Multiple Agree and the Defective Intervention Constraint in Japanese[*]

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1. Introduction

Chomsky (2000, 2001) proposes a theory of AGREE which eliminates 'feature-movement' entirely in feature-checking, elaborating ATTRACT of Chomsky (1995). Whereas the theory of AGREE brings a number of conceptual advantages over ATTRACT, it also poses a new challenge. Specifically the proposed mechanism of AGREE cannot deal with covert multiple feature-checking (i.e. multiple AGREE without MOVE) under the proposals of the Defective Intervention Constraint (DIC) and elimination of equidistance in multiple specifiers (Chomsky 2000, 2001; cf. Chomsky 1995).

This paper, building on the data from varieties of raising in Japanese, presents empirical evidence for multiple covert feature-checking and elimination of the Equidistance Principle, and proposes a theory of MULTIPLE AGREE as a sophistication of the mechanism of multiple feature-checking. It is argued that 'multiple feature checking' as multiple applications of a feature-checking syntactic operation is epiphenomenal and that rather it is a single instance of a simultaneous syntactic operation MULTIPLE AGREE. It is further demonstrated that the proposed theory of MULTIPLE AGREE leads to a natural and significant refinement of Chomsky's (2000) theory of the DIC as a strictly derivational locality condition on a syntactic operation AGREE, eliminating the notion of equidistance in Chomsky (1995).

2. Multiple Agree

2.1. Theoretical Assumptions in Chomsky (2000, 2001)

Chomsky (2000, 2001) proposes three theoretical refinements: *a probe-goal theory of AGREE, the Defective Intervention Constraint*, and *elimination of the*

Equidistance Principle. AGREE is a syntactic feature-checking operation which eliminates the 'feature-movement' part of ATTRACT (cf. Chomsky 1995). Thus uninterpretable features of a probe α and a goal β are erased under the structural relation (1), subject to the Matching Condition (2).

(1)   AGREE (cf. Chomsky 2000)
         $\alpha > \beta$
         $\lfloor\_\_\_\_\uparrow$
         AGREE (α, β), where α is a probe and β is a matching goal, '>' is a c-command relation and uninterpretable features of α and β are checked/deleted.

(2)   *Match* (Chomsky 2000:122)
         a.   Matching is feature identity.
         b.   D(P) is the sister of P.
         c.   Locality reduces to 'closest c-command'.

The Defective Intervention Constraint is a 'representational' locality condition, which prohibits an establishment of an AGREE relation when a closer but inactive goal intervenes between a probe and another goal in the configuration (3).

(3)   *The Defective Intervention Constraint* (cf. Chomsky 2000:123)
         $\alpha > \beta > \gamma$
         $\lfloor_____\uparrow$
         (*AGREE (α, γ), α is a probe and β is a matching goal, and β is inactive due to a prior Agree with some other probe.)

Thus (3) specifically claims that checked features still matters for locality/ minimality in narrow syntax, blocking a further AGREE relation at a distance.
        Chomsky (2001) also proposes elimination of equidistance in multiple specifiers, indirectly derived by (4), contra the Equidistance Principle (5) in Chomsky (1995, 2000)[1].

(4)   *Elimination of equidistance in multiple specifiers* (Chomsky 2001)[2]
         [Only (K.H.)] the phonological edge of HP is accessible to probe P.

(5)   *Equidistance Principle* (Chomsky 2000:122 & footnote 77)
         Terms of the edge of HP are equidistant from probe P.

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[1] The effect of (4) is in fact not restricted to multiple 'specifiers'; a 'specifier' is also necessarily closer to a probe than a 'complement', which is conceptually natural given that the distinction between a 'specifier' (a second MERGE) and a 'complement' (a first MERGE) is a terminological artifact. See the discussions below and Hiraiwa (2000, 2001a) for empirical arguments in favor of (4). But see Collins (1997, 2000) and Ura (2000a) for empirical justification of equidistance in terms of minimal domain.

