The Nature of the Animacy Hierarchy:
A Perspective from a Study of Japanese Passives

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1. Introduction

Generative grammatical studies by Kuroda (1965, 1979/1992, 1985) and Saito (1982) have succeeded in capturing some important properties of Japanese passives in one way or another. In this paper, I show that Kuroda's and Saito's analyses are distinct in a formally significant respect, but they are both basically correct. I thus argue that we should come up with a way to maintain both of those analyses as they are, rather than choosing one over the other (cf. Hoshi 1994, etc.). Furthermore, I propose that Kuno's (1983, 1986, etc.) functional syntactic approach to Japanese passives based on the animacy hierarchy could provide us with a novel and plausible way to do so (cf. Hoshi 2017a-b, 2018; cf. Croft 2001, 2003, Hawkins 2007, 2014, etc.).

In the following section, I first show Kuroda's (1965, 1979/1992, 1985) generative grammatical analysis, where the Japanese passive morpheme *–(r)are* of *–ni* passive is analyzed as a matrix verb, but the passive morpheme *–(r)are* of *–ni yotte* passive is regarded as a suffix corresponding to the English passive morpheme *–en/-ed*. In section 3, on the other hand, I show Saito's (1982) argument that the Japanese passive morpheme *–(r)are* of *–ni* passive is, in fact, not a verb, but a suffix which turns a transitive verb into an intransitive verb (contra. Kuroda 1965, 1979/1992, 1985). There, I also demonstrate that the Japanese passive morpheme *–(r)are* of *–ni yotte* passive is also an 'intratisivizer' exactly like the *–ni* passive morpheme *–(r)are* (cf. Hoshi 1999). That is, the Japanese passive morpheme *–(r)are* of *–ni* passive and that of *–ni yotte* passive are the same in that both of those morphemes are an intransitivizer (contra. Kuroda 1965, 1979/1992, 1985).

On the basis of the discussion in the preceding sections, I argue in section 4 that Kuroda's and Saito's formal analyses are both plausible, and if possible, we should find a way to maintain both of those two accounts exactly as they are (cf. Hoshi 1994, etc.). I also argue in the section that it is indeed possible, and seems to be even better to accept Kuroda's and Saito's formal approaches as they are, by incorporating Kuno's (1983, 1986, etc.) animacy hierarchy-based functional approach into Kuroda's and Saito's formal analyses of Japanese passives (cf. Kuno's 1983, 1986, 1987, etc. empathy hierarchy/perspective). Namely, there, I propose that given Kuroda's and Saito's formal analyses of Japanese passives, it turns out that Japanese *–ni* passive and *–ni yotte* passive could have formally identical structure, i.e. NP movement structure. Native speakers of Japanese thus differentiate those two types of Japanese passives not formally, but functionally. To be more precise, I suggest there that native speakers of Japanese apply the animacy hierarchy to Japanese *–ni* passive from left to right in a normal way, as Kuno (1983, 1986, etc.) proposes, but those native speakers apply the same animacy hierarchy to *–ni yotte* passive from right to left in a reversed manner (contra. Kuno 1986, etc.; cf. the direct-inverse constructions in Cree, Nocte, etc. in Croft 2001, 2003, etc.) In section 5, I conclude the discussion of this paper.

2. A Generative Grammatical Analysis of Japanese Passives (Kuroda 1965, 1979/1992, 1985, etc.)

To account for the nature of Japanese passives in (1a-c),

(1) a. John-ga   Mary-ni   home -rare -ta.
       John-Nom Mary-Dat praise-Pass-Past
       '(Lit.) John$_i$ was affected by Mary's praising him$_i$.'

    b. John-ga   Mary-ni   nikki-o   yom-are -ta.
       John-Nom Mary-Dat diary-Acc read -Pass-Past
       '(Lit.) John was affected by Mary's reading (pro's) diary.'

    c. John-ga   ame-ni   hur-are -ta.
       John-Nom rain -Dat fall -Pass-Pst
       '(Lit.) John was affected by rain's falling.'

