Radford, A. (1997) Syntax. A minimalist introduction, Cambridge: Cambridge University Press

9 VP shells

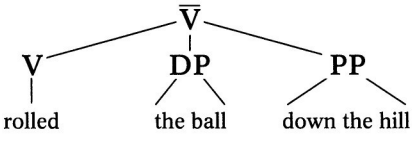
In this chapter, we turn to consider the internal constituent structure of verb phrases. We shall argue that VPs have a complex structure, comprising an inner **VP** and an outer **vp** shell, and that some (e.g. AGENT) arguments originate within the outer vp shell, while other (e.g. THEME) arguments originate within the inner VP.

Thus far, the verb phrase structures we have looked at have generally contained verbs with a single complement. Such verbs can easily be accommodated within the binary-branching framework adopted here, since all we need say is that a verb merges with its complement to form a (binary-branching) V-bar constituent. However, a particular problem for the binary-branching framework adopted here is posed by three-place predicates like those italicized in (1) below which have two [bracketed] complements:

(1) (a) We *rolled* [the ball] [down the hill]
(b) He *filled* [the bath] [with water]
(c) He *broke* [the vase] [into pieces]

If we make the conventional assumption that complements are sisters to heads, it follows that the V-bar constituent headed by *rolled* in (1a) will have the structure (2) below:

(2)



However, a structure such as (2) is problematic within the framework adopted here. After all, it is a *ternary-branching* structure (V̄ branches out into the three separate constituents, namely the V *rolled,* the DP *the ball* and the PP *down the hill*), and this poses an obvious problem within a framework which assumes that the merger operation which forms phrases is an inherently binary operation which can only combine constituents in a *pairwise* fashion. Moreover, a ternary-branching structure such as (2) would wrongly predict that the string following the verb *rolled* does not form a constituent, and so cannot be coordinated with another similar string (given the traditional assumption that only constituents can be conjoined); yet this prediction is falsified by sentences such as:

(3) He rolled *the ball down the hill* and **the acorn up the mountain**

How can we overcome these problems?

One way would be to suppose that the string *the ball down the hill* in (3) is a clausal constituent of some kind, in which *the ball* functions as the subject of the clause, and *down the hill* functions as the complement of the clause. Such an analysis is by no means implausible, since many three-place predicates like *roll* can also be used as two-place predicates in which the DP which immediately follows the verb in the three-place structure functions as the subject in the two-place structure – as we see from sentence pairs such as the following:

(4) (a) We **rolled** *the ball* down the hill
(b) *The ball* **rolled** down the hill

(5) (a) He **filled** *the bath* with water
(b) *The bath* **filled** with water

(6) (a) He **broke** *the vase* into pieces
(b) *The vase* **broke** into pieces

(7) (a) They **withdrew** *the troops* from the occupied territories
(b) *The troops* **withdrew** from the occupied territories

(8) (a) They **moved** *the headquarters* to Brooklyn
(b) *The headquarters* **moved** to Brooklyn

(9) (a) They **closed** *the store* down
(b) *The store* **closed** down

(Verbs which can be used in this way, either as three-place or as two-place predicates, are sometimes referred to as **ergative predicates**.) Moreover, the italicized DP seems to play the same thematic role with respect to the bold-printed verb in each pair of examples: for example, *the ball* is the THEME argument of *roll* (i.e. the entity which undergoes a rolling motion) both in (4a) *We rolled the ball down the hill* and in (4b) *The ball rolled down the hill*. Evidence in support of the claim that *the ball* plays the same semantic role in both sentences comes from the fact that the italicized argument is subject to the same restrictions on the choice of expression which can fulfil the relevant argument function in each type of sentence: cf.

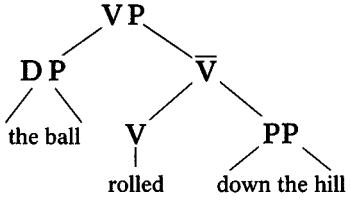
(10) (a) *The ball/the rock/!the theory/!sincerity* rolled down the hill
(b) John rolled *the ball/the rock/!the theory/!sincerity* down the hill

If we assume that principles of UG correlate thematic structure with syntactic structure in a *uniform* fashion (in accordance with Baker's 1988 **uniform theta-assignment hypothesis/UTAH**) then it follows that two arguments which fulfil the same thematic function with respect to a given predicate must occupy the same underlying position in the syntax.

An analysis within the spirit of UTAH would be to assume that since *the ball* is clearly the subject of *roll* in (4b) *The ball rolled down the hill*, then it must also be the case that *the ball* originates as the subject of *roll* in (4a) *We rolled the ball down the hill*. But if this is so, how come *the ball* is positioned *after* the verb *rolled* in (4a), when subjects are normally positioned *before* their verbs? A natural answer to this question within the framework we are adopting here is to suppose that the verb *moves* from its original (postsubject) position after *the ball* into a higher verb position to the left of *the ball*. More specifically, adapting ideas put forward by Larson (1988, 1990), Hale and Keyser (1991, 1993, 1994) and Chomsky (1995), let's suppose that the (b) examples in sentences like (4–9) are simple VPs, but that the (a) examples are complex double-VP structures which comprise an outer VP **shell** with an inner VP core embedded within it.

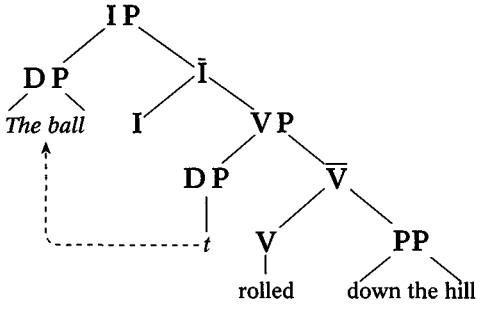
More concretely, let's make the following assumptions. In (4b) *The ball rolled down the hill*, the V *rolled* is merged with its PP complement *down the hill* to form the V-bar *rolled down the hill*; this is then merged with the DP *the ball* to form a VP with the structure (11) below:

(11)



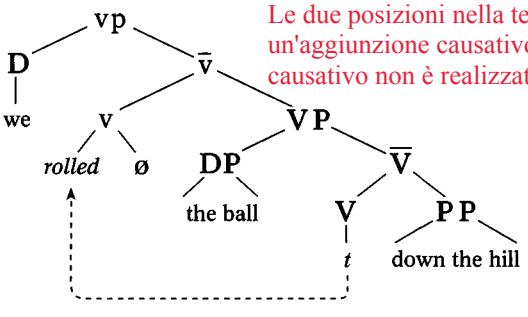
In the case of (4b), the resulting VP will then be merged with a null INFL constituent to form an I-bar *INFL the ball rolled down the hill*; the subject *the ball* will then be raised to spec-IP (by **A movement**), as in (12) below:

(12)



But what of (4a) *We rolled the ball down the hill*? Let's suppose that once the VP structure (11) has been formed, it is then merged with an abstract causative **light verb** ø – i.e. a null verb with much the same causative interpretation as a verb like *make* (so that *We rolled the ball down the hill* has a similar interpretation to *We made the ball roll down the hill*). Let's also suppose that this causative light verb is affixal in nature (and so a strong head), and that the verb *rolled* raises to adjoin to it (producing a structure which can be paraphrased literally as 'We *made* + *roll* the ball down the hill'). The resulting V-bar structure is then merged with the subject *we* (which is assigned the θ-role of AGENT by the causative light verb), to form the complex vp (13) below (lower-case letters are used to denote the light verb and its projections):

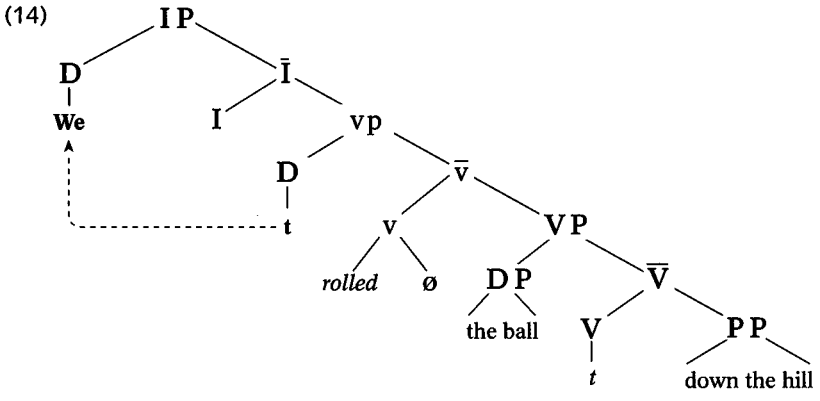
(13)



Le due posizioni nella testa v corrispondono a un'aggiunzione causativo+ V lessicale, in cui però il causativo non è realizzato, e il V lessicale sale da V a v

Subsequently, the vp in (13) merges with an abstract INFL to form I-bar, and the subject *we* raises into spec-IP to check its nominative case, as in (14) below:

(14)



If we assume that the agentive light verb ø is transitive, it can check the objective case carried by the DP *the ball*.

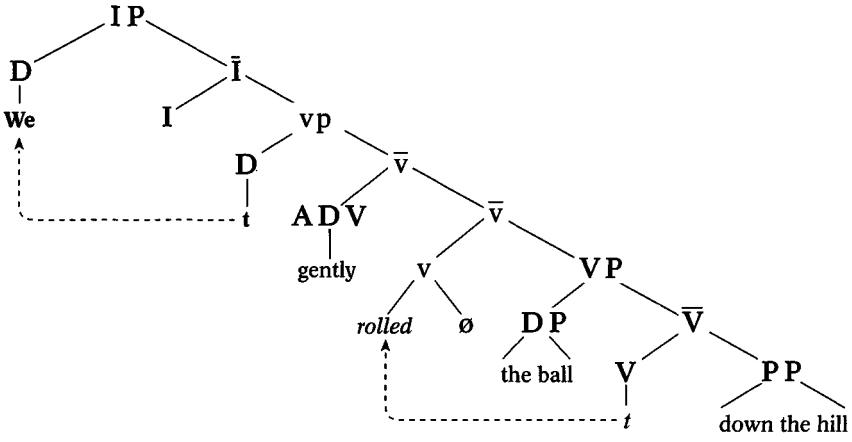
The VP shell analysis in (14) provides a straightforward account for an otherwise puzzling aspect of the syntax of sentences like (4a) – namely the fact that adverbs like *gently* can be positioned either before *rolled* or after *the ball*, as we see from:

(15) (a) We *gently* rolled the ball down the hill
(b) We rolled the ball *gently* down the hill

Let us make the traditional assumption that so-called *VP adverbs* like *gently* merge with intermediate verbal projections like V-bar and v-bar. Let's also assume that such adverbs are **adjuncts** which have the property that they when they merge with a given category, they form an expanded category of the same type (so that an adverb merged with V-bar forms an expanded V-bar, and an adverb merged with v-bar forms an expanded v-bar). Given these assumptions and the light verb analysis in (14), we could then propose the following derivations for (15a–b).

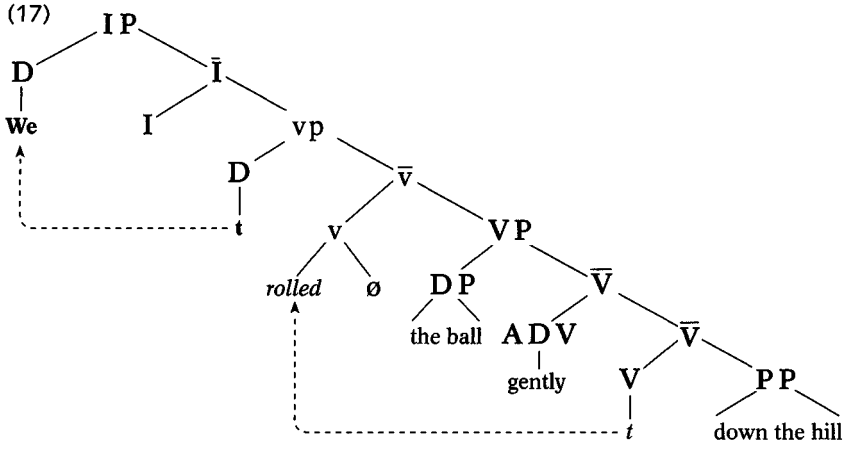
In (15a), the verb *rolled* merges with the PP *down the hill* to form the V-bar *rolled down the hill*, and this V-bar in turn merges with the DP *the ball* to form the VP *the ball rolled down the hill*, as in (11) above. This VP then merges with a causative light verb ø to which the verb *rolled* adjoins, forming the v-bar *rolled the ball down the hill*. The resulting v-bar merges with the adverb *gently* to form the expanded v-bar *gently rolled the ball down the hill*; and this v-bar in turn merges with the subject *we* to form the vp *we gently rolled the ball down the hill*. The vp thereby formed merges with an abstract INFL constituent, forming an I-bar; the subject *we* raises to spec-IP forming the IP (15a) *We gently rolled the ball down the hill*. Thus (15a) has the derivation (16) below:

(16)



Now consider how (15b) *We rolled the ball gently down the hill* is derived. As before, the verb *roll* merges with the PP *down the hill*, forming the V-bar *rolled down the hill*. The adverb *gently* then merges with this V-bar to form the expanded V-bar *gently rolled down the hill*. This V-bar in turn merges with the DP *the ball* to form the VP *the ball gently rolled down the hill*. The resulting VP is merged with a causative light verb ø to which the verb *rolled* adjoins, so forming the v-bar *rolled the ball gently down the hill*. This v-bar is then merged with the subject *we* to form the vp *we rolled the ball gently down the hill*. The vp thereby formed merges with an abstract INFL constituent, forming an I-bar; the subject *we* raises to spec-IP forming the IP (15b) *We rolled the ball gently down the hill*, which has the derivation (17) below:

(17)



The different positions occupied by the adverb *gently* in (16) and (17) reflect a subtle meaning difference between (15a) and (15b): (15a) means that the action which initiated the rolling motion was gentle, whereas (15b) means that the rolling motion itself was gentle.