[2] Strictly speaking, the question of 'phonological edge accessibility' contains more than the question of equidistance in multiple specifiers and is an independent issue. See Chomsky (2001) for a conceptual argument for elimination of the Equidistance Principle.

Thus adopting (4) over (5), closeness is now purely determined in terms of c-command relation as it is proposed in (2c), which is conceptually a step forward.

(2)   c.   Locality reduces to 'closest c-command'.
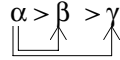   (Chomsky 2000:122)

       However, these three assumptions adopted in Chomsky (2000, 2001) raises an interesting challenge for the DIC and covert multiple feature-checking (Chomsky 1995, Ura 2000a). Specifically, an illicit derivation of the DIC (3) and a licit derivation of *covert* multiple feature-checking (6) cannot be distinguished under Chomsky's (2000, 2001) system; thus the latter is wrongly ruled out as a case of the representational DIC (3).

(3)   *The Defective Intervention Constraint* (cf. Chomsky 2000:123)
       $*\alpha > \beta > \gamma$
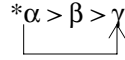
       (*AGREE (α, γ), α is a probe and β is a matching goal, and β is inactive due to a prior Agree with some other probe.)

(6)   *Covert Multiple Feature-Checking*
       $\alpha > \beta > \gamma$

       (AGREE (α, β) and AGREE (α, γ), where α is a probe and both β and γ are matching goals for α.)

As we have seen, the derivation (3) is ruled out by the DIC by definition. However, note that the derivation of covert multiple feature-checking (6) is also excluded by (3), because once α enters into an AGREE relation with the closest goal β, this makes the latter inactive, blocking any further AGREE relation with a lower goal γ c-commanded by β. Note that the probe cannot 'see' the lower goal because the multiple specifiers are not equidistant by (2c). Thus covert multiple feature-checking (i.e. multiple AGREE without MOVE) is predicted to be impossible under Chomsky's (2001) mechanism of AGREE and the DIC.
       As it will be shown below, however, there is compelling empirical evidence for covert multiple feature-checking in Japanese. Thus as long as this is the case, the mechanism of multiple feature-checking and the DIC need to be reconsidered.

2.2. A Theory of Multiple Agree and the Defective Intervention Constraint

I will propose the following theory of MULTIPLE AGREE as a refined theory of multiple feature-checking.

(7)   *MULTIPLE AGREE/MOVE* (cf. Hiraiwa 2000, 2001a)
       MULTIPLE AGREE (multiple feature checking) with a single probe
       is a single simultaneous syntactic operation; AGREE applies to all
       the matched goals at the same derivational point *derivationally*
       simultaneously. MULTIPLE MOVE (movement of multiple goals
       into multiple specifiers of the same probe H) is also a single

simultaneous syntactic operation that applies to all the AGREEd goals.

Consider the derivation (8) of covert multiple feature-checking under (7).

(8)   *MULTIPLE AGREE as a single simultaneous operation*
        α > β > γ

        (AGREE (α, β, γ), where α is a probe and both β and γ are matching goals for α.)

Under the proposed theory of MULTIPLE AGREE (7), at the point of the derivation where the probe P is merged, the probe feature starts to search down for a closest matching goal feature within its c-command domain and locates and matches with the closer goal β. However, this does not result in an immediate AGREE under (7); rather the probe feature, being [+multiple], continues to probe for a next closest goal, resulting in matching with γ. This continues until the probe locates all the matching goals within an 'accessible' domain. Now at this point of the derivation, AGREE applies to all the matched goals *derivationally simultaneously*, establishing AGREE (α, β, γ). Thus under MULTIPLE AGREE, a superficial 'covert multiple feature-checking' is not multiple instances of the syntactic operation AGREE; rather it is reduced to a single syntactic operation.[3]

    Significantly, the proposed theory of MULTIPLE AGREE brings an immediate consequence for the DIC in covert multiple feature-checking; since under (8) AGREE between the probe feature α and the multiple goal features β and γ is *derivationally simultaneous* (i.e. AGREE (α, β, γ)), the intervening goal β is not yet inactive *at the point of derivation* where the probe α enters into an AGREE relation with the lower goal γ. Consequently, no defective intervention effect is triggered in (8). Thus the representational DIC in (3) is naturally revised as a strictly derivational condition on a syntactic operation AGREE as in (9).