       Kuroda (1965) proposes the generative grammatical analysis in (2a-c),

(2) a. [$_{S1}$ John$_i$-ga [$_{S2}$ Mary-ni John$_i$-o home] [$_V$ rare]-ta] (for 1a)
                            ↓
                 complement object deletion

    b. [$_{S1}$ John-ga [$_{S2}$ Mary-ni nikki-o yom] [$_V$ (r)are]-ta] (for 1b)

    c. [$_{S1}$ John$_i$-ga [$_{S2}$ ame-ni hur] [$_V$ (r)are]-ta] (for 1c)

                                    (Kuroda 1965, 1979/1992; cf. K. Hasegawa 1964)

and argues that the Japanese passive morpheme *–(r)are* is a matrix verb which has the broad meaning of the English verb *affect*, i.e. that the event described by the embedded clause S$_2$ *has an influence on* the subject of the matrix clause S$_1$, or S$_2$ *brings about a change in* the subject of S$_1$ (Kuroda 1992, p. 5; see Kuno 1983, 1986 for an alternative proposal for the meaning of the Japanese passive morpheme *–(r)are*).

    Thus, under Kuroda's analysis, the passive morpheme [$_V$ *(r)are*] uniformly selects the matrix subject and the embedded clause S$_2$, as shown in (2a-c) for Japanese passives (1a-c). In structure (2a) for Japanese passive (1a), the matrix subject *John$_i$* and the embedded object *John$_i$* are the same, and given the identity, the complement object *John$_i$* is deleted. On the other hand, there is no such identity between the matrix subject and the embedded object in (2b) or (2c). In (2b) for (1b), the matrix subject is *John*, and the object of the embedded clause S$_2$ is *nikki* 'diary.' In (2c) for (1c), the subject of the matrix clause S$_1$ is *John*, but the embedded clause S$_2$ lacks object, because the embedded predicate is the intransitive verb [$_{VI}$ *hur*] 'fall.' Hence, neither in (2b) nor (2c), complement object deletion is triggered (cf. 2a for 1a). In all the representations in (2a-c) for Japanese passives (1a-c), the subject of the embedded clause is uniformly marked by the Dative marker *–ni*. Hence, all types of Japanese passive in (1a-c) are called *–ni* passive.

    As shown above, Kuroda's (1965, 1979/1992) analysis in (2a-c) is appealing, because it treats Japanese passives (1a-c) uniformly, and seems to be semantically plausible and formally minimal. Furthermore, Kuroda's generative grammatical analysis of Japanese *–ni* passives in (2a-c) appears to be supported by the following contrast:

(3) a.*Fermat-no   teiri   -ga   John-ni syoomeis-are -ta.
       Fermat-Gen theorem-Nom John-Dat prove   -Pass-Pst
       '(Lit.) Fermat's theorem$_i$ was affected by John's proving it$_i$.'

  b. Fermat-no   teiri   -ga   John-ni yotte syoomeis-are -ta.
     Fermat-Gen theorem-Nom John-by   prove   -Pass-Pst
     'Fermat's theory was proved by John.' (Kuroda 1979/1992)

(3a) is unacceptable, whereas (3b) is acceptable. The unacceptability of (3a) is accounted for by Kuroda's analysis of –*ni* passive in (4), because

(4)   *[S₁ Fermat-no teiriᵢ-ga [S₂ John-ni Fermat-no teiriᵢ-o syoomeis] [ᵥ (r)are]-ta] (for 3a)
                                          ↓
                        complement object deletion (Kuroda 1979/1992)

the Japanese –*ni* passive verb [ᵥ *(r)are*] has the broad meaning of the English verb *affect*; immutable entities such as *Fermat-no teiri* 'Fermat's theorem,' however, do not seem to be affected in any way by the event described by the embedded clause S₂, i.e. John's proving Fermat's theorem. In other words, in (4), the matrix subject *Fermat-no teiri* cannot satisfy a semantic restriction imposed by the –*ni* passive morpheme [ᵥ *(r)are*].

     To explain the grammaticality of another Japanese passive in (3b), on the other hand, Kuroda (1979/1992) proposes the following type of structure, which is distinct from representation (4) in a formally significant respect:

(5)   [ₛ Fermat's theormᵢ-ga [ᵥₚ John-ni yotte *t*ᵢ [ᵥᵢ syoomeis-are]-ta]] (for 3b) (Kuroda 1979/1992)
              ↑_____|
                     NP movement

Notice that according to Kuroda (1979/1992), the passive morpheme –*(r)are* of this type of passive is not a predicate (cf. 2a-c). However, it is a suffix like the English passive morpheme –*en/-ed*, and in a sense, is an 'intransitiver,' which turns the transitive verb [ᵥₜ *syoomeis*] 'prove' into the intransitive predicate [ᵥᵢ *syoomeis-are*]. Consequently, it triggers successfully NP movement of the internal argument, *Fermat-no teiri* 'Fermat's theorem,' into the non-θ subject position presumably for Case reasons, as illustrated in (5). In this type of Japanese passive, the external argument of the verb *syoomeis* 'prove' is marked by –*ni yotte* 'by/due to,' and thus, Japanese passives such as (3b/5) are called –*ni yotte* passive (cf. –*ni* passives in 1a-b/2a-c).