A light verb analysis such as that sketched above also offers us an interesting account of adverb position in sentences like:

(18) (a) He had *deliberately* rolled the ball *gently* down the hill
(b) *He had *gently* rolled the ball *deliberately* down the hill

It seems reasonable to suppose that *deliberately* (by virtue of its meaning) can only be an adjunct to a projection of an *agentive* verb (i.e. a verb whose subject has the thematic role of AGENT). If we suppose (as earlier) that the light verb ø is a causative verb with an agentive subject, the contrast in (18) can be accounted for straightfowardly: in (18a) *deliberately* is contained within a vp headed by the agentive causative light verb ø; but in (18b) it is contained with a VP headed by the nonagentive verb *roll* (*roll* is a nonagentive verb because its subject has the θ-role THEME, not AGENT). We can then say that adverbs like *deliberately* are strictly vp adverbs.

This in turn might lead us to expect to find a corresponding class of VP adverbs. In this connection, consider the following contrasts (adapted from Bowers 1993, p. 609):

(19) (a) Mary jumped the horse *perfectly* over the last fence
(b) *Mary *perfectly* jumped the horse over the last fence

Given the assumptions made here, the derivation of (19a) would be parallel to that in (17), while the derivation of (19b) would be parallel to that in (16). If we assume that *perfectly* (in the relevant use) can function only as a VP adverb, the contrast between (19a) and (19b) can be accounted for straightforwardly: in (19a), *perfectly* is merged with a V-bar (consistent with its status as a VP adverb), whereas in (21b) it is merged with a v-bar (in violation of the requirement that it can only serve as a VP adverb).

As we have seen, the VP shell analysis outlined here provides an interesting solution to the problems posed by three-place predicates which appear to take two complements. However, the problems posed by verbs which take two complements arise not only with transitive verbs (like those in (4–9) above) which have intransitive counterparts, but also with verbs such as those in (20) below (the complements of the verbs are bracketed):

(20) (a) They loaded [the truck] [with hay]
(b) He gave [no explanation] [to his friends]
(c) They took [everything] [from her]
(d) Nobody can blame [you] [for the accident]
(e) He assured [her] [of his good intentions]

Verbs like those in (20) cannot be used intransitively, as we see from the ungrammaticality of sentences such as (21) below:

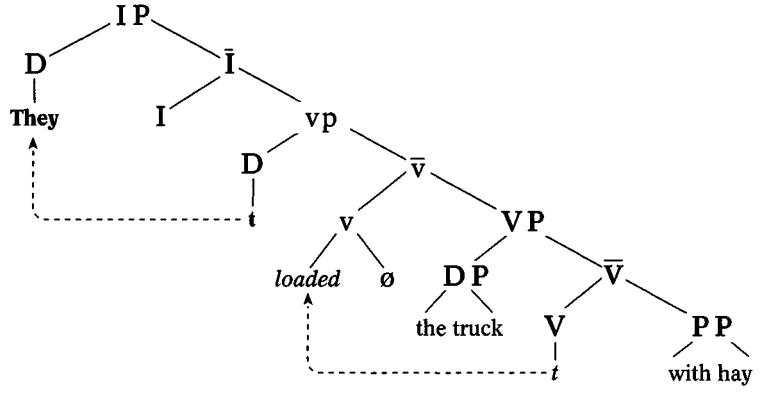
(21) (a) *The truck loaded with hay
(b) *No explanation gave to his friends
(c) *Everything took from her
(d) *You can blame for the accident
(e) *She assured of his good intentions

However, it is interesting to note that in structures like (20) too we find that VP adverbs can be positioned either before the verb or between its two complements: cf.

(22) (a) They *carefully* loaded the truck with hay
(b) They loaded the truck *carefully* with hay

This suggests that (in spite of the fact that the relevant verbs have no intransitive counterpart) a VP shell analysis is appropriate for structures like (20) too. This would mean (for example) that a sentence such as (20a) would have the derivation (23) below:

(23)



We could then say that the adverb *carefully* adjoins to v-bar in (22a), and to V-bar in (22b). If we suppose that verbs like *load* are essentially affixal in nature (and so must adjoin to the agentive light verb ø) we can account for the ungrammaticality of intransitive structures such as (21a)

**The truck loaded with hay.* Alternatively, we might suppose that verbs like *load* are inherently transitive, and so must be used in a structure like (23) where they can check objective case. (In (23), *loaded* checks the objective case of *the truck*.)

The VP shell analysis outlined above can be extended from predicates which have a prepositional argument to so-called **resultative** predicates which have an adjectival argument – i.e. to structures such as those below:

(24) (a) The acid turned the *litmus-paper* red
(b) They painted *the house* pink

In (24a), the verb *turned* would originate in the head V position of VP, with the DP *the litmus-paper* as its subject and the adjective *red* as its complement (precisely as in *The litmus-paper turned red*): *turned* would then raise to adjoin to a strong causative light verb ø heading vp; the subject of this light verb (the DP *the acid*) would in turn raise from spec-vp to spec-IP, as shown informally in (25) below:

(25) [$_{IP}$ **The acid** [$_{I}$] [$_{vp}$ **t** [$_{v}$ *turned*+ø] [$_{VP}$ the litmus-paper [$_{V}$ *t*] red]]]

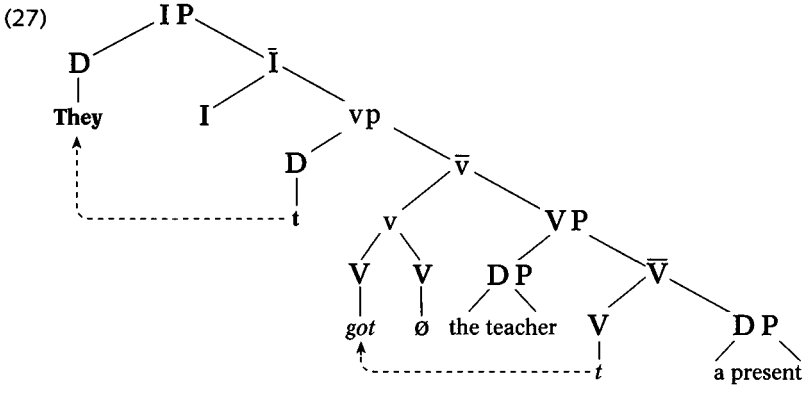
(For very different analyses of resultative structures like (24), see Carrier and Randall 1992 and Keyser and Roeper 1992.)

