

ON *BY-PASSIVE* AND WHY UNACCUSATIVES DON'T PASSIVIZE

TARALD TARALDSEN
University of Tromsø

1 The Passive Transformation in *Aspects*

In *Aspects* (p. 104), Chomsky proposes a passive transformation with the structural description in (1):

(1) NP - Aux - V - ... - NP - ... - *by passive* - ...

Chomsky takes *by passive* to be a manner adverb, and its presence in (1) is intended to prevent the passive transformation from applying to verbs that do not take manner adverbs, like *weigh* in *The pumpkin weighed 100 kilos* or *resemble* in *He resembles his mother*. Since *weigh* and *resemble* have non-agentive subjects in such sentences, it is natural to assume that *by passive* is intended to be an agent-oriented adverb in (1). Since unaccusative verbs like *fall* etc. do not have agentive subjects either, they too should then not be able to undergo a transformation with the structural description in (1). If the appearance of a dedicated passive auxiliary is also due to the passive transformation, this might account for the ungrammaticality of (2)b in Norwegian:

(2)a Huset **ble** bygget i 1645 (av en bryggerieier)
the house became built in 1645 (by a brewery owner)
“The house was built in 1645 (by a brewery owner).”
b*Katten **ble** forsvunnet i forrige uke
the cat became disappeared last week

Of course, one might say that the structure underlying (2)b would fail to meet the structural description in (1) even without *by passive*, since an unaccusative verb only takes a single NP argument. But if the *Aspects* account of passives is imported into a framework where the second

NP in (1) must move into an empty subject position, as in Emonds (1976), and the sole argument of an unaccusative verb originates in the VP¹, the passive transformation would have a structural description matching the structure underlying *Katten forsvant* ‘‘The cat disappeared’’ but for the presence of *by passive*.

Equivalently, one might set up things so that passives can only be formed from verbs associated with ‘‘little v’’, taking this to be the head that introduces agentive external arguments.

In this squib, I will show that that none of this will be quite sufficient to account for the contrast between transitive and unaccusative verbs exemplified in (2), and I will suggest that (2)b can only be excluded if one makes specific assumption about the way lexical roots are associated with syntactic heads.

2 Lundquist’s Observation

The crucial observation is due to Björn Lundquist (2008), who first points out that *bli* ‘‘become’’, which is used as the passive auxiliary in Scandinavian (cf. (3)), also combines with adjectives, as in (3)b:

- (2)a Huset **ble** bygget i 1645 (av en bryggerieier)
 the house became built in 1645 (by a brewery owner)
 ‘‘The house was built in 1645 (by a brewery owner).’’

- (3)a Katten **er** (fortsatt) syk
 the cat is (still) sick
 b Katten **ble** syk i forrige uke
 the cat became sick last week
 ‘‘The cat got sick last week.’’

Then, he notes that although adjectival participles (with the properties of Kratzer’s (2000) ‘‘target state participles’’) can be formed from unaccusative roots, e.g. *forsvunnet* ‘‘disappeared’’ from *forsvinne* ‘‘disappear’’, such adjectival participles cannot combine with *bli* ‘‘become’’:

- (4)a Katten **er** (fortsatt) forsvunnet
 the cat is (still) disappeared
 b*Katten **ble** forsvunnet i forrige uke (= (2)b)
 the cat became disappeared (last week)

This clearly means that no formulation of the passive transformation would suffice to rule out (2)b, since there is an alternative derivational path to (2)b which must also be closed.

Equally clearly, we cannot prevent *bli* from embedding adjectival passives from unaccusative verbs by making it select for vP, since the adjective in (3)b is certainly not a vP.

¹ Actually, pseudo-passives like (i) suggest that the argument one generally takes to originate as an object may be replaced by an agentive DP under certain circumstances, especially on Collins’s (2005) analysis of *by*-phrases:

(i) Penn Station is arrived at by 2000 commuters every morning

Lundquist's own conjecture is that (4)b somehow is blocked by the existence of (5) with the same meaning as (4)b would have, i.e. transition into a state:

- (5) Katten forsvant i forrige uke
the cat disappeared last week

In the following sections, I'll sketch a way of implementing this idea.

3 Decomposing the Verb

Ramchand (2008) argues for the following decomposition of verbs²:

- (6) [_{InitP} DP₁ Init [_{Proc} DP₂ Proc [_{Res} DP₃ Res]]]

In (6), the ResP denotes a state holding of the individual(s) denoted by DP₃, whereas ProcP denotes a process in which the individual(s) denoted by DP₂ ("the undergoer") participates. DP₂ and DP₃ may be the same DP, i.e. Spec-ProcP may be created by Internal Merge. Init introduces an "initiator" (DP₁), i.e. an individual in a state that triggers the process denoted by ProcP, and we shall take it that DP₁ may be the same as DP₂. (This will become crucial in section 6.) Thus, Init is a near-equivalent of the head called "little v" (or, perhaps, v*) in other accounts.

