, ask, request, require, etc.
- He blamed it on me that we had had an accident.
 - I requested it of them.
 - I requested of him the she he (should) leave.
 - I begged of them that I may be allowed to go.

4. *That* clauses as Subjects

Subject *that* clauses represent an interesting class of constructions. Several situations are logically possible, and all of them are attested. The clausal argument may be the external argument of a transitive predicate, the external argument of an unergative predicate (a frequent situation with adjectives), or it may be the internal argument of an ergative predicate.

We first discuss a class of apparently less problematic constructions, the well known class of transitive psychological verbs. These accept a clausal subject and an Experiencer Direct Object; (hence the name Object Experiencer verbs often attributed to them (Pesetsky (1997))).

- (36) alarm, amaze, anger, annoy, astonish, astound, attract, baffle, bedevil, boast, bother, bore, charm, cheer, calm, comfort, compliment, concern, confuse, delight, discourage, disgust, displease, dismay, distress, elate, embarrass, enchant, enrage, frighten, floor, gladden, gratify, nonplus, humble, hurt, horrify, insult, interest, imitate, madden, rattle, pain, please, relieverile, sadden, satisfy, scare, sicken, soothe, surprise, sustain, tempt, torment, trouble.

The clause may appear in subject position, when its discourse function allows it, or, more frequently, it is extraposed. The direct object may be passivized, so that the full paradigm of such a verb is as given in (37) below. More examples from the corpus are also provided.

- (37) a. That nothing came out of it intrigues me.
b. It intrigues me that nothing came out of it.
c. I am intrigued that nothing came out of it.

Statistically extraposed clauses are by far more frequent, but topicalised subject clauses are nevertheless possible, even if infrequent:

- (38) *Topic subject clause*
a. That she would press me to marry her was of course out of the question. b. That I could love such a person was a revelation and something of a triumph.

- (39) *Extraposition+It insertion*
a. It stirs me that I was thought worthy. b. I was very relieved that I had not sent her the first letter. c. It grieved him that his children were almost totally indifferent to this requirement. d. It amazed her that he was still alive. e. It astonishes me that no one has thought of this before. f. It bothers me that he can be so insensitive. g. It concerns me that you no longer seem to care. h. It frightens me that so many countries now possess nuclear weapons. i. It grieves me to have to say it, but you have only yourself to blame. j. It irritates me that I have to tidy up after others. k. It maddens me that she was chosen instead of me! l. It pains me to have to tell you this. m. It peeves me that they are so unreliable. n. It riles me that he won't agree. o. It saddens me to see all their efforts wasted. p. It staggers me that the government are doing nothing about it. r. Would it surprise you that I'm thinking of leaving? s. It vexed her that she had forgotten Peter's birthday.

The passive structure is equally frequent:

- (40) *Passive.* a. I was pleased that they had recognised my work. b. I was appalled that the fire was spreading so rapidly. c. They were astounded that anyone could survive such a crash. d. He was disconcerted that the other guests were formally dressed. e. I was gratified that they appreciated what I did for them. f. He felt mortified that he hadn't been invited.

The subject clause can also be focused in a pseudo-cleft construction

(41) What troubles me is that he never loved me

4.2. The following intransitive verbs also apparently select subject *that*-complements: *seem, appear, turn out, come about, come to somebody that, emerge, happen, follow, occur*. Some of these may also accept a prepositional indirect object, *seem, occur, appear, happen*. Here are examples:

- (41) a. It turned out that she was a friend of my sister.
b. She's not in the office but it doesn't necessarily follow that she's ill.
c. It seems (to him) that she is right.
d. 'She's leaving.' 'So it seems.'
e. It occurred to me that I might have made a mistake.
f. It appears (to me) that there has been a mistake.
g. It chanced that she was in when he called.
h. It suddenly came to her that she had been wrong all along.
i. It emerged that officials had taken bribes.
j. It happened that she was out when I called.
k. 'You haven't got a pair of scissors in your bag, have you?' 'Well, it just so happens that I have.' (IDM it so happens that.)

These verbs contrast with the psych-verbs discussed above in that they do not allow the topicalization of their CP complement. The only structure they accept is the *it* + CP ("extraposed") one:

- (42) a. It appears /seems/ occurred to me that this is the beginning of a revolutionary process.
b. *That this is the beginning of a revolutionary process appears /seems/ occurs to me.
c. It surprised me that this is the beginning of a revolutionary process.
d. That this is the beginning of a revolutionary process surprises me.

Before offering an explanation for the contrast between (42b) and (42d), one should notice that *surprise* verbs contrast with *appear* verbs in other ways, too. First, while the subject position of *surprise* verbs may be occupied by a thematic DP, the subject position of *appear* verbs cannot be occupied by any lexical DP in a simple construction.

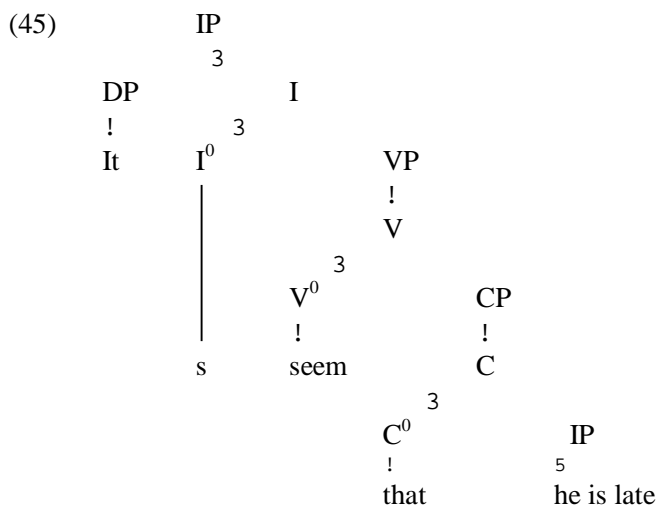
- (43) a. This attitude surprises me.
b. * This attitude seems.

This distribution suggests that the subject position of *surprise* verbs is thematic, while the subject position of *seem* verbs is non-thematic, therefore, accessible to the expletive pronoun *it*. Secondly, the DO position of the verb *surprise* is an Acc(usative) position, accessible to a DP. In contrast, in simple sentence constructions, the object position of *seem* cannot be occupied by a nominal, but *only* by the (caseless) adverbial clausal substitute *so*. Notice, in contrast, that with Acc assigners like *believe*, which accept *so* as a clause substitute, *so* is in complementary distribution with *it* or *this*:

- (44) a. This surprises me.
b. *It seems that / this
c. It seems so.

d. I believe that /this/so.

Taken together, these facts show that the subject position of *seem* is non- θ and the object position of *seem* is caseless. Such properties indicate that *seem* verbs are unaccusatives, whose unique clausal argument is internal (an object clause), as in (45). The expletive argument is inserted in Sepc IP to check the strong feature of Tense.



The hypothesis of ergativity explains the properties discussed above: If *appear/seem* verbs are ergative, the subject position is non- θ , accessible only to the expletive *it*. Also, according to Burzio's generalization, if the subject position is non-thematic, the verb does not check Accusative case; this explains why the only acceptable substitute is the adverb *so*.