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[3] MULTIPLE AGREE/MOVE brings a number of desirable consequences. First, there is no longer 'feature deletion' paradox; under the system of Chomsky (1995), it is necessary to assume that in multiple feature-checking, a first checking operation does not result in an immediate erasure of the probe uninterpretable feature in the case of multiple feature checking by the stipulated bifurcation between deletion and erasure, which is a kind of 'look-ahead'. Under MULTIPLE AGREE, erasure occurs whenever MULTIPLE AGREE is established since it is a single simultaneous syntactic operation.

    MULTIPLE AGREE/MOVE also reduces Richards' (1997) *tucking-in*.; movement of multiple goals is a *single* simultaneous operation that merges multiple goals without any countercyclic merger and therefore a c-command relation between the goals cannot be changed. Furthermore, significantly, MULTIPLE AGREE/MOVE derives McGinnis's (1997:115) observation that tucking-in is restricted to a case where two elements check the same type of feature on a single head in a principled way. Under MULTIPLE MOVE, tucking-in is a necessary consequence of a derivation where the movement is triggered by the same single probe feature. This naturally explains why there is no tucking-in in the Object Shift configuration in Icelandic, where a shifted OBJ is merged above a merged SUBJ, which is quite problematic for mover-oriented 'Shortest Move' account for tucking-in (Richards 1997). See also Hiraiwa (2000, 2001b) for more discussions.

(9)   *The Defective Intervention Constraint (derivationally revised)*[4]
        A syntactic operation AGREE must obey a strict locality condition.
        AGREE (α, γ) is prohibited if there is a closer matching goal that is
        already inactive *at the point of the derivation* where the probe is
        merged; thus the DIC is restricted to a case where a probe for γ and
        a probe for intervening β are *derivationally distinct*.

It should be noted that the strictly derivational version of the DIC (9) along with
MULTIPLE AGREE in (7) can correctly distinguish the illicit derivation of the
DIC violation (3) and the licit derivation of covert multiple feature-checking (8).
In other words, under the new version of the DIC (9), the apparent equidistance
effect in covert multiple feature-checking is naturally derived from a
derivational property of the computational system.[5]
        The next section will demonstrate that convert multiple feature-
checking is empirically attested in Japanese and thus provide empirical evidence
for MULTIPLE AGREE and the derivational DIC as well as for elimination of the
Equidistance Principle from varieties of raising construction in Japanese.

3. Varieties of Raising in Japanese

3.1. Raising-to-Object (ECM)

'Raising-to-Object' (ECM) Construction in Japanese provides good empirical
evidence for the derivational DIC (cf. (9)) and elimination of the Equidistance
Principle (cf. (4)) proposed in Chomsky (2001).
        Before proceeding, let us closely examine properties of ECM in
Japanese. As is well-known, Japanese is a language which allows optional ECM
across a CP clause boundary, as it is shown in (10).

(10)   John-ga   [$_{CP}$ Mary-**ga/wo**   kodomo-da   to] omot-ta.
        John-NOM   Mary-NOM/ACC   child-CPL-PRES   C   think-PST
        'John thought that Mary was a child.'

In (10) the embedded subject can be optionally assigned accusative Case by the
matrix ECM verb (cf. Kuno 1976, Ueda 1988, Ura 1994, Sakai 1996, Hiraiwa
2000, 2001ac). Kuno (1976) and Sakai (1996) present compelling evidence that
ECM in Japanese involves a syntactic raising into the matrix clause from such
diagnostics as binding and adverb placement (cf. Lasnik and Saito 1992).
        However, it is very important to note that the previous arguments for an
overt raising in the literature are quite incomplete; it just indicates that an overt