     The grammaticality of (3b) therefore corresponds to the grammaticality of the English passive in (6),

(6)   Fermat's theorem was proven by John.

and Kuroda's structure (5) parallels NP movement structure (7) for English *be* passive (6) (Chomsky 1981, Saito 1982, etc.)

(7)   Fermat's theoremᵢ was prov-en *t*ᵢ   by John.
              ↑_____|
                  NP movement

In (7), the English passive morpheme –*en/-ed* 'intransitivizes' the transitive verb [ᵥₜ *prove*], turning it into the intransitive predicate [ᵥᵢ *prov-en*], and the internal argument of the verb, [*Fermat's theorem*]ᵢ, undergoes NP movement into the non-θ subject position for Case reasons.

3. Intransitivization in Japanese Passives (Saito 1982)

Given the discussion in the preceding section, Kuroda's analysis of Japanese passives as a whole seems to be convincing, and his analysis of (1a) in (2a) appears to be plausible. The *–ni* passive in (1a) and Kuroda's analysis (2a) are repeated below as (8a) and (8b), respectively:

(8) a. John-ga   Mary-ni   home -rare -ta. (= 1a)
John-Nom Mary-Dat praise-Pass-Past
'(Lit.) John$_i$ was affected by Mary's praising him$_i$.'

b. [$_{S1}$ John$_i$-ga [$_{S2}$ Mary-ni John$_i$-o home] [$_V$ rare]-ta] (= 2a)
                               ↓
                    complement object deletion

Importantly, however, Saito (1982) discovers some data which Kuroda's complement object deletion analysis in (8b) cannot account for adequately. Saito's argument is based on the well-known contrast in Japanese causatives in (9a-b). Consider first the difference below:

(9) a. John-ga   Mary-ni /o   [$_{VI}$ hasir]-ase   -ta.
John-Nom Mary-Dat/Acc   run   -Cause-Pst
'John made Mary run.'

b. John-ga   Mary-ni /*o   hon-o   [$_{VT}$ yom]-ase   -ta.
John-Nom Mary-Dat/*Acc book-Acc   read -Cause-Pst
'John made Mary read a book.'   (Harada 1973, Shibatani 1973, Kuroda 1978, etc.)

Observe that if intransitive verbs such as [$_{VI}$ *hasir*] 'run' is attached by the Japanese causative morpheme *–(s)ase*, the causee argument *Mary* can be marked by either the Dative marker *–ni* or the Accusative marker *–o*, as in (9a). If, on the other hand, transitive verbs such as [$_{VT}$ *yom*] 'read' is attached by the causative morpheme *–(s)ase*, the causee *Mary* has to be marked by the Dative case particle *–ni*, but cannot be marked by the Accusative Case marker *–o*, as shown in (9b). Hence, a generalization is that the causee argument can be marked by either the Dative marker *–ni* or the Accusative Case marker *–o* in Japanese causatives involving intransitive verbs (see 9a), whereas the causee must be marked by the Dative Case particle *–ni*, but cannot be marked by the Accusative Case marker *–o*, if Japanese causatives involve transitive verbs (see 9b).

Keeping this generalization in mind, examine now Saito's (1982) crucial examples where he embeds *–ni* passive '*Mary-ga damatte Tom-ni nagur-are-ta* (Mary was punched by Tom without saying anything)' inside Japanese causative. Saito's data are given in (10a-b).

(10) a. John-ga   Mary-ni   damatte Tom-ni [nagur -are] -sase   -ta.
John-Nom Mary-Dat silently Tom-by   punch-Pass -Cause-Pst
'John made Mary be punched by Tom without saying anything.'

b.   John-ga   Mary-o   damatte Tom-ni [nagur -are] -sase   -ta.
John-Nom Mary-Acc silently Tom-by   punch-Pass -Cause-Pst
'John made Mary be punched by Tom without saying anything'   (Saito 1982, p. 92)

Notice that in passive-causative examples in (10a-b), the transitive verb [$_{VT}$ *nagur*] 'punch' is first attached by the Japanese *–ni* passive morpheme *–(r)are*. [*nagur-are*] is then attached by the Japanese causative morpheme *–(s)ase*. If [*nagur-are*] as a whole functions as a transitive verb like [$_{VT}$ *yom*] 'read' in (9b), it is predicted that in (10), the causee argument *Mary* must be marked by the Dative marker *–ni*, but cannot be marked by the Accusative Case marker *–o*.

