On the Implicit Argument in the Short Passive
Chris Collins, NYU
June 2017

Abstract: In this paper, I investigate some syntactic and semantic properties of the implicit argument in the short passive. Based on the distribution of secondary depictive predicates, I argue that the short passive contains a syntactically projected null argument. I propose that this argument can either be an ultra-indefinite in the sense of Koenig (2008) or a null version of the generic pronoun *one*. I analyze ultra-indefinites as DPs without phi-features. Lastly, I discuss the consequences of my conclusions for the nature of VoiceP and the status of implicit arguments generally.

1.   Introduction
Collins 2005 argues that the external argument in the passive is merged in the same way as in the active, namely Merge(vP, DP) (following the spirit of Chomsky 1957). Consider (1a,b):

(1)   a.   John wrote the book.
        b.   The book was written by John.

The proposal in Collins 2005 has the consequence that the DP *John* is merged into Spec vP in (1b) in the same was as in (1a). Another consequence of the proposal in Collins 2005 is that the short passive has a syntactically present, null external argument, analyzed there as arbitrary PRO.

The structure of (2a) is then either (2b) or (2c) depending on the position of PRO. The precise position of the null implicit argument in the short passive is a tricky issue, since the implicit argument is covert, and is not relevant for the points made in this article.

(2)   a.   The book was written.
        b.   The book was [PRO written]
        c.   The book was [written PRO]

One piece of evidence in Collins (2005: 101) for this analysis of short passives was based on the distribution of depictive secondary predicates:

(3)   At the commune, breakfast is usually eaten nude.

(3) shows that the implicit argument in a passive can license a depictive secondary predicate, just like the overt argument in an active can:

(4)   At the commune, the campers usually eat breakfast nude.

On the assumption that secondary predicates need to be licensed by a c-commanding DP, it follows that in (3) there must be a syntactically present null argument. Surprisingly, a number

of authors have claimed that depictive secondary predicates cannot modify the implicit argument of the short passive (including Williams 1985, Chomsky 1986, Pylkkanen 2008, Landau 2010). Most of this paper attempts to establish the following generalization:

(5)   Depictive secondary predicates may modify the implicit argument of the short passive.

        Once this generalization is established, I advance theoretical assumptions about secondary predication and give a syntactic account of (5). Lastly, I give evidence as to the syntactic status of the implicit argument.
        In section 2, I present all the cases of depictive secondary predicates found in short passives that I can find in the syntax literature. I augment this list with naturally occurring examples found using Google. In section 3, I review the syntactic literature that rejects (5). In section 4, I present a formal analysis of depictive secondary predicates and show how to account for (5). In section 5, I argue that implicit arguments in the passive are of two types: ultra-indefinites and null generic *one*. In section 6, I discuss some general theoretical consequences. Section 7 is the conclusion.
        Other evidence has been given in the literature for the syntactic projection of the implicit argument in the passive (e.g., binding of reflexives, control into purpose clauses, control into complement clauses, control into *without*-clauses, agent oriented adverbs, etc.). For brevity's sake, I focus on depictive secondary predicates in this paper. I predict that the other tests will also be consistent with (or support) the claim that the implicit argument is syntactically projected in the short passive.

2.   Secondary Depictive Predicates in the Short Passive
        In this section, I present data concerning secondary depictive predicates in short passives. First, I review the examples given in the linguistics literature. Then I present some naturally occurring internet examples.
        A number of examples were given in Roeper (1987: 297):

(6)   The game was played drunk/nude/sober/angry.

        Baker (1988: 318) gives the following examples:

(7)   a.   This song must not be sung drunk.
        b.   Such petitions should not be presented kneeling.

        Collins (2005: 101) adds the following example:

(8)   At the commune, breakfast is usually eaten nude.

        Meltzer-Asscher (2012: 281) adds the following examples:

(9)   a.   Traditionally, the koto was played seated on the floor.
        b.   The hula is danced barefoot.

        Naturally occurring examples can easily be found on the internet using Google (see also Muller 2008 for some additional English examples found on the internet). First, I present a list of

generic examples, then a list of episodic examples. All the following examples are completely acceptable for me (a native speaker of English).

The following examples are all generic, describing an activity that is usually done in a certain way (or should be done in a certain way):

(10)   If beach volleyball was played nude I would never leave my house.
        (http://imgur.com/gallery/fPIhe)

(11)   So here's looking at top 15 sports that should be played nude.
        (http://www.thesportster.com/entertainment/top-15-sports-that-should-be-played-nude/)

(12)   Originally the game was played naked in the burning sun,
        (http://uncyclopedia.wikia.com/wiki/Australia)

(13)   The school has settled on badminton as the best PE activity because it can be played fully clothed.
        (http://islamversuseurope.blogspot.com/2010/08/)

(14)   At the refugee camp, soccer was played barefoot,
        (http://www.youthsoccerfun.com/2007/09/)