The subeventualities denoted by the three different heads are tied together by the "leads-to relation". For example, the process denoted by Proc leads to the state described by the ResP. In the case where DP₂ = DP₃, we may say that the process leads the undergoer into a certain state.

From this perspective, we may fit (3)b into (6) by taken *bli* "become" to lexicalize Proc, since (3)b describes the cat's transition into a state of illness:

- (3)b Katten **ble** syk i forrige uke
the cat became sick last week
"The cat got sick last week."

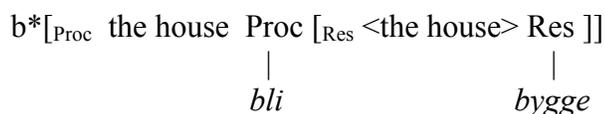
- (7) [_{Proc} [_{DP} katten] **ble** [_{Res} <[_{DP} katten]> syk]]

This resonates with Baker's (2005) idea that a verb may contain an adjective at the bottom of its internal structure.

Ramchand also argues that a single verb may lexicalize more than one single head in (6), depending on its lexical properties³. So if (the root of) *forsvinne* "disappear" is specified in the lexicon as able to lexicalize both Proc and Res, we get the picture in (8):

² According to Ramchand (2008), Init and Res are optional components of the template. That is, a verb may only have Proc in it.

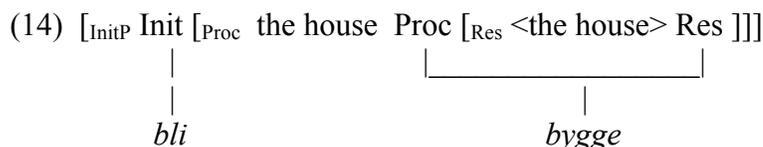
³ For present purposes, we may think of this as an instance of "spanning": If the lexical entry associates a morpheme (lexical or functional) with sequence of heads S, e.g. <Init, Proc, Res>, that morpheme can lexicalize any sequence S' of hierarchically adjacent heads (adjacent modulo Specifiers) if and only if S' matches a subsequence of S. (This is an adaptation of Starke's (2009) Superset Principle.)



Having *bygge* block *bli* as in (12) in fact gives the right result for adjectival participles of the type called “resultant state participles” by Kratzer (2000), i.e. the adjectival participles involving transition into a state:

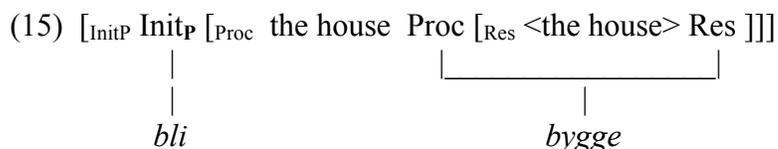
- (13)a Huset antas bygget i 1645
 the house is.assumed built in 1645
 “The house is assumed to have been built in 1645.”
 b*Huset antas **blitt** bygget i 1645
 the house is.assumed become built in 1645

But (2)a must obviously not be blocked. What I propose, is that verbal passive participles also include Init, and that *bli* “become” lexicalizes Init in (2)b:



(The assumption that verbal passive participles contain Init, is based on taking *by*-phrases to link a DP to Init.)

This, of course, also contradicts earlier assumptions, since we have seen that the root of *bygge* must be able to lexicalize Init in addition to Proc and Res in active sentences like (10). To fix this, we’ll have to distinguish between two “flavors” of Init. One, notated as Init_A, will only appear in active sentences, while the other, Init_P, only appears in passives.⁵ We can then say that the sequence of heads that can be lexicalized by the root of *bygge* and other transitive verbs includes Init_A, but not Init_P, e.g. the lexicon associates the root of *bygge* with the sequence < Init_A, Proc, Res >, and the general lexicalization algorithm will allow it to lexicalize any subsequence of that sequence, but nothing else. This will prevent the root of *bygge* from blocking *bli* in (15):



This presupposes that *bli* is associated with the sequence < Init_P, Proc >. Only in this sense is *bli* a passive auxiliary. Since *bli* can lexicalize any subsequence of < Init_P, Proc >, it will not only

⁵ This begs the question how exactly the difference between Init_A and Init_P is to be characterized. This seems equivalent to characterizing the difference between different “flavors” of little *v* or of Voice. I leave the question open here.

appear in passives, but also in sentences like (3)b, which most likely don't contain any Init in their structure⁶:

- (3)b Katten **ble** syk i forrige uke
 cat-the became sick last week
 "The cat got sick last week."