However, clearly, this is not the case. As shown above, the causee *Mary* can be marked either by the Dative marker *–ni* as in (10a), or by the Accusative Case marker *–o* as in (10b). This shows that in (10a-b), [*nagur-are*] functions as intransitive verbs such as [$_{VI}$ *hasir*] 'run' in (9a). Saito (1982) thus argues that the *–ni* passive morpheme *–(r)are* should not be a verb (contra. Kuroda 1965, 1979/1992), but it is a suffix which turns the transitive verb [$_{VT}$ *nagur*] into the intransitive verb [$_{VI}$ *nagur-are*]; Saito (1982) proposes the following NP movement structure for *–ni* passive (8a), which parallels NP movement structure (7) for English *be* passive (6) (contra. Kuroda 1965, 1979/1992, 1985, etc.; cf. complement object deletion structure in 8b):

(11)   [$_S$ John$_i$-ga   Mary-ni t_i [$_{VI}$ home-rare]-ta.] (for 8a; cf. 7 for 6)
              ↑_____|
                   NP movement

Furthermore, Hoshi (1999) shows that Japanese *–ni yotte* passive behaves exactly in the same way as *–ni* passive in this respect. Observe that in (12a-b), Japanese *–ni yotte* passive '*Mary-ga damatte Tom-ni yotte nagur-are-ta* (Mary was punched by Tom without saying anything)' is embedded inside the causative construction.

(12) a. John-ga   Mary-ni   damatte Tom-ni yotte [nagur -are] -sase   -ta.
         John-Nom Mary-Dat silently Tom-by   punch-Pass -Cause-Pst
         'John made Mary be punched by Tom without saying anything.'

    b. John-ga   Mary-o   damatte Tom-ni yotte [nagur -are] -sase   -ta.
         John-Nom Mary-Acc silently Tom-by   punch-Pass -Cause-Pst
         'John made Mary be punched by Tom without saying anything' (Hoshi 1999)

As in (10a-b), the transitive verb [$_{VT}$ *nagur*] is first attached by the *–ni yotte* passive morpheme *–(r)are* in (12a-b). Then, [*nagur-are*] as a whole is attached by the Japanese causative morpheme *–(s)ase*. Notice that as in (10a-b), the causee argument *Mary* can be marked by the Dative Case *–ni* as in (12a) or by Accusative Case *–o* as in (12b). This implies that exactly like the *–ni* passive morpheme *–(r)are*, the *–ni yotte* passive morpheme *–(r)are* is an intransitivizer which turns the transitive verb [$_{VT}$ *nagur*] into the intransitive one [$_{VI}$ *nagur-are*] in (12a-b); thus, *–ni yotte* passive (13a) should also be assigned NP movement structure (13b).

(13) a. John-ga   Mary-ni yotte home -rare -ta.
         John-Nom Mary-by   praise-Pass-Pst
         'John was praised by Mary.'

    b. [$_S$ John$_i$-ga   Mary-ni yotte t_i [$_{VI}$ home-rare]-ta.] (cf. 11)
              ↑_____|
                   NP movement

The discussion of this section which heavily relies on Saito (1982) thus leads us to conclude that there is in

fact no formal difference between *–ni* passive (8a) and its *–ni yotte* passive counterpart in (13a) (contra. Kuroda 1979/1992, 1985, etc.). The *–ni* passive in (8a) and the corresponding *–ni yotte* passive in (13b) seems to have the identical NP movement configuration.

Consequently, this conclusion implies that we lose Kuroda's account for the contrast between *–ni* passive (3a) and *–ni yotte* passive (3b). ((3a) and (3b) are repeated below as (14a) and (14b), respectively.)

(14) a.*Fermat-no teiri   -ga   John-ni syoomeis-are -ta. (= 3a)
      Fermat-Gen theorem-Nom John-Dat prove   -Pass-Pst
      '(Lit.) Fermat's theorem$_i$ was affected by John's proving it$_i$.'

   b. Fermat-no   teiri   -ga   John-ni yotte syoomeis-are -ta. (= 3b)
      Fermat-Gen theorem-Nom John-by   prove   -Pass-Pst
      'Fermat's theory was proved by John.' (Kuroda 1979/1992)

This is because both *–ni* passive (14a) and *–ni yotte* passive (14b) should involve NP movement exactly in the same way, as illustrated in (15a) and (15b).