Ergativity cannot, however, automatically account for the impossibility of topicalizing the object clause with *appear* verbs. An explanation was proposed by Webelhuth (1990), starting from the fact that topicalization is an operator-variable rule, which must leave behind a case-marked trace, i.e., a variable. In other words, as apparent in (46), topicalized constituents must occur in chains containing a case-marked position. This condition is satisfied in (46f), but not in (46b, d).

- (46)
- a. They complained that it was late.
 - b. *That it was late they complained t_{CP}.
 - c. It didn't seem that it was late.
 - d. *That it was late didn't seem t_{CP}
 - e. They wouldn't admit that it was late.
 - f. That it was late they wouldn't admit t_{CP}.

Yet this explanation is insufficient for two reasons, one empirical and the other conceptual. The analysis of *appear* verbs as ergative propositional verbs predicts a similarity of *appear* verbs with passive constructions, which are also ergative. This prediction is not borne out, since with passive transitive verbs the clausal object *may* appear in subject position.

- (47)
- a. Everyone believes that John is intelligent
 - b. [That John is intelligent] is believed t by everyone.
 - c. It is believed by everyone that John is intelligent.

This contrast is unexpected. The object clause in (47b) moves to the Spec IP position to check the D and Case feature of Tense and it may further raise to a topic position. What counts is that the CP chain will contain a copy in a Case position anyway. The question is then why, with *appear* verbs, the CP cannot move out of its object position to SpecT and then to the topic position. Consider the following examples.

- (48) a. *That he is the murderer it appears t.
b. *That he is the murderer t appears t.
c. That he is the murderer t is known t by the police.

In accordance with our analysis we expect sentence (48a) to be wrong, since the topic chain contains no Case position. But the ill-formedness of (48b) is unexpected, since in (48b), either the Nominative subject position itself is occupied by the clause, or there is a trace of the clause in subject position. The contrast between passives and *appear* verbs cannot be explained in case-theoretic terms. The chain in (48c) is identical to (48b), yet sentence (48c) is well-formed.

Moro (1997) suggests a different analysis of *appear* verbs, based on their similarity with the copula *be*. *Appear* verbs are analysed as semi-copular. Below we sketch Moro's analysis.

4.3. *Appear/seem* verbs as semi-copular sentences

The following pair of sentences show that the copula *be* and the (copula-like) verb *seem* share a fundamental property, which differentiates them from other ergative verbs, like *go*.

- (49) a. John is weird.
b. *John is.
c. That John left early seems weird.
d. *That John left early seems.
e. There goes the bell!
f. The bell goes.

The two verbs *be/seem* must combine with an independent *predication structure*, a small clause, they do not simply countenance a nominal object, as the case is with the ergative verb *go*. This is why while sentence (49f) is correct, sentences (49b, d) are ill-formed. The similarity between *appear* verbs and the copula has long been noticed by traditional grammarians, who refer to *appear/seem* verbs as “quasi-copulas”. A plausible hypothesis regarding the verbs *seem/be* is that they subcategorize for a small clause, so that the finite *that* clause is not the argument of *seem*, but the constituent of the small clause. What has to be empirically decided is whether this CP is the subject or the predicate of the small clause:

4.3.1. Let us recall some aspects of *be* syntax and then try to extend them to the analysis of *appear* verbs. A particular variety of *be* sentences is that of equative sentences, where the copula *be* is flanked by a subject and a predicative DP.

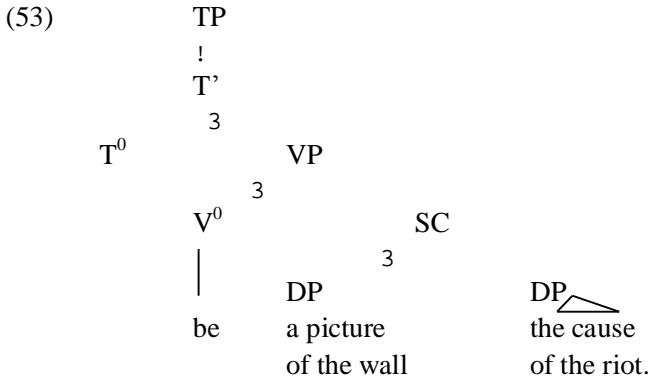
- (50) a. John is my best friend.
b. A picture of the wall was the cause of the riot

A much discussed property of nominal *be* sentences is that the order of the subject DP and the predicative DP can be reversed, obtaining *inverse copular sentences*. Consider the examples below:

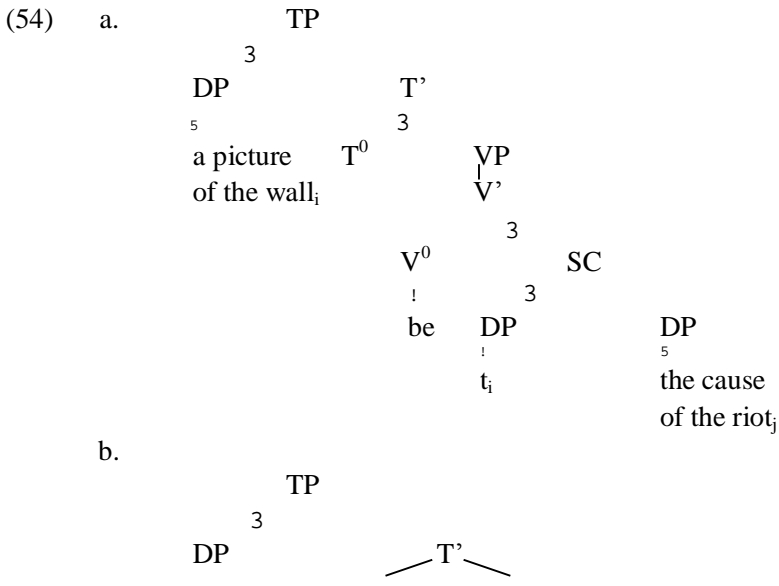
- (51) a. Stephen is my best friend

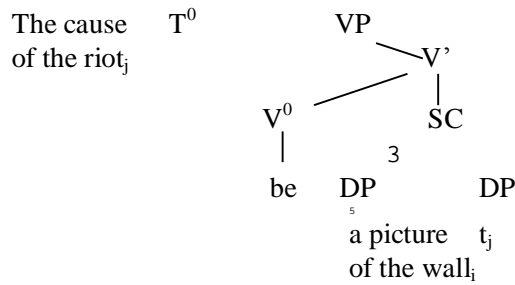
- a'. My best friend is Stephen.
 (52) b. A picture of the wall was the cause of the riot.
 b'. The cause of the riot was a picture of the wall.