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[4] Note that the revised DIC (9) is a condition on the application of a syntactic operation
(MULTIPLE) AGREE/MOVE, not on the *configuration* (3). Thus locality/minimality is
evaluated strictly cyclically step by step, contra Chomsky (2001) that proposes an
'evaluation by phase' model of locality/minimality. See Hiraiwa (2001ab) for arguments
against it. Cf. also Collins (1997, 2000).
[5] A significant immediate consequence of (9) is that equidistance effect is predicted even
outside of multiple specifiers of a given head H. See footnote 10.

raising is *possible* but does not show that it is *always obligatory*. In fact, very significantly, there are good reasons to believe that a syntactic raising in ECM in Japanese is *optional* at best, on a par with English ECM construction (see Hiraiwa 2001c for more empirical evidence for raising; cf. also Lasnik 1999).

  A first piece of direct evidence comes from placement of embedded elements before ECMed arguments.

(11) John-ga [$_{CP}$ *mada* Mary-**ga/wo** kodomo-da to] omot-ta.
   John-NOM still Mary-NOM/ACC child-CPL-PRES C think-PST
   'John thought that Mary was still a child.'

(12) a. John-ga [$_{CP}$ Mary-**ga/wo** sono sigoto-ni muite-na-i
      John-NOM Mary-NOM/ACC the job-DAT suitable-NEG-PRES
      to] omot-ta.
      C think-PST
      'John felt that Mary is not suitable for the job.'

    b. John-ga [$_{CP}$ *sono sigoto-ni$_i$* Mary-**ga/wo** t$_i$ muite-na-i
      John-NOM the job-DAT Mary-NOM/ACC suitable-NEG-PRES
      to] omot-ta.
      C think-PST

As (11) and (12b) show, it is possible for a probe *v* of the matrix ECM verb to establish a long-distance AGREE relation with an in-situ goal within an embedded clause beyond a preceding embedded element.

  A second piece of evidence is illustrated by clefting. Koizumi (1995) convincingly shows that in multiple cleft construction, clefted elements must be 'clause mates'. Adopting this as a diagnostics test, ECM in Japanese beshaves quite interestingly; as (13a) and (13b) show, an ECMed DP can be clefted either with a matrix element or with an embedded element, whereas a matrix subject cannot be clefted with an embedded element as shown in (13c).

(13) a. [John-ga [t$_i$ t$_j$ muite-na-i   to] omot-ta   no]-wa
      John-NOM suitable-NEG-PRES C think-PST-ADN C-TOP
      Mary-**wo**$_i$ sono sigoto-ni$_j$ da.
      Mary-ACC the job-DAT CPL
      '(Lit.) It is Mary to the job that John considers to be not suitable.'

    b. [t$_i$ [t$_j$ sono sigoto-ni muite-na-i   to] omot-ta   no]-wa
        the job-DAT suitable-NEG-PRES C think-PST-ADN C-TOP
      John-ga$_i$ Mary-**wo**$_j$ da.
      John-NOM Mary-ACC CPL
      '(Lit.) It is John, Mary that considers to be not suitable for the job.'

    c. *?[t$_i$ [Mary-**wo** t$_j$ muitenai   to] omot-ta   no]-wa
      Mary-ACC suitable-NEG-PRES C think-PST-ADN C-TOP
      John-ga$_i$ sono sigoto-ni$_j$ da.
      John-NOM the job-DAT CPL
      '(Lit.) It is John, to the job that considers Mary to be not suitable.'

Thus (13a) and (13b) convincingly demonstrate that syntactic raising is optional in ECM in Japanese, leading to the generalization (14).

(14)   Syntactic raising (EPP) in ECM is optional in Japanese; a pure AGREE suffices for Case-checking in Japanese.

Crucially, a probe ϕ-feature of a matrix ECM *v* can AGREE with a goal without any subsequent MOVE via long-distance AGREE(ment).[6]
        Now with this much background, let us consider an interaction of ECM and multiple nominative constructions (*Possessor-Raising Construction* and *Nominative Object Construction*), which are illustrated in (15) and (16).