(15) a. [$_S$ Fermat's theorm$_i$-ga [$_{VP}$ John-ni t_i [$_{VI}$ syoomeis-are]-ta]] (for 14a)
              ↑_____|
                    NP movement   (Saito 1982; cf. Kuroda 1965, 1979/1992)

   b. [$_S$ Fermat's theorm$_i$-ga [$_{VP}$ John-ni yotte t_i [$_{VI}$ syoomeis-are]-ta]] (for 14b)
            ↑_____|
                    NP movement   (Kuroda 1979/1992, Hoshi 1999)

Recall that Kuroda uses his complement object deletion structure (4) to rule out (14a=3a), but the complement object deletion analysis is no longer available to us, given the discussion in this section.

The preceding discussion might appear to be an undesirable one, because it suggests that Kuroda's formal account for the contrast between (3a=14a) and (3b=14b) is now lost. It might, however, hint at something very important with respect to the nature of Japanese passives. That is, the discussion might imply that both Kuroda's and Saito's formal analyses of Japanese passives are basically correct in one way or another, but neither one of them is sufficient to reveal the complex properties of passives in Japanese. To put it differently, it might indeed be the case that Japanese has two types of *–ni* passive morpheme *–(r)are*: one type of *–ni* passive morpheme *–(r)are* is a two-place predicate as Kuroda (1965, 1979/1992, etc.) proposes (see 2a-c for 1a-c); and the other *–ni* passive morpheme *–(r)are* is an intransitivizer as Saito (1982) argues (see 10a-b). Furthermore, the latter type of *–ni* passive morpheme *–(r)are* and the *–ni yotte* passive morpheme *–(r)are* are exactly the same in that both of those two Japanese passive morphemes are an intransisivizer (cf. Kuroda 1979/92, Saito 1982, Hoshi 1999, etc.; see 10a-b & 12a-b). Finally and, perhaps, most significantly here, the conclusion of this section might hint that the contrast between *–ni* passive (3a=14a) and *–ni yotte* passive (3b=14b) should be explained not formally, but in terms of how native speakers of Japanese use those identical twin NP movement structures (see (11) vs. (13b); see also (15a) vs. (15b)). Given this consideration, in the following section, I attempt to hint at a possibility tentatively that it seems to be worthwhile exploring a novel way to differentiate Japanese *–ni* passive and *–ni yotte* passive functionally by revising Kuno's (1983, 1986, 1987, etc.) animacy hierarchy-based analysis of Japanese passives (cf. the direct-inverse constructions in Cree, Nocte, etc. in Croft 2001, 2003; cf. Hawkins 2007, 2014, etc.).

4. The Animacy Hierarchy vs. The Reversed Animacy Hierarchy (Kuno 1986, Hoshi 2017b, etc.)

What is important in this context is that Kuno (1983, 1986) discovers data like the one below, and has already posed a problem for Kuroda's (1979/1992, 1985) formal analysis of the contrast between (14a=3a) and (14b=3b).

(16) (?)kono teiri   -wa dare-ni   syoomeis-are -ta-n-dakke. (cf. 14a=3a)
        this   theorem-Top who -Dat prove   -Pass-Pst
        'By whom was this theorem proven?' (Kuno 1986, p. 80; cf. Campbell 1983)

Observe that as in (14a=3a), the immutable entity, [NP *kono teiri*] 'this theorem,' is placed in the topic/subject position in Japanese *–ni* passive in (16). Hence, under Kuroda's complement object deletion analysis (see structure 4), it is not obvious why *–ni* passive (16) sounds much better than *–ni* passive (14a=3a).

Kuno (1986) also provides the following contrast, and Kuroda's (1965, 1979/1992, 1985, etc.) account appears to suffer another drawback:

(17)a. *kono ana -wa John-ni   hor-are -ta.
        This hole-Top John-Dat dig-Pass-Pst
        'This hole was dug by John.' (Kuroda 1979/1992)

    b. ?musuu   -no ana -ga   ari -no   taigun   -ni   tugi-kara tugi-e-to hor-are -te it-ta.
        innumerable   hole-Nom ant-Gen a large swarm of-Dat one after another dig-Pass-   -Pst
        'One after another, innumerable holes were dug by a large swarm of ants.' (Kuno 1986, p. 81)

Notice that it is not entirely clear for Kuroda (1965, 1979/1992, 1985) why there is a contrast between (17a) and (17b). Both (17a) and (17b) are instances of Japanese *–ni* passive. In (17a) and (17b), the subject/topic position is filled by very similar NPs, i.e. [NP *kono ana*] 'this hole' in (17a) and [NP *musuu-no ana*] 'innumerable holes' in (17b). If such NPs satisfy a selectional requirements imposed by the *–ni* passive morpheme *–(r)are*, both (17a) and (17b) should be acceptable. If such NPs do not meet such requirements, both of them should be rejected. However, as Kuno claims, (17b) sounds by far better than (17a). A question thus arises as to why there is a contrast between (17a) and (17b), but Kuroda's formal account for Japanese *–ni* passive does not seem to be able to account for the nature of such contrasts in a straightforward manner.