Sentences (51a, b) are *canonical* copular sentences, while (52a', b') are *inverse* copular sentences. One might assume that pairs like the above are unrelated derivationally, simply representing alternative constructions. Closer investigation of the syntactic properties of canonical and inverse copular sentences suggests that these sentences are in fact related derivationally. As already hinted above, the verb *be* never subcategorizes just a DP, it always subcategorizes a small clause, so that a possible structure underlining the pair in (52) is (53), proposed in Moro (1997):



If the subject of the small clause (SC) raises to SpecTP, the canonical copular sentence results. Moro claims that not only the subject of the SC may raise to Spec TP. Spec TP is not necessarily a “subject” position, but it is a position where certain features of T—a strong D feature, ϕ -features, Nom case (*uT*-), must be checked. There is no reason why only the subject DP in the small clause above could check these features. At least in non-pro-drop languages like English, a predicative DP can also raise from the small clause to occupy the Spec TP position. Sentence (52b), i.e., the *inverse* copular sentence is the result of *predicate raising*, i.e., the raising to Spec TP of the predicative DP *the cause of the riot*.





Under Moro's analysis it is possible to explain the different properties exhibited by canonical, as opposed to inverse, copular structures. One difference regards the extraction possibilities of the two sentences. Remember that objects, i.e., postverbal constituents are transparent to extraction since they are governed, while subjects, and, more generally, left branch constituents are islands to extraction. Consider the following examples now:

- (55) a. *Which wall_i was a picture of t_i t_v the cause of the riot?
 A' A picture of *this* wall_i was t_i t_v the cause of the riot?
 b. Which riot_i was a picture of the wall t_v the cause of t_i?
 b' A picture of this wall was the cause of *this* riot.
- (56) a. *Which riot_i was the cause of t_i t_v a picture of the wall?
 A' The cause of *this* riot was a picture of the wall.
 b. *Which wall_i was the cause of the riot t_v a picture of t_i?
 B' The cause of this riot was a picture of *this* wall.

Examples (55) represent canonical copular sentences and behave as expected. Constituents of the subject (= *a picture of which wall*) cannot be extracted by questioning, since the subject position is an island. This is why example (55a) is ill-formed. Constituents of the predicative phrase (= *the cause of which riot*) can be extracted since the predicative phrase is a complement, not a specifier. The extraction properties of this pair of examples naturally follow from the structure above, assuming that the subject of the small clause raises to the Spec IP position, as expected.

Consider now the examples in (56), assuming, provisionally, that sentence (56a',b') are unrelated to sentence (55a',b'), and are likewise derived by raising the subject of the respective SC (= *the cause of the riot*) to the matrix subject position. Under this assumption, we expect sentence (56a) to be ungrammatical, since it represents an instance of extraction from a subject. However, it is quite unclear why sentence (56b) should be equally ill-formed, since in this case we have apparently moved a sub-constituent of a complement, as seen in representation (54b).

Things are different under Moro's analysis, which claims that sentences (56) are derived by predicate raising to TP, being inverse copular sentences. This hypothesis readily explains the extraction possibilities of (56). Notice that as a result of predicate raising, both the surface subject (= *the cause of the riot*), and what is apparently the predicative (= *a picture of the wall*) are left-branch constituents and are islands for extraction.

The fact that the two sentences in (52) differ in terms of subject raising to Spec TP in (52a) versus predicate raising to SpecIP in (52b) is further proved by the fact that in the small clause itself the order of the two DPs is *rigid*, so that there are *no inverse small clauses*. Only when a landing site (i.e., SpecTP/SpecTP) is contributed by the main clause copula is it possible to have canonical versus inverse constructions. This is apparent if we consider the examples below, which differ in the presence versus absence of the infinitive copula. This hypothesis

explains why inversion is possible only in the infinitive construction, while being excluded in the verbless small clause:

- (57) a. John considers [a picture of the wall to be the cause of the riot].
 b. John considers [the cause of the riot to be a picture of the wall].
 c. John considers [a picture of the wall the cause of the riot].
 d. *John considers [the cause of the riot a picture of the wall].

Turning to complex constructions, either the subject or the predicate in a SC selected by *be* may be a complement clause, as in (58a, b) below. Moreover, the expletive *it* may be a pro-predicative in the SC selected by *be*; the analysis of *it* as a pro-predicative of a SC is also supported by copular sentences like (58 c), which are likely to involve predicate raising:

- (58) a. [_{DP} The worst hypothesis]_i is [_{SC} [_{CP} that John left]_{t_i}].
 b. [_{CP} That John left]_j is [_{SC} [_{t_j} the worst hypothesis]].
 c. (What is the reason of her sorrow?) It's that John left.

Using the same test as in (57a-d), namely, the possibility of leaving out the copula in certain infinitival constructions, one notices that the pronoun *it* in (58c) is indeed the predicate of the SC, since the copula is required.

- (59) (What is the reason of her sorrow?)
 I thought it to be that John left.
 *I thought it that John left. /

The inverse construction requires the presence of the copula, whose contribution is mainly syntactic, it provides a landing site for the raised pro-predicative *it*. The obligatory presence of the copula is thus a *diagnostic for the inverse copular structures*.

Conclusions

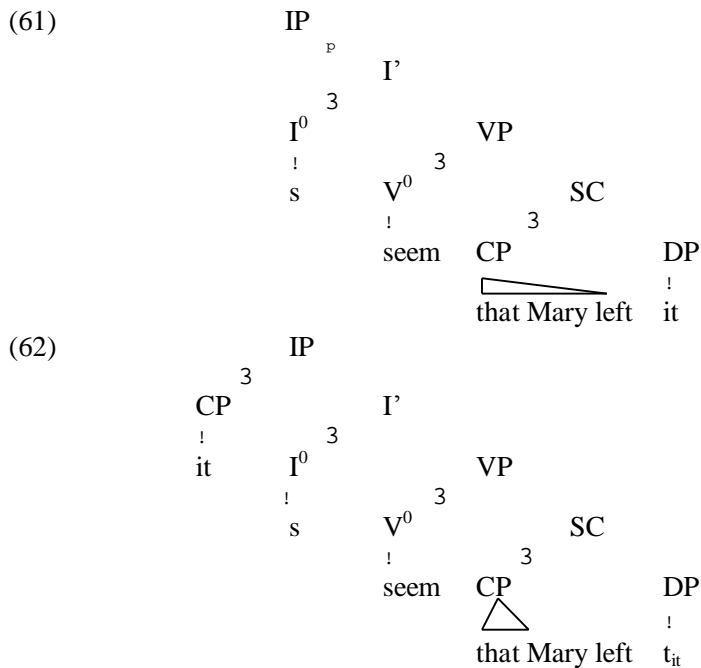
- a. The expletive *it* may be distributed not only as an expletive subject, but also as an expletive predicate, undergoing raising to a Spec TP position.
 b. The analysis of *it* as a pro-predicative is independently supported.
 c. The pro-predicative *it* cannot be left in situ, but must appear in the specifier position of a functional head. (more on this below).

4.3.2 *Appear* verbs as copular verbs.

The analysis proposed for *be* can be extended to *appear* verbs, since at least some of them subcategorize for small clauses, just like *be*, this being the reason why *appear* verbs are sometimes called copula-like, or semi-copular verbs, quasi-copulas, etc. Here are examples:

- (60) a. John_i seems [_{SC} t_i sad]
 b. Mary appears [t busy today].
 c. The solution proved [t correct]

The novelty is to assume that these verbs are *always* followed by SCs. In that case, one is forced to adopt the view that the expletive subject of sentences like *It seems that Mart left*, is in fact a pro-predicative, in the following derivation:



- (63) a. It seems/appears that Mary left.
 b. It turns out that John left.