We can extend the *VP shell* analysis still further, to take in *double-object* structures such as:

(26) (a) They got [the teacher] [a present]
(b) Could you pass [me] [the salt]?
(c) I showed [her] [my credentials]

For example, we could suggest that (26a) is derived as in (27) below:

(27)



That is, *got* originates as the head V of VP (with *the teacher* as its subject and *a present* as its complement, much as in *The teacher got a present*), and then raises up to adjoin to the strong causative light verb ø heading vp; the subject *they* would in turn originate in spec-vp (assigned the role of AGENT by the causative light verb ø) and would then raise to spec-IP to check its strong nominative case-feature. (For a range of alternative analyses of the *double-object* construction, see Larson 1988, 1990, Johnson 1991, Bowers 1993 and Pesetsky 1995.)

The light verb analysis outlined above also provides us with an interesting solution to the problems posed by so-called **object-control predicates**. In this connection, consider the syntax of the infinitive structure in (28) below:

(28) What decided you to take syntax?

In this use, *decide* seems to function as a three-place predicate, taking *what* as its subject, *you* as its object and the IP *to take syntax* as a further complement. If we suppose that the infinitive complement *to take syntax* has a PRO subject, (28) will have the simplified structure (29) below (where the three arguments of *decided* are bracketed):

(29) [What] decided [you] [to PRO take syntax]?

Since PRO here is controlled by the object *you*, the verb *decide* (in this use) functions as an **object-control predicate**.

There are a number of reasons for thinking that the verb *decide* in sentences like (28) is indeed a three-place object-control predicate, and that *you* is the object of *decided* (rather than the subject of *to take syntax*). Thus, for some speakers, (28) can be paraphrased (albeit clumsily) as:

(30) What decided *you* [that **you** should take syntax]?

where the first *you* corresponds to the object *you* in (29), and the second ***you*** corresponds to PRO in (29). Moreover, the verb *decide* imposes restrictions on the choice of expression following it (which must be a rational entity – not an irrational entity like *the exam*):

(31) *What decided *the exam* to be difficult?

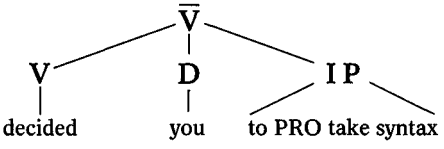
Furthermore, the expression following *decide* cannot be an expletive pronoun such as *there*:

(32) *What decided *there* to be an election?

The obvious conclusion to draw from facts such as these is that the (pro)nominal following *decide* is an (object) argument of *decide* in sentences such as (28), and serves as the controller of a PRO subject in the following *to*-infinitive.

However, this means that *decide* has two complements in structures such as (28) – the pronoun *you* and the infinitive *to take syntax*. If we make the traditional assumption that complements are sisters to the verb which θ-marks them, this would seem to lead us to the conclusion that the V-bar headed by *decided* in (28) has the structure (33) below:

(33)

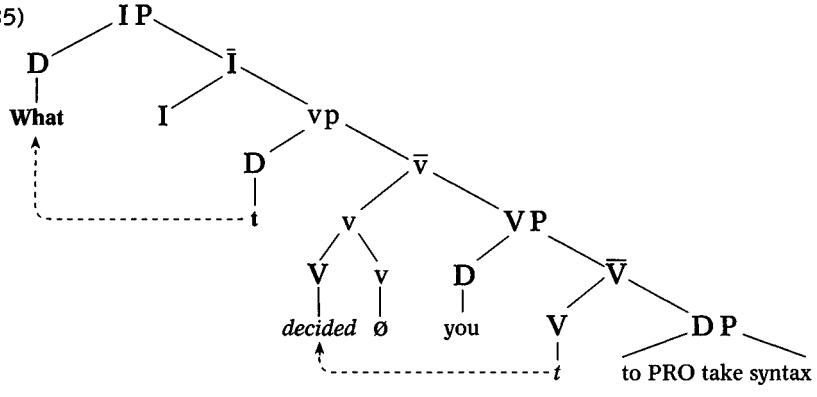


However, a ternary-branching structure such as (33) is incompatible with the core assumption made here that the merger operation by which phrases are formed is intrinsically binary. One way of overcoming this problem is to suppose that (28) has a structure akin to that of:

(34) What made you decide to take syntax?

but differing from (34) in that in place of the overt causative verb *made* is an abstract causative light verb ø, with the verb *decide* raising to adjoin to the light verb as in (35) below:

(35)



The light verb analysis in (35) offers two main advantages over the traditional analysis in (33). Firstly, (35) is consistent with the view that the merger operation by which phrases are formed is binary; and secondly,

(35) enables us to attain a more unitary theory of control under which the controller of PRO is always a *subject*, never an *object* (since PRO in (35) is controlled by *you*, and *you* is the subject of the VP which was originally headed by the verb *decided*). This second result is a welcome one, since the verb *decide* clearly functions as a subject-control verb in structures such as:

(36) He decided to PRO take syntax

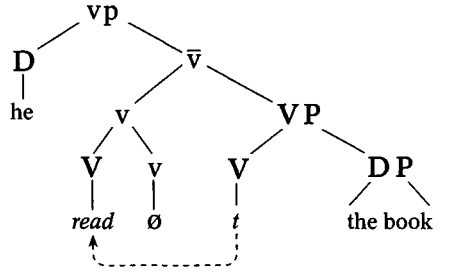
where the PRO subject of *take syntax* is controlled by the *he* subject of *decided*. (See Bowers 1993 for a similar analysis of so-called object-control verbs; and see Larson 1991 for an analysis of the control verb *promise*.)

Thus far, we have considered how we deal with the complements of three-place transitive predicates. But what about the complements of two-place transitives – i.e. transitive verbs used with a single complement, as in:

(37) He read the book

Chomsky (1995) proposes a light verb analysis of simple transitive structures like (37) under which (37) would (prior to merger with INFL) be derived as in (38) below:

(38)



That is, *read* would originate as the head V of VP, and would then be raised to adjoin to a null agentive light verb ø which has a *performative* sense, so that (38) can be loosely paraphrased as *He performed the action of book-reading*. (An alternative account of transitive complements as VP-specifiers is offered in Stroik 1990 and Bowers 1993.)