To account for the data above, Kuno (1983, 1986) thus proposes that Japanese *–ni* passive is subject to the animacy hierarchy like the one below, whereas *–ni yotte* passive does not (see Kuno 1983, 1986 for much detailed discussion of his functional syntactic analysis in terms of empathy hierarchies/perspectives).

(18)   human > non-human animate > inanimate (Kuno 1986, p. 79)

Given animacy hierarchy (18), Kuno (1983, 1986) rules out Japanese *–ni* passive (14a=3a) straightforwardly, because the subject position is filled by the immutable entity [NP *Fermat-no teiri*] 'Fermat's theorem' and the Dative *–ni* phrase contains the human [NP *John*]. The surface order of these two NPs clearly contradicts the animacy hierarchy. Kuno, on the other hand, rules in *–ni yotte* passive (14b=3b), as desired, because Japanese *–ni yotte* passive is not subject to animacy hierarchy (18).

Kuno (1983, 1986) also accounts for the contrast between *–ni* passives (17a) and (17b) on the basis of the animacy hierarchy in (18). In (17a), the topic/subject position is filled by the [+ inanimate] [NP *kono ana*] 'this whole,' and the Dative phrase contains [+ animate] [NP *John*]. This surface order of these NPs contradicts the animacy hierarchy in (18), and (17a) turns out to be unacceptable. In (17b), on the other hand, the subject position is occupied

by the [+ inanimate] [NP *musuu-no ana*] 'innumerable holes,' and the Dative *–ni* phrase dominates [+ inaminate] [NP *ari-no taigun*] 'a large swarm of ants.' The surface order of these two NPs does not contradict animacy hierarchy (18), and examples (17b) is ruled in, as desired, under Kuno's functional syntactic analysis. (Kuno's 1983, 1986 animacy hierarchy-based analysis of the grammaticality of *–ni* passive (16) is not entirely clear to me yet, and I put it aside in this paper. The reader is referred to Kuno 1983, 1986, 1987, etc. for relevant discussion.)

Kuno's (1983, 1986) animacy hierarchy-based analysis of Japanese passives is certainly an insightful one, but it does not seem to be free from a problem, either. This is so, because his analysis does not seem to be able to account for the contrasts like the following. Consider now the reversed contrast between *–ni* passive (19a) and *–ni yotte* passive (19b) below:

(19) a. niwa -de-wa John-ga   ka   -ni sas -are -ta.
        garden-in -Top John-Nom mosquito-Dat bite-Pass-Pst
        'In the garden, John was bitten by mosquitoes.'

   b.*niwa -de -wa John-ga   ka   -ni yotte sas -are -ta
        garden-in -Top John -Nom mosquito-by   bite-Pass-Pst
        'In the garden, John was bitten by mosquitoes.' (Hoshi 2017b)

The *–ni* passive in (19a) is acceptable, while the *–ni yotte* passive counterpart in (19b) is not. Observe that in (19a), the subject position is filled by the [+ human] [NP *John*], and the Dative *–ni* phrase contains [+inanimate] [NP *ka*] 'mosquito.' The surface order of these two NPs observe the animacy hierarcy in (18), and thus, (19a) is correctly ruled in. In (19b), the subject position is occupied by the [+ human] [NP *John*], and the *–ni yotte* phrase dominates [+inanimate] [NP *ka*] 'mosquito.' Under Kuno's analysis of Japanese passives, however, the animacy hierarchy should be irrelevant to *–ni yotte* passive, and thus, for Kuno (1983, 1986, 1987, etc.), there does not seem to be any reason why Japanese *–ni yotte* passive (19b) is unacceptable.

Examine also the data below, where the above mentioned contrasts between Japanese *–ni* passive and *–ni yotte* passive now seems to disappear (see 14a=3a vs 14b=3b; 19a vs. 19b): (I thank M. Hoshi, who brought the data in (21a-c) to my attention in personal communication in December, 2017.)