(15)   *ECM and Possessor-Raising Construction*
        a.   John-ga   [$_{CP}$[$_{TP}$ Mary-**ga**   me-**ga**   waru-i]   to]
                John-NOM   Mary-NOM eyes-NOM bad-PRES   C
                omoikondei-ta.
                believe-PST
                'John thinks that Mary has a bad eyesight.'

        b.   John-ga   [$_{CP}$ [$_{TP}$ Mary-**wo**   me-**ga**   waru-i]   to]
                John-NOM   Mary-ACC eyes-NOM bad-PRES   C
                omoikondei-ta.
                believe-PST

        c.   *John-ga   [$_{CP}$ [$_{TP}$ Mary-**ga**   me-**wo**   waru-i]   to]
                John-NOM   Mary-NOM eyes-ACC bad-PRES   C
                omoikondei-ta.
                believe-PST

(16)   ECM and Nominative Object Construction
        a.   Mary-ga   eigo-**ga/*wo**   yoku dekiru.
                Mary-NOM English-NOM/*-ACC well   do-can-PRES
                'Mary can speak English well.'

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[6] See Hiraiwa (2000, 2001a) for arguments for 'transparency' of dative-marked elements in Japanese (cf. Boeckx 2000 and Chomsky 2000 for Icelandic). Importantly, Ura (1994) has also discovered that (i) 'Raising-to-Object' in Japanese can be covert mediated via pure long-distance AGREE across a CP phase boundary and (ii) the dative in Japanese is transparent to AGREE.
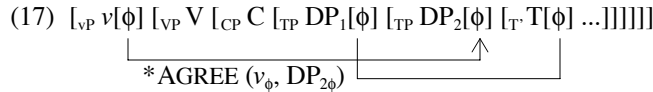
(i)   Mary-ni   piano-ga/*wo   hik-er-u.
        Mary-DAT   piano-NOM/*-ACC play-can-PRES
        'Mary can play the piano.'

(ii)   *Long-distance AGREE(ment) in Japanese* (cf. Ura 1994)
        John-ga   [Mary-ni   piano-wo   hik-er-u   to] omottei-ta
        John-NOM Mary-DAT piano-ACC play-can-PRES C believe-PST
        'John believed that Mary can play the piano.'

See Hiraiwa (2000, 2001c) for a mechanism of long-distance AGREE in Japanese and other languages as well as a theory of possessor raising.

b. John-ga [$_{CP}$[$_{TP}$ Mary-**ga** eigo-**ga** yoku dekiru] to]
    John-NOM   Mary-NOM English-NOM well do-can-PRES C
    omoikondei-ta.
    falsely-believe-PST
    'John believed that Mary can speak English well.'

c. John-ga [$_{CP}$[$_{TP}$ Mary-**wo** eigo-**ga** yoku dekiru] to]
    John-NOM   Mary-ACC English-NOM well do-can-PRES C
    omoikondei-ta.
    falsely-believe-PST

d. *John-ga [$_{CP}$[$_{TP}$ Mary-**ga** eigo -**wo** yoku dekiru] to]
    John-NOM   Mary-NOM English-ACC well do-can-PRES C
    omoikondei-ta.
    falsely-believe-PST

Of particular importance here is the grammaticality contrast between (15b) and (15c), and (16c) and (16d). The licit (15b) and (16c) are cases where the closer goal in the outer TP specifier is ECMed, checking accusative Case, whereas illicit (15c) and (16d) are cases where the lower goal in the inner TP specifier is ECMed; thus in (15c) and (16d) it is impossible for a probe v to ECM a lower goal beyond a higher inactive goal and the sentence is ungrammatical.

As it is shown schematically in (17), the intervening goal ϕ-feature of DP_1 is already inactive due to an AGREE with the embedded T at the point of derivation where the matrix probe v is merged and starts to probe for a closest matching goal. Thus the closest inactive goal blocks the probe to enter into an AGREE relation with the lower goal, triggering the DIC. In other words, probes for the two goals DP_1 and DP_2 are derivationally distinct and hence AGREE (v_ϕ, $DP_{2\phi}$) is blocked (cf. (9)).