(15)   Next the procession headed for the Chapel of the Burning Bush, which was entered barefoot:…
        (https://www.google.com/search?tbm=bks&q=pilgrims+to+jerusalem+in+the+middle+ages)

(16)   Anyone like their coffee served topless?
        http://www.theoryland.com/vbulletin/showthread.php?t=1184

(17)   It really should be sung drunk, or not at all.
        (https://twitter.com/stephenkb/status/781142776570339328)

(18)   Our album is meant to be listened to stoned.
        (http://www.nme.com/news/music/warpaint-61-1293400)

(19)   Morning prayer was sung together at 6.55am before going to work.
        (http://www.walsinghamcommunity.org/about-us/history/the-cornerstone-community)

(20)   …dinner was eaten together…
        (http://www.huffingtonpost.com/entry/a-different-kind-of-dinnertime-grace_us_58f51c4fe4b04cae050dc9df)

(21)   A duet can't be sung alone.
        (http://archiveofourown.org/works/11051532/chapters/24638334)

(22)   Completion of the hike must be done unassisted.

(http://www.margarita-adventures.com/faq/)

Simpson (2005: 89) notes that depictive predicates in passives are often improved by modality and negation:

(23)   a.   ?The song was sung drunk.
        b.   This song can't be sung drunk.

Simpson proposes that in the case of (23b), there is a higher ModalP, and that the secondary predicate is adjoined to that ModalP, as a 'conditional attribute.' Even if the syntactic position of the secondary predicate in (23b) is different from that in (23a), it is still able to pick out the implicit external argument of the passivized verb, which is the fact that needs to be accounted for.

In fact, Demonte (1986: 58) claims for Spanish that secondary predication of implicit arguments in the passive is acceptable in sentences with a modal and unacceptable without one.

The following examples are all episodic.

(24)   At one place in one year, everything I saw was performed nude - a double bill of Baal and Woyzek, cabaret and improvisational dance.
(https://www.timeshighereducation.com/news/marks-for-the-nude-artists-and-beer-glass-hurler/163984.article)

(25)   The field was crowded onto a relatively clear stretch of sand, the game was played barefoot,…
(https://rosethomson.wordpress.com/tag/spirit-circles/)

(26)   All of this very important work was done shirtless (natch), giving Zac plenty of opportunity to show off his newly acquired six-pack.
(http://www.huffingtonpost.co.uk/entry/zac-efron-body-chest-shirtless-pictures-baywatch_uk_56dfffd2e4b05c52666e6558)

(27)   Minaj admitted that the lapdance was completely choreographed, and was performed drunk.
(https://uinterview.com/news/nicki-minaj-twerks-and-gives-drake-a-lap-dance-in-anaconda-video/)

(28)   and I'm pretty sure most of the part of Benjy in The Sound and the Fury was written drunk…
(https://arstechnica.com/civis/viewtopic.php?f=23&t=710318)

(29)   I mean most of the album was written drunk.
(http://www.genesis-news.com/c-Ray-Wilson-Interview-in-Heiligenhaus-2006-s119.html)

(30)   …but the whole staggering shebang sounds like it was done stoned…
(http://homeofthegroove.blogspot.com/2006/11/)

(31)   Not all of this was written sober, apologies.
        (https://www.fanfiction.net/s/8858368/1/Check-The-Second-Box%29)

(32)   The first verse was sung alone, with instrumental accompaniments, then gradually the choir
        joined in.
        (http://libera-historicaltimelinepart7.blogspot.com/2013_12_01_archive.html)

(33)   It was done BLINDFOLDED, and this is one of the hardest Chopin etudes.
        (https://www.facebook.com/LangLangPiano/posts/1606890532901147)

(34)   The concert had some amazing moments, but by far the most touching was the final piece
        which was played blindfolded as a tribute to World Peace.
        (http://www.milapfest.com/news/raams-samyo-diary-6/)

(35)   All this was done unarmed!
        (https://afrolegends.com/2009/12/03/the-forgotten-angel-of-rwanda-capt-mbaye-diagne/)

(36)   Almost all the lifting was done unassisted.
        (https://www.cdc.gov/niosh/nioshtic-2/00231105.html)

(37)   This journey will be made unassisted and with no back up or support persons .
        (https://www.linkedin.com/pulse/cycling-fundraising-making-difference-don-morris)

(38)   …so some of the work was done unprepared in the frigid (2 degree F windchill) weather
        without tripod or gloves.
        (http://gopro.trendolizer.com/2016/03/toronto-cyyz-spotting-2015-a-glorious-return.html)

For the purposes of this paper, I have limited attention to adjectival secondary depictive predicates. I have yet to investigate examples with PPs (e.g., *in a good mood*, *in shorts*) and participles (e.g., *singing, standing, sitting*) as secondary predicates.

A number of generalizations can be drawn about the data above. First, the presence of depictive predicates in the short passive seems to be a productive process. A wide range of adjectives are permitted, in both generic and episodic contexts. The adjectives found in the examples above are naturally grouped into various categories: state of clothing (*nude, naked, fully clothed, barefoot, topless shirtless*), state of intoxication (*drunk, stoned, sober*), number (*alone, together*) and adjectival passives (*unassisted, blindfolded, unarmed, unprepared*). The examples do not seem like idiomatic expressions or fixed collocutions.