The acceptable constructions above are the result of predicate raising. What needs to be explained is the subject /predicative asymmetry in the *appear* structures, that is, why the inverse structure (64a, c) is possible, but the “canonical one” (64b,d) is not. This is true not only for *appear* verbs, but also for the verb *be*, when used with *that* clauses:

- (64) a. It_i is that [_{SC} [_{CP} that John left] t_i]
 b. * [_{CP} That John left]_i is [t_i it]
 c. It_i seems [_{SC} [_{CP} that John left] t_i]
 d. * [_{CP} That John left]_i seems [t_i it]

There are several reasons why the canonical structure is excluded. One reason is case-theoretic. If the clause in (61) were raised occupying the only case position, the pronoun *it* would remain caseless. Thus the only convergent derivation is for the clause to remain in situ, since it does not need case, and for *it* to raise to a position where it can check its case feature.

Secondly, the expletive is a structurally and informationally deficient element. Crosslinguistic studies have unambiguously shown that structurally deficient elements (clitics, expletives, etc.) must move to the functional area, always occupying the specifier / head position of some functional categories.

There is also a third reason, deriving from the principle of Full Interpretation. Full Interpretation requires that only interpretable elements should appear at LF. Being informationally null or “incomplete” expletives are not legitimate LF elements. They may be viewed as LF “affixes”, interpreted together with an informationally full associate. So, FI requires that expletives should either be replaced by their associates at LF or that they should be affixed to by their associates. The expletive pro-predicative *it* is not visible at LF, therefore the only way for *it* to check case is to raise in the overt syntax. Taken together, these reasons explain why the raising of the expletive pro-predicative is obligatory, and the only available structure is the inverse, not the canonical one.

Remark. The expletive *it* differs from the contentful predicative *it*, which may remain in situ, as in the following attested example:

(65) I hated old age, and now I am it.

Moro's analysis (tentatively adopted here) accounts for all the properties of *seem / appear* complements. Extraction out of the complement clause is possible, since the clause, even though in a specifier position, is L-marked by the main clause verb.

(66) a. It happened that he bought a *Cadillac*.
 b. *What kind of car* did it happen that he bought t?

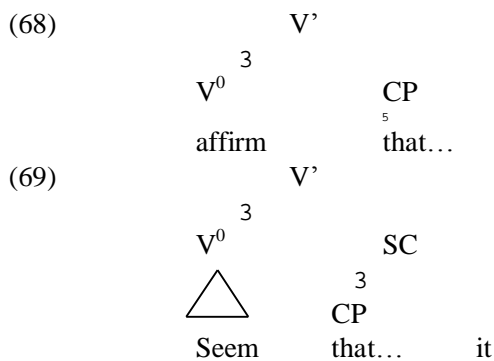
Consider now the paradigm in (67):

(67) a. It seems so.
 b. So it seems.
 c. *So seems it.

The correctness of (67a, b) is expected. The *that* –clause is a non-case position in the small clause in (61) above; therefore the only appropriate clausal substitute is *so*. Moreover, since *so* has operator properties, it may raise to SpecCP producing sentence (67b). It should be obvious why (67c) is ruled out.

4.3.3. On differentiating the role of *it*: empirical evidence.

Let us return to the contrast between *seem* and the passive of verbs like *affirm/ believe*. In the case of *affirm*, the traditional view that the clause is selected by the main verb is correct. In the case of *seem*, the verb directly selects a small clause whose subject is itself a clause:

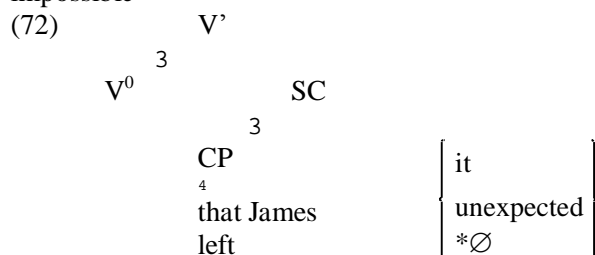


This interpretation of the subcategorial properties of the two verbs allows one to understand the intriguing contrast, already noticed in (47) and (48), as well as below:

(70) a. *That James left seems.
 b. That James left seems unexpected.
 c. It seems that James left.
 d.* That James left seems it.

(71) a. That James left is widely believed.
 b. It is widely believed that James left.
 c. It was believed by all of them that James had left.

The impossibility of (70a) has already been explained: The verb *seem* subcategorizes for a small clause whose subject is a *that* clause and whose predicate needs to be lexicalized. It may be the pro-predicate *it*, as in (70c) or some other predicate as in (70b), but the predicate is an *obligatory constituent* and the predicate position must be filled. This is why sentence (70a) is out. The alternative possibility of leaving *it* in situ and raising the clause was already shown to be impossible



The passive of *affirm/believe* appears in the two ordinary alternative constructions, etc., respectively illustrated in (71) above. The clause may raise to subject, and possibly to a topic position, thus being preverbal. Alternatively, the clause remains in object position, or may even undergo Heavy NP Shift, with SpecT filled by the expletive *it*, as in (71b, c).

The analysis sketched for ergative propositional verb will also be applicable to ergative adjectives.

4.4. English disposes of a fairly restricted class of ergative adjectives which select *that* complements. Like verbs, adjectives may be, unergative or unaccusative. However, while verbs typically have internal arguments, it has been argued that adjectives do not normally have an argument internal to their projection, but their argument appears as the specifier of some functional category, such as, say a link verb (cf. Hale and Keyser (1993), Baker (1996)). Adjectives tend to be unergative, not unaccusative. Yet, in many languages there are small groups of ergative adjectives: The following have proved to be ergative adjectives in English: *certain, likely, unlikely, sure*.

(73) It is certain/ likely sure that john will win

(74) John is sure/ likely / certain [t to win]

The CPs in these examples are not external arguments which have been extraposed. There is evidence that they are *internal arguments*. First, where subject raising can occur, as in (75), the subject must have raised out of a clause in object position, not out of an extraposed constituent. (See details in the Chapters devoted to Raising). This suggests that *likely, sure, certain* take object clauses.

- (75) a. I'm likely to win.
 a' I am likely [t to win].
 b. He is certain to win.

Second it has often been noted (e.g., Williams (1983)) that only internal arguments may *wh*-move with a head, though, of course, they need not do so. As Williams shows, the CP arguments of *likely, certain*, etc. may be *wh*-moved.

(76) a. *How likely that I'll be on time* is it?

b. *How certain that he'll win* is it?

Third, Stowell (1991a) argues that only internal arguments undergo ellipsis in *as* structures. These complements pass this test too.

- (77) a. If we are late, as is likely.
b. If we are late, as is sure.
c. They'll pass, as was certain / obvious from the start.