Chomsky's light verb analysis of two-place transitive predicates might be extended in an interesting way to handle the syntax of a class of verbs which are known as **unergative predicates**. These are verbs like those italicized in (39) below which have agentive subjects, but which appear to have no complement:

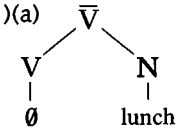
(39) (a) They are *lunching* (b) Let's *party*!
(c) Don't *fuss*! (d) Why not guess?
(e) He was *lying* (f) He *overdosed*
(g) He was *fishing* (h) We were *golfing*

Such verbs pose obvious problems for our assumption that subjects originate in spec-VP and merge with a V-bar which is itself formed by merger of a verb with its complement: the reason should be obvious – namely that such verbs appear to have no complements. However, it is interesting to note that unergative verbs like those in (39) have close paraphrases involving an overt light verb (i.e. a verb such as *have/make* etc. which has little semantic content) and a nominal complement: cf.

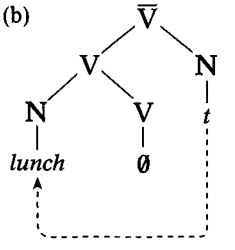
(40) (a) They are *having lunch* (b) Let's have a *party*!
(c) Don't *make a fuss*! (d) Why not *make a guess*?
(e) He was *telling lies* (f) He *took an overdose*
(g) He was *catching fish* (h) We were *playing golf*

This suggests an obvious way of overcoming the problem posed by unergative verbs – namely to suppose (following Baker 1988 and Hale and Keyser 1993) that unergative verbs are formed by incorporation of a complement into an abstract agentive light verb. This would mean (for example) that the verb *lunch* in (39a) is an implicitly transitive verb, formed by merging the noun *lunch* with a null verb as in (41a) below, and then adjoining the noun to the null verb as in (41b):

(41)(a)



(b)



The resulting V-bar in (41b) would then be merged with (and would θ-mark) a subject (e.g. a pronominal determiner like *they*), and the resulting VP would be combined with an agentive light verb and then with INFL to project into IP (as in (39a), where the verb *lunching* occurs in the *+ing* form because it is the complement of the progressive auxiliary *are*). On this view, unergative predicates are not intransitive at all – rather, they are implicitly transitive.

We end our discussion in this chapter by looking at the syntax of a special class of verbs which have become known in recent work as **unaccusative predicates**. In this connection, consider the syntax of the italicized arguments in unaccusative structures such as the following:

(42) (a) There arose *an unfortunate misunderstanding*
(b) There came *a cry of anguish* from inside the house
(c) There appeared *a ghostly face* at the window
(d) There could have occurred *a diplomatic incident*
(e) In front of the house, there stands a statue of *General Ghouly*

In some respects, the italicized arguments seem to behave like complements – for example, they occupy the postverbal position canonically associated with complements. However, in other ways, they seem to behave like subjects: for instance, the italicized argument agrees with the verb preceding it, as we see (for example) from the fact that *stands* in (42e) is a singular form which agrees with the singular nominal *a statue of General Ghouly*, so that we require the plural form *stand* if we are unfortunate enough to have *several statues of General Ghouly*. Moreover, the postverbal argument carries the *nominative* case associated with subjects, not the objective/accusative case associated with complements. This is clearer in languages where nouns carry overt case-marking (cf. Vikner 1995), but is also suggested by (somewhat archaic) structures such as:

(43) There (but for the grace of God) go *I*

(It should be noted, however, that Belletti 1988 suggests that unaccusative subjects carry *partitive* case.)

Only certain types of verb seem to allow postverbal subjects, as we see from the fact that structures such as those in (44) below are ungrammatical:

(44) (a) *When the British Rail snail arrived five hours late, there *complained* many passengers
(b) *In the dentist's surgery, there *groaned* a toothless patient
(c) *Every time General Wynott Nukem goes past, there *salutes* a guard at the gate
(d) *There *waved* Wee Willie Widget at the window
(e) *There has *apologized* Major Muddle for his minor indiscretions

We might refer to verbs like those in (42) which can have postverbal

subjects as **unaccusative verbs**. By contrast, verbs with AGENT subjects but no overt object like those in (44) are known as **unergative verbs** (as noted earlier).

In addition to the contrast illustrated in (42/44) above, there are a number of other important syntactic differences between unaccusative verbs and other types of verb (e.g. unergative verbs or transitive verbs). For example, Alison Henry (1995) notes that in one dialect of Belfast English (which she refers to as *dialect A*) unaccusative verbs can be used with (italicized) postverbal subjects in imperative structures like (45) below:

(45) (a) Be going *you* out of the door when he arrives!
(b) Leave *you* now!
(c) Arrive *you* before 6 o'clock!

By contrast, other (unergative or transitive) verbs don't allow postverbal imperative subjects, so that imperatives such as (46) below are ungrammatical in the relevant dialect:

(46) (a) *Read *you* that book!
(b) *Eat *you* up!
(c) *Always laugh *you* at his jokes!

Additional evidence for positing that unaccusative verbs are syntactically distinct from other verbs comes from *auxiliary selection* facts in relation to earlier stages of English when there were two perfective auxiliaries, *have* and *be*, each taking a complement headed by a specific kind of verb. The sentences in (47) below (taken from various plays by Shakespeare) give examples of verbs which could be used with the perfective auxiliary *be* in Early Modern English:

(47) (a) Mistress Page is *come* with me (Mrs Ford, *Merry Wives of Windsor*, V.v)
(b) Is the duke *gone*? Then is your cause *gone* too (Duke, *Measure for Measure*, V.i)
(c) How chance thou art *returned* so soon? (Antipholus, *Comedy of Errors*, I.ii)
(d) She is *fallen* into a pit of ink (Leonato, *Much Ado About Nothing*, IV.i)
(e) You shall hear I am *run* away (Countess, *All's Well That Ends Well*, III.ii)

We find a similar contrast with the counterparts of perfective *have/be* in a number of other languages – e.g. Italian and French (cf. Burzio 1986), Sardinian (cf. Jones 1994), German and Dutch (cf. Haegeman 1994) and Danish (cf. Spencer 1991).