(17) [$_{vP}$ v[ϕ] [$_{VP}$ V [$_{CP}$ C [$_{TP}$ DP_1[ϕ] [$_{TP}$ DP_2[ϕ] [$_{T'}$ T[ϕ] ...]]]]]]

    *AGREE (v_ϕ, $DP_{2\phi}$)

Note that the ungrammaticality (15c) and (16d) is not due to the failure of raising; as I have already demonstrated, in Japanese a syntactic raising is optional (cf. (14)). It is also important to notice that the equidistance proviso in Chomsky (1995, 2000) wrongly predicts (15c) and (16d) to be licit. Thus their ungrammaticality provides empirical support for the DIC as well as Chomsky's (2001) elimination of equidistance in (4).

Here the proposed theory of MULTIPLE AGREE and the DIC makes an interesting prediction: if a probe for multiple goals is *derivationally unique*, then *multiple ECM* should be grammatical in the ECM construction in Japanese. This prediction is in fact borne out by (18).[7]

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[7] Interestingly, in Korean 'multiple ECM' (the counterpart of (18)) is not good. See Hiraiwa (2000) for discussions about this parametric difference.

(18) #John-ga [CP [TP Mary-**wo**   me-**wo**   waru-i]   to] omoikondei-ta.
        John-NOM   Mary-ACC eyes-ACC bad-PRES C   believe-PST
        'John believed Mary's eye to be bad.'

Unfortunately, due to a surface filter *Double-O Constraint* (cf. Kuroda 1988 among others), which, roughly put, prohibits multiple occurrences of accusative marker within a sentence, the sentence (18) is not perfect by itself (though far much better than "*"). As Kuroda (1988) points out, however, it is possible to suppress the effect by clefting the sentence. Thus note that the cleft version of the sentence (18) is perfectly grammatical with multiple ECM.

(19) [John-ga   [CP [TP t_i me-**wo**   waru-i]   to] omoikondei-ta   no]-wa
        John-NOM   eyes-ACC bad-PRES C   believe-PST-ADN C -TOP
        Mary-**wo**_i   da.
        Mary-ACC CPL
        'It is Mary that John believed her eye to be bad.'

Now combining the 'multiple cleft' test with multiple ECM, the sentence (20) provides a convincing evidence for covert multiple feature-checking.

(20) #John-ga   Mary-**wo**   taido-**wo**   insei-ni(-taisite)
        John-NOM Mary-ACC attitude-ACC grad.students-DAT
        tsumeta-ku/tumeta-i to] omot-ta.
        cold-INF/cold-PRES C think-PST
        'John felt that Mary is cold to graduate students.'

(21) [John-ga [t_i taido-**wo**   t_j tsumeta-ku/tumetai to] omot-ta no]-wa
        John-NOM   attitude-ACC   cold-INF/cold-PRES C think-PST C-TOP
        Mary-**wo**_i   insei-ni(-taisite_j)   da.
        Mary-ACC   grad.students-DAT CPL
        '(Lit.) It is Mary, to grad students that John feel cold.'

In (21), the embedded subject DP *Mary* is clefted with a clause-mate dative element *insei-ni (taisite)*, which shows that the former has not undergone a syntactic raising to the matrix clause via ECM. Therefore it follows that multiple accusative DPs in (21) are in a pure AGREE relation with the matrix *v*, instantiating covert multiple feature-checking (i.e. AGREE (v_ϕ, $DP_{1\phi}$, $DP_{2\phi}$)). The sentence is complex but still grammatical. Thus (18) and (21) are crucial evidence against Chomsky's (2000, 2001) theory, and for our theory of MULTIPLE AGREE and the derivational DIC.
        To sum up this section, ECM data has been shown to provide empirical evidence for Chomsky's DIC and the elimination of the Equidistance Principle.

3.2. Raising-to-Subject: Evidence for MULTIPLE AGREE

This section shows that 'Raising-to-Subject' Construction in Japanese presents important evidence for covert multiple feature-checking and therefore the proposed theory of MULTIPLE AGREE.
        (22) exemplifies a raising construction in Japanese.