Since these adjectives are ergative, they will be analysed on the model of the *appear* verbs that have just been discussed.

4.6. There are also a few verbal idioms which accept *that* clauses as subjects:

- (78) strike smb as, dawn on smb, cross one's mind, enter smb's mind, escape smb's attention, etc.
(79) a. It never entered my mind that she would tell him about me.
b. It might have escaped your notice that I've been unusually busy recently
c. It never crossed my mind that she might lose.
d. It finally dawned on me that he had been lying all the time.
e. It strikes me that nobody is really in favour of the changes.

4.7. Subject *that* clauses also occur with the so-called *bisentential* verbs (*prove, show, imply, entail, indicate, mean, suggest, etc.*), that is, verbs which accept clauses as both subjects and objects:

- (80) [That his fingerprints] were on her throat] shows/means/ proves/ entails [that he was unfond of her].

Bisentential verbs are subject to a constraint known as The Same Side Filter due to Ross (1973), and likely to be perceptual, functional:

- (81) *The Same Side Filter* -
No sentence can have both complements of a bisentential verb on the same side of the verb. (*XV[^]CP[^]CPX/ *XCP[^]CP[^]VX).

The effect of this constraint is that rules which move CPs to the right cannot apply to the subject clause of these verbs, while rules that move constituents to the left cannot apply to the object clause of a bisentential verb. For instance, Extraposition from subject position is blocked with these verbs, because if it applied, both complements would surface to the right of the main verb:

- (82) That he was dripping wet proved that it had been raining.
*It proved that it had ben raining that he was dripping wet.

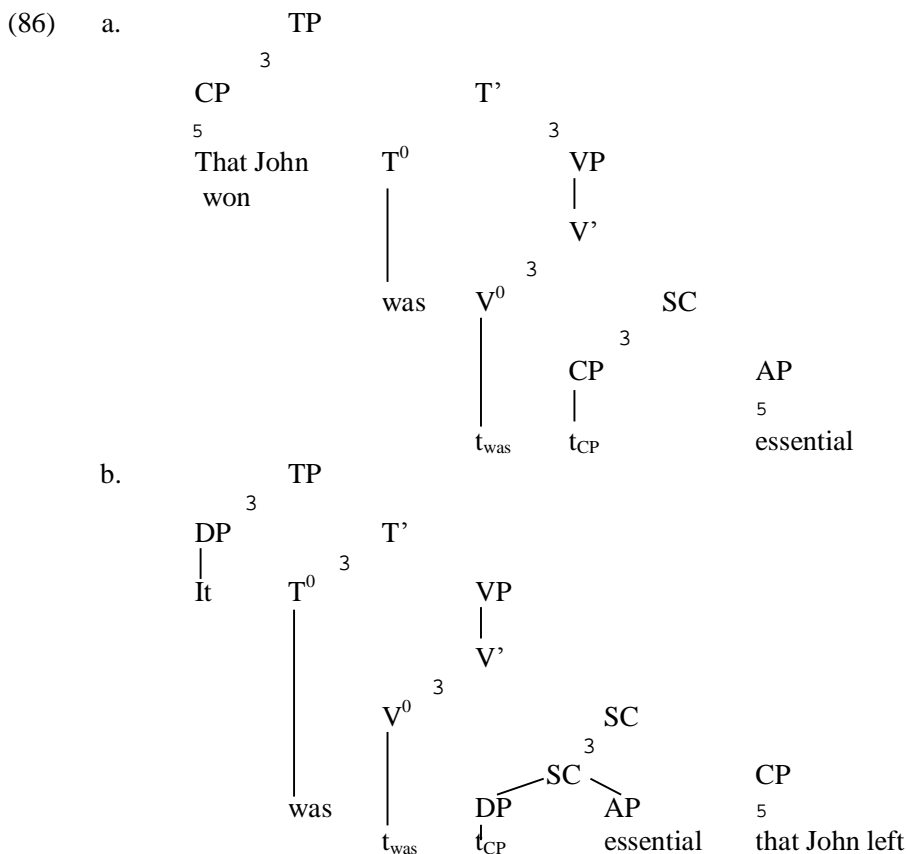
Topicalization is impossible for the object clause of these verbs, since its outcome would place both complement of the verbs to the left of the main verb:

- (83) That her knife was bent demonstrated conclusively that she was guilty.
 *That she was guilty that her knife was bent demonstrated conclusively.

4.8. There is also a large class of (unergative) adjectives that occur with subject *that* clauses. Semantically they are modal or evaluative (emotive). Quite a few of them may also take a prepositional Indirect Object with *to, for, of*: The clause is either topicalized or extraposed.

- (84) true, probable, feasible, etc; quaint, definite, doubtful, evident, odd, anomalous, appropriate, awkward, loathsome, ironical, burdensome, clever, considerable, fair, fine, fantastic, meet and proper, funny, fortunate, good, bad, helpful, important, immaterial, inconvenient, incredible, crucial, essential, lucky, sufficient, natural, normal, alarming, astonishing, surprising, insulting, gratifying, splendid, queer, etc.
- (85) a. That John won was essential (to his wife).
 b. It was essential (to his wife) that John won.

The copula *be* takes an adjectival small clause. The finite clause is the subject of the small clause. The pronoun *it* in (85b) is an expletive place holder for the subject. The two clauses in (85) are represented in (86) below:



Here are more examples:

- (87) a. It is also true that, by some metamorphosis brought about by its own violence, it can live on anything. b. It was evident in a way that it was almost consoling that Antonia and Palmer were very much in love. c. It was immediately and indubitably apparent that I had interrupted a scene of lovers. d. It was ironical that a week ago I had seemed in secure possession of two women.
- (88) a. It was evident to me that I had not yet accepted that I had lost her. b. That the candidate did not have the slightest chance of winning the election was now clear to everyone. c. It was clever of him that he waited. d. It's only incidental to our cause that the defendant is known to be a shrewd politician.

4.9. Finally, nouns mostly from the same semantic area as the predicates above can also be used as predicatives, selecting subject *that* clauses:

- (89) problem, thing, fact, idea, impediment, surprise, miracle, (no) wonder, mystery, etc.
- (90) a. It's a wonder you weren't all killed.
b. But it was a sad paradox of their relationship that Tim was continually trying to please Mary by a parade of his scanty learning.

This concludes the presentation of predicates that select subject clauses.