A further difference between unaccusative predicates and others relates to the adjectival use of their perfective participle forms. As the examples below indicate, perfective participle (*+n/+d*) forms of unaccusative verbs can be used adjectivally (to modify a noun), e.g. in sentences such as:

(48) (a) The train *arrived* at platform 4 is the 8.28 for London Euston
(b) They arrested a business man recently *returned* from Thailand
(c) Several facts recently *come* to light point to his guilt
(d) A number of objects *gone* from the church were found in his room
(e) OJ is something of a *fallen* hero

By contrast, participle forms of transitive or unergative verbs cannot be used in the same way, as we see from the ungrammaticality of examples like (49) below:

(49) (a) *The man *committed* suicide was a neighbour of mine
(b) *The thief *stolen* the jewels was never captured
(c) *The man *overdosed* was Joe Doe
(d) *The *yawned* student eventually fell asleep in class

In this respect, unaccusative verbs resemble passive participles, which can also be used adjectivally (cf. *a **changed** man*, *a **battered** wife*, *a woman **arrested** for shoplifting*, etc.). Additional syntactic differences between unaccusative verbs and others have been reported for other languages (cf. Burzio 1986 on *ne*-cliticization in Italian, and Contreras 1986 on bare nominals in Spanish).

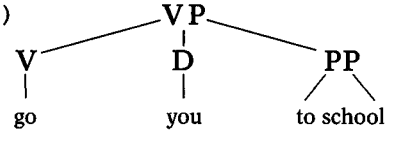
We thus have a considerable body of empirical evidence that unaccusative subjects behave differently from subjects of other (e.g. unergative or transitive) verbs. Why should this be? A traditional answer (cf. Burzio 1986) is that the subjects of unaccusative verbs do not originate as the subjects of their associated verbs at all, but rather as their *complements*, and that unaccusative structures with postverbal arguments involve leaving the relevant argument *in situ* in VP-complement position (e.g. in unaccusative expletive structures such as (42), and in Belfast English unaccusative imperatives such as (45) above). However, analysing unaccusative arguments as complements poses obvious

problems in relation to two-place unaccusative predicates – i.e. unaccusative verbs which take two arguments. In this connection, consider unaccusative imperative structures such as the following in (dialect A of) Belfast English:

(50) (a) Go you to school!
(b) Run youse to the telephone!
(c) Walk you into the garden!

If (as suggested in Henry 1995) postverbal arguments of unaccusative predicates are *in situ* complements, this means that each of the verbs in (50) must have two complements. But since complements are defined configurationally as sisters of a head, this means (for example) that if both *you* and *to school* are complements of the verb *go* in (50a), they must be sisters of *go*, and hence the VP headed by *go* must have the (simplified) structure (51) below:

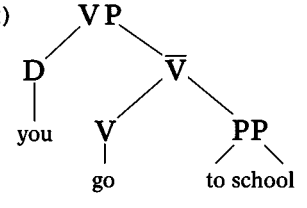
(51)



However, a ternary-branching structure such as (51) is obviously incompatible with a framework such as that used here which assumes that the merger operation by which phrases are formed is inherently binary.

Since analysing unaccusative subjects as underlying complements proves problematic, let's consider whether they might instead be analysed as subjects. On this view, we might suppose that the inner VP *core* of a Belfast English unaccusative imperative structure such as (50a) *Go you to school!* is not (51) above, but rather (52) below:

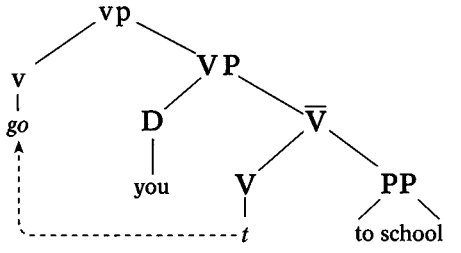
(52)



But the obvious problem posed by a structure like (52) is that it provides us with no way of accounting for the fact that unaccusative subjects surface postverbally in structures such as (42) and (45) above. How can we overcome this problem? One suggestion might be the following. Let us

suppose that unaccusative VPs like (52) (i.e. VPs headed by an unaccusative verb) are embedded as the complement of an outer vp shell headed by a strong v, and that the unaccusative verb raises to v in the manner indicated by the arrow in (53) below:

(53)



(It may be that *v* is strong because it contains an affixal eventive light verb – i.e. a light verb denoting an event – which has much the same sense as *happen*.) If we assume (as Alison Henry argues) that subjects remain *in situ* in imperatives in dialect A of Belfast English, the postverbal position of unaccusative subjects in sentences such as (50) can be accounted for straightforwardly. And the *vp shell* analysis is consistent with the assumption that the merger operation by which phrases are formed is intrinsically binary.

Moreover, the *vp shell* analysis in (53) enables us to provide an interesting account of the position of VP adverbs like *quickly* in unaccusative imperatives (in dialect A of Belfast English) such as:

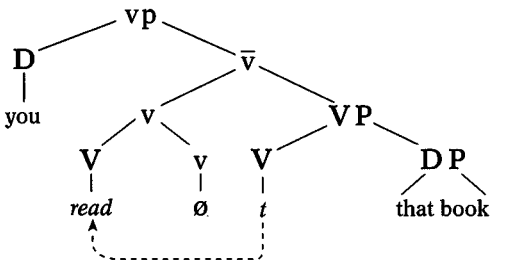
(54) Go you quickly to school!

If we suppose that VP adverbs like *quickly* are adjuncts which merge with an intermediate verbal projection (i.e. a single-bar projection comprising a verb and its complement), we can say that *quickly* in (54) is adjoined to the V-bar *go to school* in (52). What remains to be accounted for (in relation to the syntax of imperative subjects in dialect A of Belfast English) is the fact that subjects of transitive and unergative verbs occur in *preverbal* (not postverbal) position: cf.

(55) (a) You read that book! (b) *Read you that book!
(c) You protest! (d) *Protest you!

Why should this be? If we assume (following Chomsky 1995) that transitive verbs originate as the head of a VP complement of an agentive light verb ø, imperatives such as (55a) will contain a vp derived as in (56) below:

(56)



The AGENT subject *you* will originate in spec-vp, as the subject of the agentive light verb ø. Even after the verb *read* adjoins to the light verb ø, the subject *you* will still be preverbal. We can extend the light verb analysis from transitive verbs like *read* to unergative verbs like *protest*, if we assume (as earlier) that such verbs are formed by incorporation of a noun into the verb (so that *protest* is analysed as having a similar structure to *make* [*a*] *protest*), and if we assume that unergative subjects (like transitive subjects) originate as specifiers of an agentive light verb.

Given these assumptions, we could then say that the difference between unaccusative subjects and transitive/unergative subjects is that unaccusative subjects originate in spec-VP (as the subject of a lexical verb), whereas transitive/unergative subjects originate in spec-vp (as the subject of an agentive light verb). If we assume that verb phrases canonically contain an outer vp shell headed by a strong v (e.g. a light verb) and an inner VP core headed by a lexical verb, and that lexical verbs always raise from V to v, the postverbal position of unaccusative subjects can be accounted for by positing that the subject remains *in situ* in such structures.