As for the structures in which an unaccusative verb like *forsvinne* lexicalizes Proc and Res, either they cannot also contain Init or they can only contain Init_p in which case these unaccusative verbs will be treated as a sort of lexicalized passives. Either way, there will not be room for *bli*. But to the extent that unaccusative verbs don't come with agentive *by*-phrases, the first of the two options may be preferable.⁷

5 Participles vs. Non-Participial Forms

In (5), where the verb root lexicalizes Proc and Res, the verb ends up in a non-participial form:

- (5) Katten **forsvant** i forrige uke
 the cat disappeared last week

But in (2)a and (13)a, where the verb root also lexicalizes Proc and Res, the verb must come out as a participle:

- (2)a Huset **ble** bygget i 1645 (av en bryggerieier)
 the house became built in 1645 (by a brewery owner)
 "The house was built in 1645 (by a brewery owner)."

- (13)a Huset **antas** bygget i 1645
 the house is.assumed built in 1645
 "The house is assumed to have been built in 1645."

Even *forsvinne* must surface as a participle when it only lexicalizes Res:

- (4)a Katten er (fortsatt) **forsvunnet**
 cat-the is (still) disappeared

⁶ This is not entirely obvious, however. To the extent that (3)b may be taken to describe an eventuality in which the cat found itself in a state that led to a process of its getting sick, (3)b might well contain Init. But then *bli* or the adjectival root lexicalizing Res must somehow constrain Init to fill its Spec by movement of the undergoer DP in Spec-ProcP (see the discussion of *smelte* "melt" in section 6) so that (i) is excluded:

- (i) *Maten ble katten syk
 the food became the cat sick

If (3)b contains Init_A, the sequence of heads associated with *bli* must contain an Init which is unspecified for the properties distinguishing Init_A from Init_p. This would not allow *bli* to occur in active sentences with a verbal root lexicalizing Proc and Res, since the root would block *bli* at Init_A anyway.

In terms of the assumptions I have made along the way, there is a descriptive generalization that can be formulated as in (16):

- (16) A verb must be(come) a participle when it fails to lexicalize all the heads in the sequence the lexicon associates its root with.

If the root of *forsvinne* is associated with < Proc, Res>, it will be packed into a participle when it only lexicalizes Res, as in (4)a, but not when it lexicalizes both Proc and Res, as in (5). If transitive roots like the root of *bygge* are associated with < Init_A, Proc, Res>, they will surface as participles in passives, where they don't lexicalize Init_A.

However, a formal implementation of (16) would involve taking a stand on a number of issues that I'm not in a position to address here.

6 Anticausatives

The account sketched here has consequences for the analysis of verbs that appear both as unaccusative verbs and as agentive transitive verbs, like *smelte* "melt" in (17) which exemplifies a "causative/anticausative alternation":

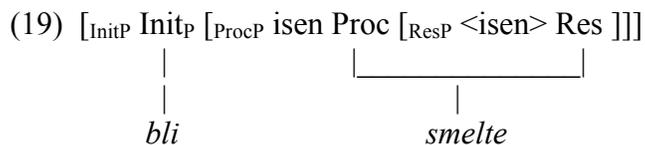
- (17)a Vi smelter isen
 we melt the ice
 b Isen smelter
 the ice melts
 c Isen **ble** smeltet
 the ice became melted
 "The ice was melted."

As (17)b shows, such verbs occur as participles combining with *bli*. If (16) is a valid generalization, this is inconsistent with a particular way of relating (17)a and (17)b. Saying that a causative/anticausative pair corresponds to a single root which can lexicalize all three heads in (18)a as well as only the two heads in (18)b, is consistent with associating the root of *smelte* with the sequence < Init_A, Proc, Res >, since a root is by assumption capable of lexicalizing any subsequence of the sequence it is associated with:

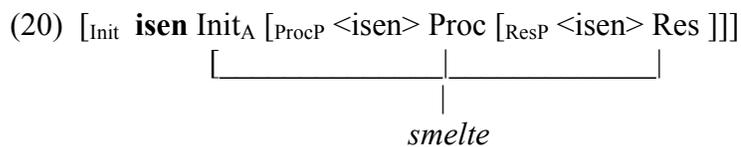
- (18)a [Init_P vi Init [Proc_P isen Proc [Res_P <isen> Res]]] (= (18)a)
- |-----|
 |
smelte
- b [Proc_P isen Proc [Res_P <isen> Res]] (= (18)b)
- |-----|
 |
smelte

But if (16) is valid, the verb should then be a participle in (17)b where one of the heads in < Init, Proc, Res> is not lexicalized by the root of *smelte*.