(20) a. ka   -ga   sinzitu-o   akiraka-ni si-ta
        mosquito-Nom truth   -Acc reveal   -Pst
        'Mosquitoes revealed truth.'

   b. sinzitu-ga ka   -ni   akiraka-ni s-are -ta
        truth   -Nom mosquito-Dat reveal   -Pass-Pst
        'Truth was revealed by mosquitoes.'

   c. sinzitu-ga   ka   -ni yotte akiraka-ni s-are -ta
        turh   -Nom mosquito-by   reveal   -Pass-Pst
        'Truth was revealed by mosquitoes.'

(21) a. ka-ga   mararia-o   maki-tirasi-ta
        mosquito-Nom malaria-Acc spread   -Pst
        'Mosquitoes spread malaria.'

b. mararia-ga   ka   -ni maki-tiras-are -ta.
   malaria-Nom mosquito-by spread   -Pass-Pst
   'Malaria was spread by mosquitoes.'

c. mararia-ga   ka   -ni yotte maki-tiras-are -ta.
   malaria-Nom mosquito-by   spread   -Pass-Pst
   'Malaria was spread by mosquitoes.'

Given the novel data in (19a-b), (20a-b), and (21a-b) in Japanese passives, I thus propose the following:

(22) a. The animacy hierarchy is applied to Japanese –*ni* passive in an usual manner.
     human > non-human animate > inanimate   (Kuno 1983, 1986, etc.)

   b. The reversed animacy hierarcy is applied to Japanese –*ni yotte* passive.
     human < non-human animate < inanimate   (cf. Hoshi 2017b)

In other words, under my proposal, native speakers of Japanese differentiate –*ni* passive and –*ni yotte* passive in terms of how they use the animacy hierarchy. More precisely, Japanese native speakers use the animacy hierarcy from left to right as in (22a), as Kuno proposes for (14a=3a), (14b=3b), and (17a-b). Native speakers of Japanese, on the other hand, utilize the animacy hierarchy from right to left crucially in a reversed manner as in (22b), as Hoshi (2017b) suggests.

     In –*ni yotte* passive (19b), the subject position is filled by [+animate] [$_{NP}$ *John*] and the –*ni yotte* phrase contains [+inanimate] [$_{NP}$ *ka*] 'mosquito.' The surface order of these two NPs do not observe the reversed animacy hierarchy in (22b). Hence, (19b) results in unacceptability.

     In –*ni* passive (20b), the subject position is occupied by [+inanimate] [$_{NP}$ *sinzitu*] 'truth,' and the Dative –*ni* phrase dominates [+inanimate] [$_{NP}$ *ka*] 'mosquito.' The surface order of these two NPs observe the standard animacy hierarchy in (22a), and thus, (22a) is ruled in. On the other hand, in –*ni yotte* passive (20c), the subject position is similarly filled by [+inanimate] [$_{NP}$ *sinzitu*] 'truth,' and the –*ni yotte* phrase contains [+inanimate] [$_{NP}$ *ka*] 'mosquito.' Because [$_{NP}$ *sinzitu*] 'truth' and [$_{NP}$ *ka*] 'mosquito' are both an [+inanimate] NP, the surface order of these two NPs observe as well the reversed animacy hierarchy in (22b), as desired. Consequently, -*ni yotte* passive counterpart (20c) of –*ni* passive (20b) is also correctly ruled in. With respect to acceptable Japanese passives in (21b-c), the proposed animacy hierarchy-based analysis offers an essentially identical account in a successful manner.

     To account for the nature of Kuno's (1986) example in (16), I suggest tentatively that Japanese –*ni* passive is subject not only to the animacy hierarchy, but also the definiteness hierarchy in (22) (cf. Kuno 1983, 1986, 1987, etc.; Croft 2001, 2003, etc.).

(22)   definite > indefinite specific > non-specific

Observe that in (16), the topic/subject position is filled by [+inanimate/+definite] [$_{NP}$ *kono teiri*] 'this theorem,' and the Dative –*ni* phrase contains [+animate/+indefinite specific] [$_{NP}$ *dare*] 'who.' Hence, the surface order of these two NPs violate the standard animacy hierarcy in (22a), because the [+inanimate] NP precedes the [+animate] NP. Importantly, however, the surface order of the NPs in (16) do observe the definiteness hierarchy in (22). The topic/ subject NP is [+definite] NP, and the second NP is [+indefinite specific] NP. I therefore suggest that the satisfaction of the definiteness hierarchy in (22) improves the acceptability of –*ni* passives such as (16).