I was unable to find a comprehensive list of adjectival secondary predicates for English. Most syntax papers that deal with the issue repeat the same handful of examples (e.g., *nude*). Therefore, it is not possible to know if there are systematic gaps between the kinds of secondary predicates that can modify the subject in active sentences and those that can modify the implicit argument in passive sentences. A corpus study of this issue would be quite useful.

Second, all the above examples also admit a *by*-phrase:

(39)   Breakfast is usually eaten nude by the campers.

Third, all of the examples are good in the active:

(40)   The campers usually eat breakfast nude.

Fourth, if a secondary depictive predicate is not possible in the active, then it will not be possible in the passive either. For example, as Simpson (2005: 93) notes: "Adjectives that can appear as depicives or resultatives are those that denote a transitory, bounded, temporally restricted state, so-called stage-level predicates." (41a) below is from Simpson and (41b) is the passive variant. As predicted both are unacceptable:

(41)   a.   He read the book *intelligent/*knowing/*knowledgeable.
         b.   The book was read *intelligent/*knowing/*knowledgeable.

In the next section, I address a number of examples from the literature where it has been claimed that a depictive predicate is possible in the active, but not the passive.

3.   Some Counter-Proposals
The data in section 2 show that depictive secondary predicates can modify the implicit argument of a passive. In spite of this, there are numerous places in the syntax literature that deny this possibility.
        Williams (1985: 308) considers the following example, attributed to Roeper:

(42)   The game was played nude.

Williams proposes that "…rather than saying that the adjective *nude* modifies the implicit agent of *played* we might say that it modifies the (overt) subject *game*, since one may call a game nude if it is played by nude people."
        Bhatt and Pancheva (2006: 585, footnote 11) responding to this argument note that "We find *The movie was watched nude*…acceptable. However, it seems a much greater stretch to refer to a movie that is watched nude as a nude movie." Similarly, consider (28) above, saying that the part of Benjy is drunk seems nonsensical (see also Roeper 1993: 213 for a similar point).
        Williams (1985: 309) also gives the following sentence:

(43)   *The game was played mad at Bill

He explains that (43) is odd since one cannot say "The game was mad at Bill." I find this sentence unacceptable as well, and I have been unable to find internet examples with *mad* used as a secondary predicate in short passives. Meltzer-Asscher (2012: 282) claims that (43) is due to semantic or pragmatic factors: "Whether the players are mad at Bill has, in most contexts, no relevance to their playing the game." Alternatively, it may be that various classes of adjectives are not acceptable modifying the implicit argument of the passive for independent reasons. For example, it is difficult to find naturally occurring adjectives that assign an experiencer theta-role to their argument (*mad*, *angry*, *happy*). It may be that experiencer depictives such as *happy*, *angry*, *mad* are unacceptable in short passives for independent reasons. Note, however, that Roeper (1987) uses *angry* in the example in (6).

Chomsky (1986:121) gives the following example (see also Jaeggli 1986: 614 who provides similar data based on *leave* and endorses Chomsky's conclusion):

(44)　a.　　They expected [PRO to leave the room angry]
　　　b.　　*The room was left angry.
　　　c.　　*The book sank angry.

He states: "The adjective phrase *angry* is predicated of PRO, not *they*, and only a syntactically present element can be its subject."

There are a few things to say about (44b). Passivizing this use of *leave* is marginal for some people:

(45)　a.　　?The room was left by everybody.
　　　b.　　?The room needs to be left early.

Second, in hearing (44b), one wonders who is angry. The interpretation that immediately comes to mind is that the room itself is somehow angry. So the interpretation would be parallel to the construction in (46a), which passivizes easily as shown in (46b):

(46)　a.　　I left the room messy.
　　　b.　　The room was left messy.

But even if the example is fixed to avoid these issues, it is still difficult to find examples on the internet of experiencer adjectives like *angry* modifying the implicit argument of the short passive. As noted above, an independent constraint might be at work.

In a footnote, Chomsky (1986:211) discusses Roeper's data:

(47)　"Roeper (1984) notes such examples as 'the game was played barefoot (nude),' which seems to violate the paradigm illustrated. Luigi Rizzi suggests that 'nude' may actually be adverbial, not adjectival, despite the morphology, as in some other languages."

Chomsky does not say what criterion are used here to classify *nude* as adverbial. There seem to be clear differences in meaning between secondary predicates and adverbs. Consider the following examples from Roeper (1993: 192):

(48)　a.　　The game was played drunk.
　　　b.　　The game was played drunkenly.

(48) means that at the time the game was played, the players were drunk. (48b) can imply (48a), but has a meaning related to the manner in which the game was played (e.g., screaming, yelling, exaggerated movements, lack of respect for the rules, slurred speech). These implications are absent with (48a) (see also Aarts 1995: 90 and Schultze-Berndt and Himmelmann 2004: 61 for related discussion).