5. *That* Complements as Prepositional Objects

5.1. *That* clauses are also selected by prepositional verbs and adjectives, some of which are listed in (91): The complement clauses systematically alternates with a PP, as in (92). The expected patterns occur: *that*-omission, HNPS and (seldom) Extraposition from PO position

- (91) a. agree, argue, boast (about), brag (of, about), complain (of, about), fret (about), comment (on), rejoice (at), remark, marvel (at), resolve, respond, see to, testify (to), theorize (about, on), speculate (on), worry (about), wager (on), swear (to); ~IDM: cross one's fingers
b. bet (on)conceive (of), insist (on), hope (for) learn (about, of). Vote (for), wonder (at, about), (Verbs in b. are marked in Longman (1978), as allowing omission), etc
- (92) a. The company insists on the highest standards from its suppliers. b. I insist that he did nothing wrong. c. She was always bragging about her cottage in Italy. d. They bragged that they had never been defeated.
- (93) a. He agreed that I could go home early. b. I argued that we needed a larger office. c. He boasted that he was the best player in the team. d. Holiday-makers complained bitterly that the resort was filthy. e. Asked about the date of the election, the prime minister commented that no decision had yet been made. f. I'm crossing my fingers that my proposal will be accepted. g. I often marvel that people can treat each other so badly. h. Critics remarked that the play was not original. i. We rejoiced that the war was over. k. When asked for his reaction, he responded that he was not surprised. l. She resolved that she would never see him again. m. I can only speculate that he left willingly. n. I'd wager that she knows more than she's saying.
- That*-omission
- (94) a. I bet he arrives late – he always does.
b. I vote we stay here.
c. I don't wonder you got angry – I would have done too.

HNPS

- (95) He reflected sadly that he had probably made the wrong decision about the job.
- (96) Extraposition
- Can you *swear* to it?
 - Can you swear that the accused man was at your home all Friday evening?
 - Can you swear to it that the accused man was at your house all Friday evening?
 - You may depend upon it that every member of the Committee will support your proposal. (Hb).
 - I will answer for it that the man is honest.
- Please see to it that no one comes in without identification.
He testified to it that she had seen him leaving.

On the surface, there is little difference between transitive and prepositional verbs when they select clauses, so that certain grammarians prefer to lump them together (an example is Longman Grammar (1999)). There are significant distributional differences between a verb like *remark*, *insist* and a verb like *believe*, however.

- Only the complement of a transitive verb undergoes topicalization.
- (97) a. That Bob had left, he didn't believe.
b. *That Bob had left, he didn't remark/ warn/ wonder.

b) Only the complement of transitive verbs can passivize:

- (98) a. It was believed that Bob had managed to leave.
b. *It was warned/ boasted that Bob had managed to leave

In fact both topicalization and passivization sometimes become possible if the verb surfaces with a preposition:

- (99) That they should go there at once was insisted on t_{CP} by the police.
That you may lose your fortune I surely worry about.

The preposition also surfaces when there is Extraposition from object position and it is also possible to have both extraposition and passive:

- (100) a. I will answer for it that we get there in time.
b. It was strongly insisted on by all of them that you should do it as soon as possible.

The different behaviour of transitive and prepositional verbs is expected. Thus, since Topicalization is an operator-variable rule, traces of the topicalized clause should be in a position of case. When the verb is prepositional and the preposition is absent, topicalization is impossible.

It is less clear why passivization should not be possible in (101b), since configurationally there is no difference between (101a) and (101b). In both, the CP is a sister to V^0 when it is projected.

- (101) a. It was believed that Bob left.
b. *It was warned/ insisted that Bob left.

To explain this contrast we very speculatively propose to extend to such cases the Categorical Filter that is at work for excluding the sequence *P + CP. The intuition that we would

like to formalize is that the passive participle forces the presence of the preposition, because with prepositional verbs in the passive only the complex head [$V^0 + P^0$] may license the object of the verb. This leads to a V + P + CP sequence, which is categorially unacceptable. As a result the preposition forces the CP to move (to the subject/topic position), or forces the projection of a nominal, in an extraposed passive construction.

- (102) That they should go there at once was insisted on t_{CP} by the police.
It was insisted on by the police that they should go there at once.

Categorially, the verb is usually described as [+V, -N]. To complete its feature specification (cf. Heberli (1996, 2000), the verb needs a complement which is nominal [+N] so that, by combining the V and the NP/DP, the verb becomes [+V, +N]. This description is plausible for transitive NP/DO taking verbs: It is the [-N] feature of the verb which must be checked by merging a nominal phrase.

- (103)
- | | | |
|----|------|-------|
| | V' | |
| | 3 | |
| V | | NP/DP |
| +V | | -V |
| -N | | +N |

But this description need not be accurate for prepositional verbs. They cannot take an NP/DP complement. Suppose that this is because these verbs are unspecified for nominality, so that prepositional verbs are simply [+V, *N]. The preposition is there in order to license the DP categorially. The preposition is [-N, -V], and becomes [+N, -V] by projecting its object. The PP node will then be selected by the verb, on the basis of its [+N] feature.

The plausible story is that the V + P represent a complex head with the features [+V, -N], which licenses a DP.

- (104)
- | | | |
|-------|--------------|-------------|
| | V' [+V,+N] | |
| | 3 | |
| V^0 | | PP [+N, -V] |
| | 3 | |
| +V | P^0 | NP |
| *N | -N | +N |
| | -V | -V |

Remember now that in the passive the preposition and the prepositional verb make up a complex head, as proved by the fact that the preposition must be adjacent to the verb:

- (105) He was looked at insistently.
*He was looked insistently at.

The need to combine the verb and the preposition is probably due to the morphology of the passive participle. The passive participle is like an adjective, showing number, gender agreement features in most languages, and differing in this respect from the active participle in many languages (e.g. Romanian). The passive participle ending *-ed*, which is a functional element, contributes a [-D] feature, i.e. a functional nominal feature. It is natural to assume that the functional feature [-D] presupposes a lexical [-N] feature of the basis, automatically present in transitive verbs, but absent in prepositional verbs as already seen. The combination verb + preposition, supplies the nominal specification [-N], compatible with the [-D] of the passive participle.

- (106) Ved

	-D	
	-N	
	+V	
3		
V		P
+V		-V
*N		-N

The presence of the passive participle morphology thus triggers the use of the preposition, or else the participle morphology is not licensed. The CP merges as a complement of the preposition and is driven to move to subject position as already explained. Alternatively a neuter *it* pronoun is licensed by the [V+P] complex head, with the clause showing up in extraposed position.

Remark. There are however exceptions when an impersonal passive construction with a *that* clause is allowed, even if the preposition is not present. At least sometimes, if the preposition does not surface in a passive, the construction is described as an idiom (cf. Longman's dictionary 1979), and the participle should best be viewed as an adjective: Here is an example: IDM *be agreed that* : *It was agreed that another meeting was necessary.*

5.2. Quite similar is the behaviour of adjectives subcategorized for [-PP/CP], some of which are listed in (107). Again, when the clause is topicalized, extraposed, etc. the obligatory preposition reappears, as seen in (108). Attested examples are given in (109).

- (107) afraid of/CP, alarmed at/CP, ashamed of/CP, amazed at /CP, annoyed at/ CP, aware of/CP, angry about /CP, concerned about/CP, conscious of/CP, desirous of/CP, delighted at/CP, glad about/CP, irritated at /CP, hopeful of/CP, indicative of/CP sorry for/CP, sure of/CP confident in /CP, certain of/CP, surprised at/CP, thankful for/CP, happy about/CP.
- (108) a. We are fully aware of the gravity of the situation.
 b. Are you aware that you are sitting on my hat?
 c. I wasn't fully aware of it that things were so bad.
 d. What she is not aware of is that her slip is showing.
- (109) a. I was thankful that Sybil was so independent and self-sufficient.
 b. She was determined that there should be no repetition of the weakness and indecision of the day before.