We might try to get around this by marking Init as optional in the sequence of heads associated with *smelte*, and by modifying (16) so that it applies only when a root fails to lexicalize all non-optional heads in the sequence it is associated with. But then the root should not surface as a participle in (17)c, where the two non-optional heads in < (Init,) Proc, Res> are both lexicalized by *smelte*:



Therefore, if (16) is valid, we must adopt a view of anticausatives similar to the one advocated by Chierchia (2005) and analyze (17)b as in (20), where the event described by (17)b is represented as self-initiated, i.e. the ice is initially in a state (e.g. of having reached a certain temperature) which sets off a process of melting that terminates with the ice being melted:



In (20), all the heads in < Init_A, Proc, Res > are lexicalized by the root of *smelte*, and (16) does not predict that *smelte* should appear in a participial form.

But in (19), the root doesn't lexicalize Init_A and must therefore show up as a participle.

7 Conclusion

The discussion extending over the preceding sections started out from two observations. The first was that the inclusion of *by passive* in the structural description of Chomsky's passive transformation in *Aspects* could be seen as a way of limiting the passive transformation to agentive verbs, thus excluding unaccusative verbs as well as non.-agentive *weigh* and *resemble*.

The second observation was the observation that the "passive auxiliary" *bli* "become" also can embed adjectives, as in (3)b:

- (3)a Katten **er** (fortsatt) syk
 the cat is (still) sick
- b Katten **ble** syk i forrige uke
 the cat became sick last week
 "The cat got sick last week."

Given the fact that some unaccusative verbs can form adjectival participles, as in (4)a, which seems parallel to (3)a, this leads to the expectation that adjectival participles can also be

embedded under *bli* giving rise to sentences like (4)b/(2)b, which would then be entirely parallel to (3)b:

- (4)a Katten **er** (fortsatt) forsvunnet
 the cat is (still) disappeared
 b*Katten **ble** forsvunnet i forrige uke
 the cat became disappeared (last week)

Since (3)b clearly isn't created by anybody's passive transformation, this means that what we would expect, is that there should be an alternative derivational path leading to exactly the same set of surface strings that would be created, if the passive transformation were allowed to apply to unaccusatives. But as Lundquist has pointed out this path must be closed, since (4)b is in fact ungrammatical. The rest of this squib has been devoted to discussing a particular way of achieving this.

In conclusion, it should be pointed out that the account I have sketched, still retains a residue of *by passive* insofar as the presence of an agent-oriented manner adverb *by passive* in the passive transformation proposed in *Aspects* should be seen as a way of enforcing the presence of a little *v* introducing agentive external arguments and little *v* would be equivalent to the head *Init* appearing in (6). Crucially, the account of (4)b had to be set up so that *bli* can combine with a participle only in structures that contain *Init* (in its passive guise).

References

- Baker, Mark. 2005. *Lexical categories*. Cambridge: Cambridge University Press.
- Burzio, Luigi. 1986. *Italian syntax*. Dordrecht: Reidel.
- Chierchia, Gennaro. 2005. A semantics for unaccusatives and its syntactic consequences. In A. Alexiadou, E. Anagnostopoulou and M. Everaert (eds.). *The unaccusativity puzzle: explorations of the syntax-lexicon interface*, 22-59, Oxford: Oxford University Press.
- Collins, Chris. 2005. A smuggling approach to the passive in English. *Syntax* 8: 81-120.
- Emonds, Joseph. 1976. *A transformational approach to English syntax*. New York: Academic Press.
- Kratzer, Angelika. 2000. Building statives. Proceedings of the 26th Annual Meeting of the Berkeley Linguistics Society: General Session and Parasession on Aspect, 385-399. eLanguage.
- Lundquist, Björn. 2008. Particles and nominalizations in Swedish. PhD dissertation, University of Tromsø.
- Ramchand, Gillian. 2008. *Verb Meaning and the Lexicon: A First Phase Syntax*. Cambridge: Cambridge University Press.
- Starke, Michal. 2009. Nanosyntax: A short primer to a new approach to language. *Nordlyd* 36: 1-6. Available at <http://ling.auf.net/lingBuzz/001183>