Another possibility for construing *nude* as an adverb in (47) is to suppose that it applies to an event: an event can be characterized as nude if the agent of the event is nude. This idea is different from William's proposal in that it relates the secondary predicate to the event described

by the verb, and not to the derived subject. Also, even though *nude* would be an event predicate, it would not describe the manner of that event. Formally, this could be presented as follows. O is a type shifter, which takes the semantic value of an adjective and shifts it to a function which takes event arguments.

(49)   For all e, and for all $P_{<e,t>}$, if e is in the domain of Agent, then
         O(P)(e) iff P(Agent(e))

So in (47) above, the type shifter applies to *nude*, and the resulting predicate applies to the event described by the passive verb *played*.

The prediction of this account is that in general DPs describing events should be possible as the arguments of adjectives describing the agent of the event. Generally, the examples are understandable, but marginal or ungrammatical:

(50)   a.   *The game/race/World Cup/competition was nude/naked.
         b.   *The first verse/performance/song/race was alone/together.
         c.   *The final piece/first movement/concert was blindfolded.

But note that such event descriptions can appear with predicates (like *take an hour*) that take events as arguments (similarly for other predicates such as *started at 6:00, involved many participants*, *took place last year*, etc.)

(51)   a.   The game/race/World Cup/competition took one hour.
         b.   The first verse/performance/song/race took one hour.
         c.   The final piece/first movement/concert took one hour.

Under the theory in (49), it is unclear what would account for the clear difference in grammaticality between the sentences in (50) and the sentences in (51).

Lappin and Shlonsky (1993: 10) claim that for English (but not for German) "The passive morpheme is –TRP [cc. theta role bearer], and so it cannot serve as the external argument of a circumstantial predicate.":

(52)   a.   *The concert was played formally dressed.
         b.   *The lecture will be given naked.

While (52) does seem strained (as does the active variant), (52b) is acceptable, or at least not any worse than its active variant. I haven presented examples involving *naked* above.

Pylkkanen (2008: 22) characterizes the distribution of depictive secondary predicates as follows:

(53)   "This state can be predicated of either an internal or an external argument, although if the external argument is implicit, as in a passive, it cannot be modified by a depictive."

She provides the following example:

(54)   *This letter was written drunk.

For me, this sentence is a bit strained, but not ungrammatical. Richard Kayne suggests that (54) improves if one adds *it is obvious*, or *obviously*. I gave numerous internet examples with *drunk* above, all of which are grammatical. The internet examples provide a linguistic context which tends to ameliorate the use of the secondary predicate.

Citing Chomsky's (1986) discussion, Landau (2010: 359) makes a distinction between two types of implicit arguments (see also Landau 2013: 72, 180, 185, 228). Then in (56) he stipulates that secondary predicates cannot modify weak implicit arguments:

(55)   a.   Strong Implicit Arguments (SIA):   PRO, pro
         b.   Weak Implicit Arguments (WIA):   Passive agent, implicit object

(56)   An implicit argument must be strong to license a secondary predicate.

Landau (2010:360) gives the following two sentences to illustrate his claims:

(57)   a.   *The issue was decided unassisted.
         b.   *The game was played shoeless.

First, (57a) without a secondary predicate is not completely felicitous out of the blue ("The issue was decided."). Second, an episodic sentence with *unassisted* is given in (36) above. Third, (57b) gets better if one uses *barefoot* instead of *shoeless*, see the example in (25).

Landau notes in a footnote: "See Roeper 1987:297-298 for a different view." In addition to Roeper 1987, evidence contrary to (56) has been presented by Baker (1988), Roeper (1993), Collins (2005), Bhatt and Pancheva (2006) and Muller (2008).

4.   Analysis

So far, the following generalization has been established:

(58)   A depictive secondary predicate can modify the implicit argument of a passive.

In this section, I lay out the assumptions about depictive secondary predicates and the passive that will allow us to explain (58).

Based on binding, agreement and other data, Legendre 1997 convincingly argues that depictive secondary predicates are small clauses with a PRO subject (Dep is defined below in (61b)):

(59)   They$_1$ played the game [Dep [PRO$_1$ nude]]

Exactly what the internal structure of [PRO nude] is, and what the label of the small clause is, are beyond the scope of this article (see Bowers 1997 for an analysis of resultative secondary predicates based on PredP). There is no evidence that depictive secondary predicates are non-obligatory control structures (e.g., long distance control, PROarb interpretations, etc.). Therefore, I assume that the relationship between *they* and PRO in (59) is obligatory control. This assumption entails three properties commonly ascribed to obligatory control (see Hornstein 1999 for an

overview of properties of obligatory control, see Bowers 1993: 628 on the MDP and *promise*, see Landau (2013: section 5.1.3) for arguments against (60c)):

(60) a. PRO_1 requires a controller DP_1.
      b. The controller DP_1 c-commands PRO_1.
      c. Minimal Distance Principle:
          No DP_2 can intervene between the controller DP_1 and PRO_1.