The light verb analysis sketched here also offers us a way of accounting for the fact that in Early Modern English, the perfective auxiliary used with unaccusative verbs was *be* (as we see from the examples in (47) above), whereas that used with transitive and unergative verbs was *have*. We could account for this by positing that the perfective auxiliary *have* in EME selected a vp complement headed by an agentive light verb with a thematic subject, whereas the perfective auxiliary *be* in EME selected a complement headed by an eventive light verb which lacked a thematic subject. The distinction has been lost in Modern English, with perfective *have* being used with either type of vp complement (though sentences such as *They are gone* are a last vestige of the earlier use of *be* as a perfective auxiliary).

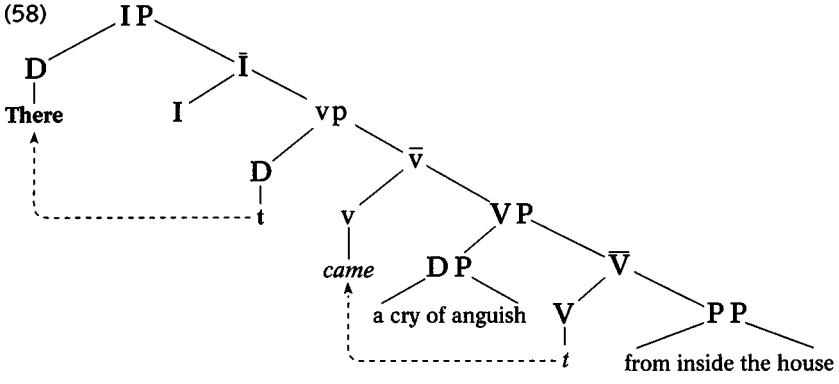
One final detail of our analysis of unaccusatives which needs to

be clarified is how we account for the fact that unaccusative subjects can occur not only postverbally in structures like (57) below, but also preverbally: cf.

(57) (a) There came *a cry of anguish* from inside the house
(b) *A cry of anguish* came from inside the house

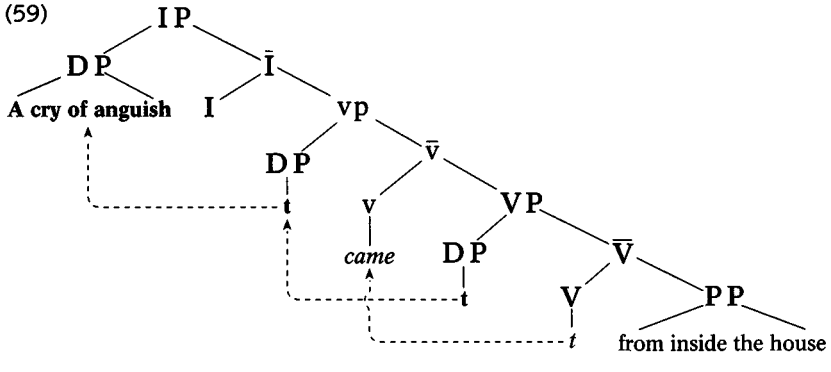
In (57a), we might suppose that *a cry of anguish* is in spec-VP, that *came* originates in V and raises to v, and that *there* originates in the nonthematic spec-vp position, and from there raises to spec-IP, as in (58) below:

(58)



But in (57b), the need for the sentence to have a subject is satisfied not by the use of expletive *there* but rather by raising the subject *a cry of anguish* from spec-VP through spec-vp into spec-IP, as in (59) below:

(59)



Thus, the subject *a cry of anguish* remains *in situ* in expletive structures such as (58), but raises to spec-IP in structures such as (59).

To summarize: we began this chapter by looking at the syntax of ergative verbs, noting that many of these have a dual transitive/intransitive use (e.g. *roll* in *They rolled the ball down the hill* and *The ball rolled down the hill*). We suggested that the transitive use might involve a complex verb phrase structure comprising an outer **vp** shell headed by an agentive light verb ø (with a causative sense) and an inner **VP** headed by the verb *roll*, with the verb *roll* raising to adjoin to the light verb ø. We suggested that such an analysis could be extended to other transitive verbs which take two complements (e.g. *load* in sentences like *They loaded the truck with hay*). We noted Chomsky's suggestion that simple transitive structures (like *He read the book*) may also involve a vp headed by a null performative light verb ø which has an AGENT subject. We further suggested that unergative verbs which have AGENT subjects but appear to have no complement might be analysed as having a complement incorporated into a null verb, so that e.g. in a sentence such as *What time shall we lunch*?, the verb *lunch* has much the same structure as *have lunch*, save that in place of *have* is a covert light verb into which the noun *lunch* is incorporated. We went on to look at the syntax of unaccusative verbs (like *come, go, occur,* etc.), arguing that the subject of such verbs originates in spec-VP, and that the unaccusative verb originates as the head V of VP but raises up to the head v position of vp (because v is strong, perhaps containing an affixal eventive verb), so giving rise to the *verb + subject* order found (for example) in Belfast English imperatives like *Go you to school!*

Exercises

Exercise XVII

Discuss the syntax of the following sentences, giving arguments in support of your analysis (sentence 9 is from Shakespeare, and sentence 10 from dialect A of Belfast English):

1 He had reduced his speed to 30 mph
2 She woke him up
3 They kept the food warm
4 It made him angry
5 He put his feet on the table
6 She reminded him to close the windows
7 The customers were complaining

8 A face appeared at the window

9 My master is grown quarrelsome (Grumio, *Taming of the Shrew*, I.ii)

10 Run youse to the telephone!

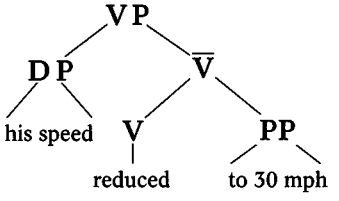
Model answer for 1

Since the verb *reduce* can be used not only as a transitive verb in sentences such as 1 above, but also as an intransitive verb in sentences such as (i) below:

(i) His speed reduced to 30 mph

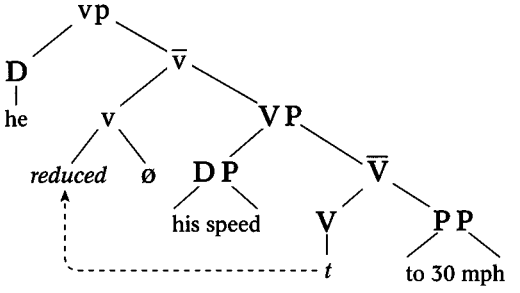
we might suppose that *reduce* is an ergative predicate, and hence has much the same syntax as the verb *roll* discussed in the text. This would mean that 1 is derived as follows. The verb *reduced* merges with its PP complement *to 30 mph* to form the V-bar *reduced to 30 mph*; this V-bar in turn merges with the DP *his speed* to form the VP (ii) below:

(ii)



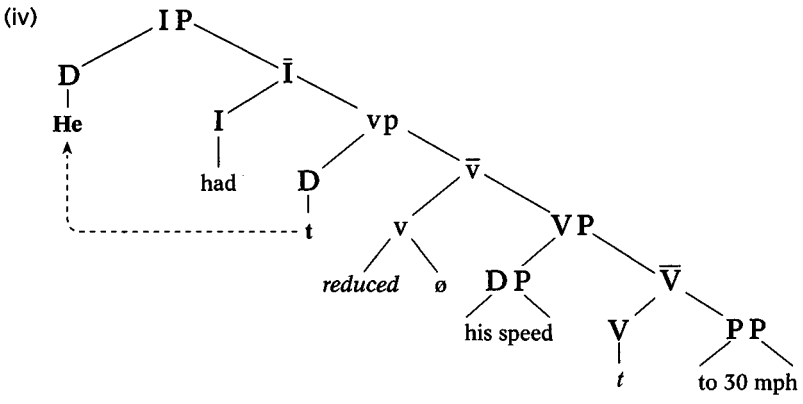
Subsequently the VP in (ii) merges with an abstract causative light verb ø (to which the verb *reduced* adjoins), and the resulting v-bar *reduced+ø his speed to 30 mph* merges with the subject *he* to form the vp (iii) below:

(iii)



The vp in (iii) is then merged with an INFL constituent containing *had*, and the subject *he* raises to spec-IP to check its nominative case, as in (iv) below:

(iv)



Evidence in support of the light verb analysis in (iv) comes from the two positions which can be occupied by the adverb *gradually* in:

(v) (a) He had *gradually* reduced his speed to 30 mph
(b) He had reduced his speed *gradually* to 30 mph

Given the analysis in (iv), we can account for the dual position of *gradually* by supposing that *gradually* is an adjunct which merges with v-bar in (v) (a), and with V-bar in (v) (b) (cf. our discussion of structures (16) and (17) in the main text).

Exercise XVIII

Melissa Bowerman (1995) reports the following errors produced by children in the way they use verbs (the initials represent the children's names, and the figures indicate their age in years;months: informal glosses in adult English are provided where appropriate):

1 She came it over there (C 3;4 = 'brought it over there')
2 Singing goes it faster (C 5;0 = 'makes it go faster')
3 Let's stay this open (C 2;4 = 'keep this open')
4 Salt clings it together (C 12;3 = 'makes it cling')
5 Will you climb me up there? (E 3;3 = 'help me climb')
6 That will water my eyes (E 3;9 = 'make my eyes water')
7 Can I glow him? (E 4;3 = 'make him glow')

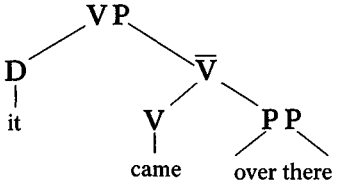
8 I meant to be it like this (C 5:5 = 'have it be')
9 I want to watch you this book (C 4;3 = 'show you')
10 Bert knocked down (C 2;11 = 'fell down')
11 It blowed up (C 2;3 = 'The beach ball inflated')
12 It stirs around (E 3:11 = 'The ice tea swirls around')

Discuss the derivation of the relevant sentences, and the nature of the errors made by the children.

Model answer for 1

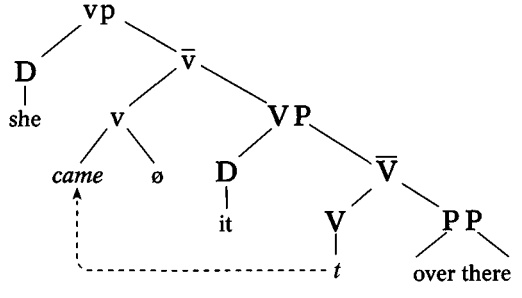
One way in which we might analyse 1 is as follows. Let us suppose that the verb *came* initially projects into the VP (i) below (with *it* serving as the subject of *came*, and *over there* as its complement):

(i)



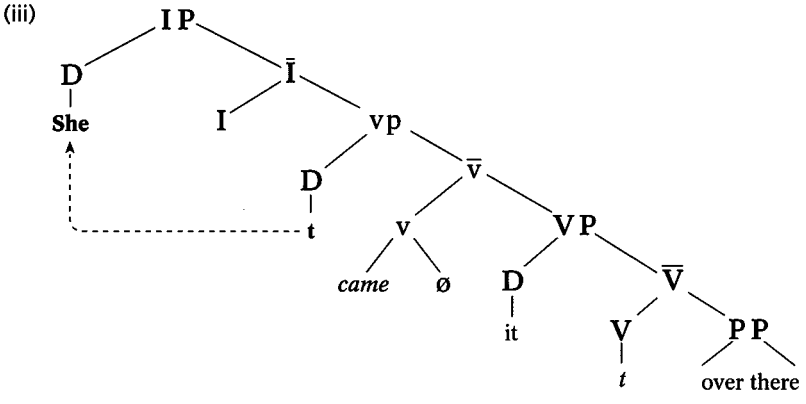
Let's further assume that the VP in (i) is merged with a strong (affixal) causative light verb ø (whose AGENT subject is *she*), and that *came* raises to adjoin to ø as in (ii) below:

(ii)



Subsequently, the subject *she* raises to spec-IP in order to check its nominative case, as in (iii) below:

(iii)



However, since the corresponding sentence *She came it over there* is ungrammatical in adult English (instead, we say *She brought it over there*), an important question to ask is what is wrong with sentences like I in adult English?

One answer might be to suppose that *come* is a nonaffixal verb, and hence cannot be adjoined to the causative light verb ø: conversely, we might say that its causative counterpart *bring* (which cannot be used intransitively, cf. **It brought over there*) is intrinsically affixal, and hence must be bound to the causative light verb ø (so that *bring* can only be used causatively, not intransitively). An alternative possibility would be to suppose that *bring* is inherently transitive (and so can only occur in a structure such as (iii) where it can check the case of an objective argument like *it*), whereas *come* is inherently intransitive (and so cannot occur in a structure like (iii), since if it did the objective case carried by *it* would remain unchecked). On the first view, the child's error lies in not having learned which verbs are (and which aren't) affixal in nature; on the second, it lies in not having identified which verbs are transitive, and which intransitive.