5. Conclusion

In this paper, I have attempted to show that Japanese passives have very interesting complex properties. To capture such properties in an adequate manner, it is desirable for us to maintain Kuroda's and Saito's formal analyses exactly as they are, rather than choosing one over the other. However, their generative grammatical analyses do not seem to be sufficient to explain the complex nature of Japanese passives completely. To show this is indeed the case, I have therefore demonstrated that there are some data which we might want to explain not formally, but functionally.

To explain the nature of such problematic data, I have proposed the following by revising Kuno's functional syntactic analysis of Japanese passives: Given Kuroda's and Saito's formal analyses, *–ni* passive and *–ni yotte* passive should be able to have identical twin NP movement structure. Native speakers of Japanese thus differentiate *–ni* passive and *–ni yotte* passive at the functional level. Namely, Japanese native speakers apply the animacy hierarchy to *–ni* passive from left to right as in (22a), as Kuno (1983, 1986, etc.) argues. Native speakers of Japanese, on the other hand, apply the animacy hierarchy to *–ni yotte* passive from right to left as in (22b), as Hoshi (2017b) implies (cf. Croft 2001, 2003, Hawkins 2007, 2014, etc.).

References

Bedell, G., E. Kobayashi and M. Muraki (1979) *Explorations in Linguistics: Papers in Honor of Kazuko Inoue*, Kenkyusha.

Campbell, K. (1983) 'Passive Sentences with an Inanimate Subject in Japanese,' Presented at the Conference on Japanese and Korean Linguistics and Language Teaching, May 6-8, 1983, Harvard University.

Chomsky, N. (1981) *Lectures on Government and Binding*, Foris.

Croft, W. (2001) *Radical Construction Grammar: Syntactic Theory in Typological Perspective*, Oxford University Press.

Croft, W. (2003) *Typology and Universals*, second edition, Cambridge University Press.

Harada. S.-I. (1973) 'Counter Equi NP Deletion,' *Annual Bulletin*, Research Institute of Logopedics and Phoniatrics, University of Tokyo, **8**, 133-143.

Hasegawa, K. (1964) 'Nihongo Bunpoo Siron,' *Gengo Bunka* 1, 3-46.

Hawkins, J. A. (2007) *Efficiency and Complexity in Grammars*, Oxford University Press.

Hawkins, J. A. (2014) *Cross-linguistic Variation and Efficiency*, Oxford University Press.

Hoshi, H. (1994b) *Passive, Causative and Light Verbs: A Study on Theta Role Assignment*, PhD dissertation, University of Connecticut.

Hoshi, H. (1999) 'Passives,' in Tsujimura, N. (1999).

Hoshi, H. (2017a) 'A Three-way Ambiguity Analysis of Japanese Passives,' *Memoirs of Faculty of Education and Human Studies*, 72, Akita University, 43-50.

Hoshi, H. (2017b) 'Japanese Passives and Grammatical Hierarchies,' *Annual Research Report on General Education* 19, Akita University, 53-66.

Inoue, K. (1976) *Henkei Bunpoo to Nihongo*, Taishukan.

Kuno, S. (1983) *Shin-nihon Bunpo*, Taishukan.

Kuno, S. (1986) 'Ukemi-bun no imi,' *Nihongogaku* **5**(2), 70-87.

Kuno, S. (1987) *Functional Syntax: Anaphora, Discourse, and Empathy*, University of Chicago Press.

Kuroda, S.-Y. (1965) *Generative Grammatical Studies in the Japanese Language*, MIT dissertation, MIT. Reprinted, Garland Press, 1979.

Kuroda, S.-Y. (1978) Case-Marking, Canonical Sentence Patterns and Counter Equi in Japanese,' in Hinds and Howard (1978), pp. 30-51. Reprinted in Kuroda (1992).

Kuroda, S.-Y. (1979) 'On Japanese Passives,' in Bedell, Kobayashi and Muraki (1979), pp. 305-347. Reprented in Kuroda (1992).

Kuroda, S.-Y. (1985) 'Ukemi ni tsuite no Kuno setsu o kaishaku suru,' *Nihongogaku* **4**(10), 69-76.

Saito, M. (1982) 'Case Marking in Japanese: A Preliminary Study,' ms., MIT.

Shibatani, M. (1973) 'Semantics of Japanese Causativization,' *Foundations of Language* **9**, 327-373.

Tsujimura, N. (1999) The *Handbook of Japanese Linguistics*, Blackwell Publishers.