In addition to these assumptions, the temporal dependence of the secondary predicate on the main verb needs to be captured. Following Pylkkanen (2008: 23), I assume that there is a head Dep that introduces the depictive (and that binds its situation variable). Pylkkanen notes that depictive predicates get essive case in Finish, and assumes that it is assigned by the Dep head. The semantic values of the adjective and the Dep head are given below:

(61) a. $[\![nude]\!] = \lambda x.\lambda s.nude(s,x)$
      b. $[\![Dep]\!] = \lambda P.\lambda e. \exists s.P(s)$ and $e°s$

The raised circle symbol in (61b) is the temporal overlap relation, "employed to capture the fact that the depictive describes a state that holds during an event." When the two morphemes are combined we get the following (suppose that PRO denotes John):
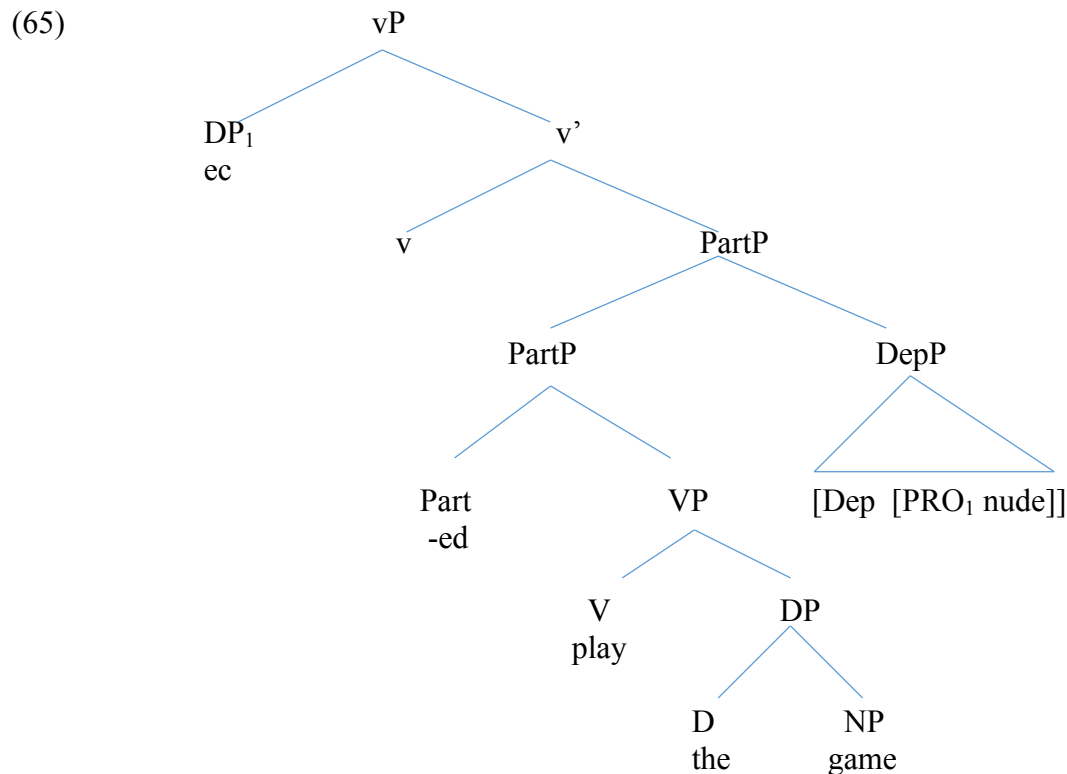
(62) $[\![DEP]\!] ([\![[PRO\ nude]]\!]) = \lambda e.\exists s.[nude(s, John) \wedge e°s]$

This expression is a predicate of events, such that the event overlaps with a state where John is nude. I also assume the following syntactic condition, motivated by the semantic value in (62) (see Andrews 1982 and Roberts 1988 for syntactic tests indicating the position of depictive secondary predicates). In this definition, 'verbal projection' refers to any projection of V, v, ApplP, PartP or VoiceP.

(63) DepP is the the sister of a verbal projection.

Given these assumptions, and assuming Collins' (2005) theory of the passive, a partial representation of the sentence in (64) is given in (65):

(64)   The game was played nude.

(65)

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                          vP
                 ┌────────┴────────┐
              DP₁                  v'
              ec           ┌───────┴───────┐
                           v             PartP
                                  ┌─────────┴──────────┐
                                PartP                 DepP
                            ┌─────┴─────┐          ◁──────────▷
                          Part         VP          [Dep  [PRO₁ nude]]
                          -ed      ┌────┴────┐
                                   V        DP
                                  play   ┌───┴───┐
                                         D      NP
                                        the    game
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        This structure is the underlying structure for the passive in the theory of Collins 2005. As in Collins 2005, I assume that the external argument (in this case the empty category ec) is projected in the same place in the passive as in the active, Spec vP. I return in section 6 to the issue of vP versus VoiceP as the projection introducing the external argument in the passive.