5.3. There is also a class of transitive prepositional verbs, subcategorized for a [-DP∩CP/PP] context. The clause alternates with a prepositional phrase. Since the verbs are transitive, passive constructions are available, so that these verbs, listed in (110) realize the paradigm in (111):

- (110) advise NP of/that, accuse NP of/that, assure NP of/CP, congratulate NP on/CP, forewarn NP of/CP, charge NP with/CP, flatter NP CP, kid NP CP, instruct NP in/CP, (mis)inform NP of/CP, notify NP of/CP, persuade NP of/CP, convince NP of/NP, tip NP off/ that, warn NP of/about CP etc.
- (111) a. He informed me of their willingness to help.
 b. He informed the manager that he was willing to work overtime.
 c. We were informed that very few children continue in church membership.
- (112) a. We were not advised that the date of the meeting had been changed. B. What she said convinced me that I was wrong. C. We are pleased to inform you that you have been accepted for a place on our MBA course. D. He kidded his mother that he was ill. E. She

- finally persuaded us that she was telling the truth. F. They warned her that if she did it again she would go to prison. G. He notified us that he was going to leave. H. How can Japan best convince the United States it isn't shirking its defence obligations?
- (113) *Passive*
- It is charged that on 30 November, the accuser made an important statement.
 - We had been forewarned that violence could occur.
 - We are instructed by our clients that you owe them \$3 000.
 - The police were tipped off that the criminals were planning to rob the bank.
- (114) HNPS
I assure you sincerely that there is no such possibility.

6. *That* clauses as noun modifier (attributes)

Two types of nouns may select *that* complements as their internal arguments; these are: a) nouns that name abstract entities: *proposition, idea, fact*, etc. b) nominalizations of the verbs and adjectives that select *that* complements: *belief, conception, fear, doubt, possibility, probability*, etc.

- (115)
- I suppose there is no *doubt* that I'll get in.
 - At the second glance, my mother had a sure *foreboding* that it was Miss Betsy.
 - The most dramatic *evidence* that Thailand's rulers are finally making some headway came last week.

Attributive clauses may undergo Extraposition from NP, being right adjoined to the VP:

- (116) An intoxicating sense t_{CP} possessed me [that at last we were treated on equal terms].

7. *That* clauses as predicatives

That clauses may also function as predicatives in equative sentences, where the subject is a non-complex abstract NP or even a clause.

- (117)
- The devil of it was that I needed both of them.
 - My second and more terrible apprehension was that I was in possession of an advantage which I must not lose.

8. *That* complements as adverbial clauses

Let us start with a few brief and tentative considerations on adverbial clauses. A) Adverbial clauses do not subcategorize predicates. Hence they seldom appear in head-complement configurations. B) Adverbials are not pure grammatical relations like subjects and objects, but they contract syntactic-semantic relations with their heads. Hence they are usually classified and interpreted in terms of the semantic notions they express, rather than in terms of their structural properties. Traditionally they are described as being formed of a subordinate conjunction (*although, because*), or a conjunctive phrase (*with a view to, on condition that*) or an adverb with conjunctive role (*when, where*), followed by a finite or non-finite clause.

Within the present framework, it becomes necessary to supplement the semantic perspective (adverbial clauses of time, place, condition, etc.) with a more refined categorial perspective.

Adverbials show very great categorial diversity. Simple adverbials are mainly AdvPs (*yesterday, there*), and PPs (*in the evening*), but also NPs (*last night, next week*). Complex adverbials are represented by various types of embedded clauses: *that*-complements, infinitives, free relative clauses, etc.

In this section we examine *that* complements as part of adverbials. According to a categorial perspective, there are several models of adverbials that may have a *that* complement as a constituent.

8.1. There are adverbial clauses which are generated under a prepositional phrase node. In most cases, the clause is traditionally said to be headed by a “conjunctive phrase”. But the conjunctive phrase is in fact a PP, and the *that* clause is a complement to the noun introduced by the preposition. The meaning of the head noun roughly indicates the semantic interpretation of the clause. Thus, a conjunctive phrase like *on the ground that* introduces an adverbial of reason, etc. At the same time, the meaning of the noun also dictates whether the indicative or the subjunctive is chosen in the *that* clause. Compare:

- (118) a. He didn't go there for fear that he should be caught.
b. He did it in the hope that they would help him.

The following are some of the PPs that may be used to introduce finite adverbial clauses:

- (119) for fear (that), on the ground that, in order that, to the end that, in the hope that, to the intent that, on purpose that, in case(that), in the event that, on/upon condition that, by reason that, etc. // except for the fact, but for the fact that, in spite of the fact that etc.
(120) a. Wine is scarce by reason that it is prohibited. B. They dislike her on the ground that she is too haughty. C. I was sent to stay with my aunt Prue in London, in order that I might attend one of the schools of art. D. She sent me after you, for fear you should offend Mr. Pendennis. I know nothing about him, save for the fact that he is very young.

Less frequently, the preposition is directly followed by a *that* complement clause. This possibility existed for many prepositions formerly, in other words many prepositions could select CPs, as remarked by Poutsma (1929: 657): “Adverbial clauses are introduced by a great variety of conjunctions and conjunctive expressions, most of which, on being traced to their origin, will be found to consist of an adverbial adjunct followed by either *that* or *as*.” Here are a few early Modern English examples, due to Poutsma (op.cit), where prepositions no longer followed by *that* in contemporary English, are followed by *that* clauses:

- (121) a. They were our guides at first, *until that* we reached the green hills. b. *Before that* Philip called thee, I saw thee. c. *Though that* the queen on special cause is here, her army is moved on. d. He could not be silent long, *because that* his troubles increased.

At present, most prepositions select IPs, rather than CPs. Surveying the list of English prepositions allowing clausal complements, several subcategories appear to be available. There are prepositions that c-select DPs or IPs, [--DP], [--IP]; this is a well-represented group: *after, before, until, till, since* (temporal) (see examples in (122)). There are some prepositions (e.g., *because*) which c- select both PPs and IPs, [--PP], [--IP] (examples in (123)). There are many prepositions which c-select only IPs, i.e. they are always “conjunctions”, [--IP]; for instance, *as, although, if, though, unless, lest, since* (causal) (examples in (124)). Finally, there are a few

prepositions that still allow CPs, or both CPs and IPs [--CP]: *in that, beyond that, save (that), except(that), besides that, but that*, a.o.

- (122) a. He left after her arrival / after she arrived.
b. Come before noon. He came before Jane left for London.
- (123) I did it because of my temper / because I was very angry.
- (124) a. *Although* he is poor, he is happy. b. *Unless* I hear the contrary, I'll be there. c. One day she spoke out, *as* she had told Sam she would *if* Matt and his lot kept bellyaching about his Squire. d. I'm sure of that, though she never said it in so many words. e. *Since* these men could not be convinced, it was determined that they would be persecuted.
- (125) a. You can find one reason *in that* she was too tired to do it. B. I can say no more *beyond that* you have made me inexpressibly happy.