        Later operations move VP to Spec VoiceP, and object DP to Spec TP (see Collins 2005). I have represented the DepP as right adjoined to PartP, although other positions would have been possible (e.g., adjoined to VP). I represent the implicit argument as ec ('empty category') for now. I return to its exact identity in the next section.

        Consider how all the requirements of the depictive predicate are satisfied. First, PRO has a c-commanding controller, satisfying (60a,b). Second, no other DP intervenes between the implicit argument and PRO, satisfying (60c). Third, DepP is a sister of PartP, satisfying (63). So all conditions on depictive predicates are satisfied, and the sentence is acceptable.

        Other uses of adjectives should be distinguished from depictive secondary predicates:

(66)   a.   Drunk, the world is beautiful.
        b.   If one is/you are drunk, the world is beautiful.

        (66a) could be paraphrased as in (66b). One difference between (66a) and the examples of depictive predicates is that it involves an extra semantic relation between the adjective and the rest of the clause (indicated by the translation as a conditional). I assume that (66a) involves ghosting in the sense of Collins and Postal 2012, and that the syntactic structure is similar to the sentence (66b), except the string <if one is/your are> has been deleted.

5.   The Implicit Argument as an Ultra-indefinite

If the preceding sections are on the right track, then in the short passive, there is a syntactically present, but phonetically null, DP that represents the external argument. This DP is modified by the secondary predicate.

There are some authors in the generative literature who have proposed a syntactically present argument in the short passive (see Grinder 1971: 184, fn. 4, Johnson and Postal 1980: 280). Here is a quote from McCawley (1988: 32) (the phrase 'reduced passives' refers to short passives):

(67)   "If reduced passives are to be analyzed as having underlying subjects, the underlying subject must be something more indefinite than any expression of English is: it must be neutral with regard to whether it refers to human or non-human entities, and with regard to whether its referent is the same as or different from other individuals mentioned in the discourse. I will invoke a deux ex machina at this point and simply assume that such an element, hereby christened UNSPEC, is available, and will set up deep structures having UNSPEC as subject in the case of reduced passives…" (McCawley 1988: 82)

Consider the following sentences:

(68)   a.   The proposal was criticized at the meeting.
        b.   The package was sent this morning.
        c.   John was killed this morning.

(68a) can be be true if either a man or a woman criticized the proposal. Furthermore, it can also be true if either one person or more than one person or all the people criticized the proposal. Similarly, I can say (68b) to my boss if I myself have sent the package (with my boss understanding that nobody but me could have sent the package). So it is clear that (68b) does not exclude me from being the sender. Sentence (68c) is consistent either with a report of a murder (animate agent), or a natural accident (inanimate agent). These sentences show that the implicit argument is either ambiguous in its features specifications for the phi-features person, number, gender and animacy, or unspecified for those features. Below, I give reason to believe that the implicit argument is unspecified for phi-features.

As Grinder (1971: 186) pointed out, there is a striking difference between the implicit argument of a passive and an overt indefinite. The following sentences are based on his examples:

(69)   a.   Someone$_1$ stole the painting, and he$_1$ left is fingerprints all over the wall.
        b.   The painting was stolen by someone$_1$, and he$_1$ left his fingerprints all over the wall.
        c.   The painting was stolen and he left his fingerprints all over the wall.

Although *someone* can be the antecedent of *he* in (69a,b) it is much more difficult for the implicit argument in the passive to be the antecedent of *he* in (69c). Grinder (1971) explains this in terms of his Chaining Constraint which informally says that if an indefinite is the antecedent of a pronoun, then it cannot undergo deletion (where implicit arguments are assumed to be indefinites that undergo a process of deletion).

The constraint noted by Grinder extends to intra-clausal anaphora:

(70)   a.   The picture was given by somebody$_1$ to his$_1$ mother.
       b.   The picture was given to his mother.

The antecedent of *his* in (70a) is *somebody*, but such a relation between *his* and the implicit argument seems to be impossible in (61b).

Koenig (1998), Koenig and Mauner (2000) and Creissels (2008) (see also Kayne 1975: 196, fn. 154 on intra-clausal anaphora) have noticed a similar constraint on the impersonal pronoun *on* when it is used existentially in French. As Creissels (2008) emphasizes, there are a number of distinct uses of French *on*, with different anaphoric properties. The data below focusses on the existential use. Consider the following examples from Koenig (1998: 241):

(71)   *On   a   tué   la   présidente.
       INDEF have.PR   kill.PPT   the   president.
       'Someone killed the president.'

       Il   était   du   Berry, parait-t-il.
       he   be.PST   from.the   Berry, seem.PR-it
       'He comes from Berry, it seems.'

(72)   Quelqu'un   a   tué   la   présidente.
       INDEF   have.PR   kill.PPT   the   president.
       'Someone killed the president.'

       Il   était   du   Berry, parait-t-il.
       he   be.PST   from.the   Berry, seem.PR-it
       'He comes from Berry, it seems.'

Koenig (1998: 241) characterizes this property as "…the denotatum of the semantic argument satisfied by *on* cannot be directly referred back to." He frames his account in Discourse Representation Theory.

I propose, based on Grinder's data, that the implicit argument in the passive is analogous to the existential use of French *on*, both are ultra-indefinites, to use Koenig's term. In fact, Koenig (1998: 243) himself makes this connection: "I close this section by pointing out the strong similarities between French ultra-indefinite *on* and (prototypical) short passives."

One difference between the English passive and French *on* is that French *on* can only denote humans (Creissel 2008: 4). So in this sense, the passive implicit argument is even less specified than French *on*. But even though French *on* and the implicit argument of the short passive differ in this way, they are still parallel in their inability to antecede pronouns.

The parallelism between French *on* and the implicit argument in the short passive strikes a fatal blow to anybody who would like to claim that the properties of the short passive can be derived from the lack of a syntactically present implicit argument. The reason is that French *on* has similar properties, but is clearly syntactically present as a subject pronoun.

However, I would like to suggest an analysis different from Koenig (1998) for the discourse properties of the implicit argument, based on the paradigm in (69). I propose that the implicit argument in the passive is not specified for phi-features. It is a pure indefinite (signaling existential quantification over any object, human or not).

Now given that assumption, consider the following statement from Collins and Postal (2012: 92):

(73)   The Pronominal Agreement Condition
       If P is a non-expletive pronominal, then P agrees with some source in those phi-features for which P is not inherently valued.

Most pronouns do not have inherently valued phi-features. The only exceptions are cases like nurse-we, where they are lexically specified as 1PL. All other pronouns (other than expletives), including bound variable pronouns and non-bound variable pronouns are not inherently valued for phi-features. Furthermore, Collins and Postal (2012: 27) make the assumption that all non-expletive pronouns have antecedents.

Given these assumptions, consider the sentence in (69c). The pronoun *he* has phi-features (and they are not inherently valued). The implicit argument in the passive is the antecedent for *he*. By (73), *he* must agree in phi-features with its antecedent, but by assumption the implicit argument in the passive has no phi-features. Therefore (69c) is unacceptable.

Consider now (69a,b). The only difference is that the antecedent of the pronoun is *someone*. I assume that *someone* has a full set of phi-features: 3SG (human). Furthermore, I assume that *someone* is somehow specified as masculine or feminine, depending on the assumed gender of the thief.

Given these assumptions consider the following data:

(74)   a.   The post office will not deliver packages sent to oneself/yourself.
       b.   Pictures taken of oneself/yourself are called 'selfies'.
       c.   Such privileges should be kept to oneself.
            (Baker, Johnson & Roberts 1989:228)
       d.   Damaging testimony is always given about oneself in secret trials.
            (Roberts 1987)

In these examples, the implicit argument binds the reflexive pronoun *oneself/yourself*. Therefore, these pronouns seem to agree in phi-features with an antecedent. All the sentences in (74) are understood as generic. Curiously, a similar fact exists for French *on*. When understood generically, it can bind some pronouns (see Creissels 2008, section 5). I suggest that in (74) the implicit argument is a null version of *one*, the generic pronoun in English (on the semantics of *one*, see Moltmann 2006).

Unlike the existential implicit argument, the generic implicit argument does have phi-features. First, it is singular (as indicated by the use of the form *onself*, instead of *oneselves*). Second, it is third person (with a connection to first person, as described by Moltmann). Third, it is human and animate. Fourth, it has a feature [+generic] (see Moltmann 2006: 262), which I will analyze as a kind of phi-feature (since it determines the form of the pronoun *one*).

Examples (not quite as felicitous) can also be given with inter-clausal anaphora:

(75)   a.   A book must be returned, before one can check out another.
       b.   Once a chess piece is moved, one cannot change its position.
       c.   If breakfast is eaten nude, one feels refreshed the entire day.

In other words, I am suggesting that there are two possible pronouns that can be the implicit argument in the passive:

(76)   a.   an ultra-indefinite (with no phi-features)
       b.   a null version of generic *one* (with phi-features).

Whether it is possible to collapse these two possibilities into one, I will leave to future research. Each pronoun in (76a,b) corresponds to a different use of French *on* (existential vs. generic uses).

In fact, there is already a proposal for an implicit argument like (76b) in English. Epstein (1984) argues that in structures like (77b) *fun* has a universal quantifier argument pro that binds the PRO subject of the infinitival clause:

(77)   a.   It is fun to play baseball.
       b.   It is fun pro [PRO to play baseball]

For Epstein PROarb is a 'variable bound by this universal quantifier…' (see Chomsky 1986:117 on the correspondence between *one* and PROarb).