A few conjunctive connectors are composed of a specifying adverb followed by the a preposition, *only if, even though, even if*, or one preposition may take a PP complement as in: *as if, as though, as to*.

- (126) I could be happy, if only I could get out of this place. / You look as if you've been running. / Why is she looking at me as though she knew me? Even though I didn't know anybody at the party, I had a good time.

8.2 A number of verb-based prepositions are also available, derived from present or past participles, but entered in the lexicon as prepositions. They inherit the c-selection properties of the verbs and select *that* complements: *provided that, providing that, concerning that, given that, supposing that, suppose that, excepting that, granting that*, etc.

- (127) Provided that all is safe, you may depart. / You can find no reason excepting that he is young and shy. / Supposing (that) you fell in love with your boss, what would you do? You can borrow my bike providing that you bring it back.

8.3 Result clauses

That clauses often function as result clauses. Finite result clauses employ the degree determiners *so* with adjectives and adverbs and *such* with DPs, in the illustrated in (128). Result clauses presuppose the presence of gradable predicate expressing a property (adjectives, adverbs, a few nouns like *fool*, etc.), manifested in such high degree (*so, such*) that a certain result follows (the complement clause):

- (128) a. He is so old that he cannot dance the polka.
b. He was so wild that we let him escape.
c. It flies so fast that it can beat the speed record.
d. I enjoyed it so much that I'm determined to do it again.
e. I so much enjoyed it that I am determined to do it again.
f. He polishes the floor so hard that you could see your face in it.
g. He is so competent a teacher that his students can't help liking him.
h. He is not such a fool that he is not able to do that.
i. It's such a good chance that we mustn't miss it.
k. He is such a liar that nobody believes him any more.

Notice that the degree predicate may be missing, and in such cases, the degree determiner *such* appears with an ungradable noun, and some suitable adjective is implicit in the context. Thus *such a girl* in (129a) presumably means 'nice girl', 'sweet girl', etc.:

- (129) a. She is such a girl that we can't help loving her.
b. He has lived such a life that he cannot expect sympathy now.

It is also possible for *such* to function as a predicative adjective. Again another adjective is implicit, and *such* + the implicit adjective refers to the subject DP.

- (130) a. The nature of power is such that even those who have not sought it, tend to acquire a taste for more. B. His answer was such that we could not doubt his veracity.

Finally notice that the complement clause itself may originate inside such an adjectival phrase with an implicit head.

- (131) He gave an answer, such that we could not doubt his veracity.

We will not discuss the details of the degree construction, but merely sketch the syntax of the complement clause when it functions as a result clause. The starting point of the analysis is the observation that the result clause semantically depends on the degree variable. If the degree variable is absent, the complex sentence becomes ungrammatical:

- (132) a. He is so old that he cannot dance the polka.
b. *He is old that he cannot dance the polka.
c. He is such a liar that nobody believes him any more.
d. *He is a liar that nobody believes him any more.

The problem that arises is to determine whether the dependence of the clause on the determiner is syntactic or only interpretative. In other words it has to be determined whether the clause and the determiner form a constituent at some level of structure. Several empirical facts suggest that the answer is negative. First, the clause may appear at a distance from what looks like its head.

- (133) a. *So* many people came to the party *that* we left.
b. Mary invited *so* many people to the party *that* we were upset.

A second fact to remark is that movement rules do not analyse the clause as forming a constituent with the head. It is significant to compare comparative clauses and result clause from this perspective. Comparative clauses can be fronted together with their heads. Result clauses remain behind when the alleged head is fronted.

- (134) a. Happier than I was that year, I'll never be again.
b. So old is he that he cannot dance the polka.
c. *So old that he cannot dance the polka is he

We tentatively conclude that result clauses do not form one constituent with their semantic heads. In establishing the position of result clauses in the complex sentence, one should take into account the fact that they must follow all modifiers of time, place, manner:

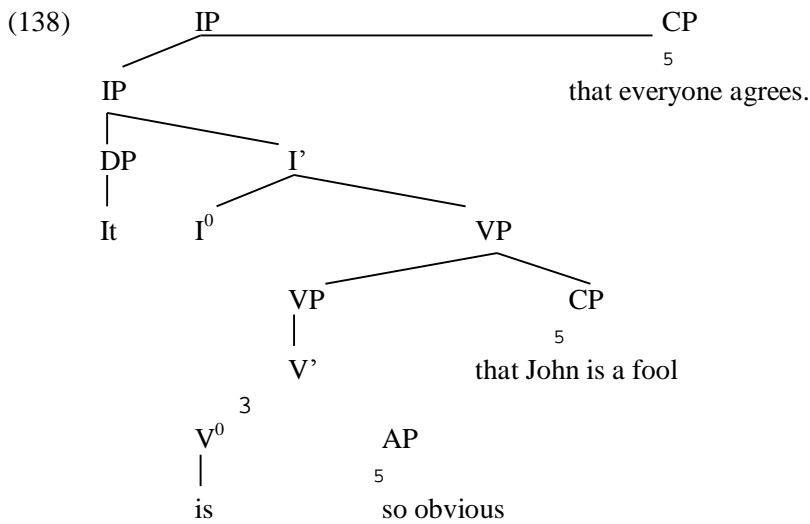
- (135) a. He started so slowly when you gave him the order that he only just got there.
b. * He started so slowly that he just got there when you gave him the order.
c. He so slowly walked to where he had been sent that everybody was dissatisfied.

d. *He so slowly walked that everybody was dissatisfied to where he had been sent.

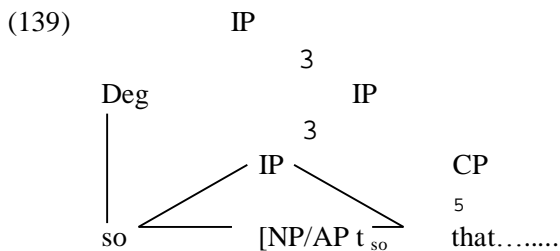
Secondly, result clauses always follow extraposed subject clauses, while comparative clauses may or may not follow extraposed subject clauses:

- (136) a. It is so obvious that John is a fool that everyone agrees.
 b. *It is so obvious that everyone agrees that John is a fool.
- (137) a. It is more important than it has ever been before that everyone of us should do his duty.
 b. It is more important that everyone should do his duty than it has ever been before.

On the view that extraposed clauses are VP adjoined, the data above may be interpreted as proving that the result clause is IP adjoined. This guarantees its final position with respect to other modifiers, or with respect to the extraposed clause.



We will provisionally conclude that result clauses merge as IP adjuncts, a hypothesis also defended in cf. Rochemont (1990:43)). However, at LF it is important to express the semantic dependence of the clause on the degree determiner. Since *so* and *such* have operator properties, it is possible for them to undergo quantifier raising at LF, thus taking scope above the result clause. The configuration in which the result clause is interpreted might be the following (cf. Rochemont (1990:43))



A more difficult question which we will not answer here is whether the result clause is derived by movement or projected in its surface position.

This concludes the presentation of the distribution of *that*-complements.