My theory of implicit arguments in the passive makes the following prediction:

(78)   In a language L, if predicate adjectives are inflected, and if the implicit argument A of a passive verb does not have phi-features, then A cannot be modified by an adjectival secondary predicate.

The explanation for this prediction is that if an adjective is necessarily inflected, it will not be able to get its phi-features from the implicit argument. The explanation of (78) is parallel to the explanation of Grinder's Chaining Constraint, where an existential implicit argument cannot be the antecedent of a pronoun with phi-features. Hebrew may be a language falling under (78) (see Meltzer-Asscher 2012 for a description of the facts from a different theoretical perspective).

6.   Theoretical Consequences

In the wake of Larson's (1988) analysis of VP structure in terms of VP shells, there were a number of proposals to investigate the properties of particular shells and to assign labels to them. In particular, Chomsky 1995 labeled the shell introducing the external argument as v ("little v"), Bowers (1993) labeled it as Pred (for predication) and Kratzer (1996) labeled it as Voice.

In Kratzer's 1996 paper, no motivation was given for choosing the label Voice, over other possible labels. Such a label would be supported if it turned out that the projection played a role in analyzing phenomena traditionally characterized by the term voice, such as passive voice, middle voice, anti-passive voice, etc.

In fact, Pylkkanen (2008: 26) proposed that there is passive Voice head that does two things: (a) introduce an external argument, and (b) existentially close it:

(79)   a. $[\![\text{Voice}]\!]$ = $\lambda x.\lambda e.\text{agent}(e,x)$
       b. $[\![\text{Voice}_{\text{Pass}}]\!]$ = $\lambda e.\exists x.\text{agent}(e,x)$

In (79b), the variable introduced by Voice$_{Pass}$ is also existentially closed by Voice$_{Pass}$. Because of this, the active Voice, but not the passive Voice, has a specifier. So there is no syntactically present external argument in the passive. Pylkkanen uses this property to explain the generalization (shown to be incorrect above) that the implicit argument of a passive cannot be modified by a depictive predicate:

(80) "The inability of depictives to modify an implicit external argument is also predicted, as long we assume that passive Voice makes the external argument syntactically unavailable."

A number of other researchers have followed Pylkkanen in assuming that the passive involves a VoiceP with no specifier, including Breuning (2013), Legate (2014), Alexiadou, Anagnostopoulou and Schäfer (2015). If it is true that there is an active VoiceP (with a specifier) and a passive VoiceP (without a specifier), that would vindicate Kratzer's original label. The projection that introduces the external argument would play a crucial role in voice phenomenon (e.g., the English passive voice).

Collins (2005) presents a very different picture. He assumes (following Chomsky 1957) that the external argument in a passive is projected in the same way as in the active. Collins (2005) does suppose there there is a VoiceP that plays an important role in the passive, but this projection has nothing to do with the projection of external arguments.

So there are two very different (mutually inconsistent) accounts of the role of VoiceP in the theory of argument structure:

(81) a. In the active, VoiceP projects a specifier. In the passive, VoiceP does not project a specifier.
      b. VoiceP does not play a role in projecting the external argument, however it does play a role in distinguishing the passive from the active.

The data in this paper argues that (81a) cannot be the correct analysis of the passive. Rather, the data in this paper suggests that arguments are projected the same way in the active as in the passive, as in Collins 2005 and Chomsky 1957.

Of course, one could argue for a third position:

(82) The external argument occupies Spec VoiceP in the passive and the active, and VoiceP does not play a role in distinguishing the active from the passive.

On this theory, VoiceP would play a role in some voice phenomena (justifying the label for the projection), but play no role in the English passive. I leave it to further work to pursue such an approach.

A question we can ask is why the external argument of the passive must be syntactically realized in the short passive. I suggest the following principle:

(83) All implicit arguments are syntactically realized.

This principle covers the implicit argument in the short passive, but other cases of implicit arguments as well (see Elbourne forthcoming and Bhatt and Pancheva 2006 for surveys). Another way to think of this is that there is a very close (transparent) connection between semantics and

syntax. In particular, it is impossible to have a variable in the semantic value (truth conditions) of a sentence, unless that variable corresponds to some syntactic constituent C (in the syntactic structure of the sentence) which is interpreted as variable.

From the point of view of (83), the interesting question is how to account for the kinds of syntactic tests that an implicit argument passes or fails (e.g., binding an anaphor) in terms of the syntactic features of the implicit argument or in terms of its syntactic position.

7.   Conclusion

I have demonstrated the following generalization:

(84)   A depictive secondary predicate can modify the implicit argument of the short passive.

I then gave a theory of secondary predicates and passives that allowed one to account for this generalization. Briefly, secondary predicates are small clause structures (e.g., [PRO nude]) where the subject PRO is controlled by either the subject or the object. In the passive, the implicit argument is syntactically projected, and so is able to control PRO. I showed that the implicit argument in the passive is either an ultra-indefinite or a null version of *one*. Based on this analysis, I discussed a number of general theoretical issues, such as the existence of a VoiceP projection and also the status of implicit arguments.

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