(22)　John-ga/ni　　　[mada Mary-**ga**　kodomo-ni　　amaku]　　kanji-ta.
　　　John-NOM/DAT still　Mary-NOM children-DAT lenient-INF feel-PST
　　　'Mary seems to John to be still lenient to children.'

　　　　　It should be noted that as shown in an ECM sentence (23), it is well established that infinitives in Japanese cannot check structural nominative Case (cf. Takezawa 1987, 1998, Ura 2000c). Thus in (23), nominative Case cannot be checked within the infinitival clause and the only way for the derivation (23) to converge is ECM from the matrix light verb.

(23)　John-ga　　　[Mary-**wo/*ga**　　kodomo-ni]　　　omot-ta
　　　John-NOM　Mary-ACC/NOM child-CPL-INF　think-PST
　　　'John considered Mary to be a child.'

This, in turn, clearly indicates that in the Raising-to-Subject construction (22), the nominative Case of the embedded subject DP is checked via AGREE with the matrix T.
　　　　　Adverb placement and multiple cleft tests again demonstrate that the embedded nominative DP can remain in-situ via AGREE at a distance. Note that in (24) an embedded adverb precedes the embedded nominative DP and in (25) the embedded subject can be clefted with the embedded dative element.

(24)　John-ga　　　[*mada kodomo-ni*$_i$　　Mary-**ga**　　t$_i$　amak-u]
　　　John-NOM　still　children-DAT　Mary-NOM　　　lenient-INF
　　　kanji-ta/omowe-ta.
　　　feel/seem-PST
　　　'It seems to John that Mary is still lenient to children.'

(25)　John-ga　　　[t$_i$ t$_j$ amak-u　　kanji-ta no]-wa　Mary-**ga**$_i$
　　　John-NOM　　　　lenient-INF　feel-PST C-TOP　Mary-NOM
　　　kodomo-ni$_j$　da.
　　　children-DAT CPL
　　　'(Lit.) It is Mary to children that seemed to John to be lenient.'

　　　　　Now with these background facts in mind, it is significant to note that in a Raising-to-Subject construction, multiple nominative DPs can appear within an infinitival embedded clause, as shown in (26) and (27); Note again that the fact that their positions are lower than the embedded adverbial phrases indicates that there is no overt raising of these DPs out of the embedded clause (cf. Section 3.1.).

(26)　John-**ga**　　[*yosouijouni*　　nihonjin-**ga**　　eigo-**ga**　　　hido-ku]
　　　John-NOM　than-expected　the-Japanese-NOM English-NOM　bad-INF
　　　kanji-ta.
　　　think-PST
　　　'It seemed to John that the Japanese are worse at speaking English than he had expected.'

(27)   [$_{TP}$ null expl. [John-ni   [*yosouijouni*   nihonjin-**ga**
                        John-DAT   expected-than Japanese-NOM
        eigo-**ga**   hido-ku/heta-ni] omowe-ta/omoware-ta]].
        English-NOM bad-INF   seem-PST
        'It seemed to John that the Japanese are very poor at English.'[8]

(28)   T-seem DP$_1$(NOM/DAT) [adv. …DP$_2$(NOM) …DP$_3$(NOM) …V-INF]

The grammaticality of (26) and (27) clearly shows that the Case of embedded nominative DPs must be checked/assigned under a pure multiple AGREE relation (without MOVE) with the matrix T. Thus (26) and (27) are obvious instances of covert multiple feature-checking.

However, as has already been pointed out above, Chomsky's (2000,, 2001) theory of AGREE and the DIC make a wrong prediction that the ϕ-feature of the lowest nominative DP$_3$ cannot be checked due to the DIC triggered by the intervening *in-situ* nominative DP$_{2\phi}$; AGREE (T$_\phi$, DP$_{2\phi}$) makes DP$_{2\phi}$ inactive, triggering a defective intervention effect for the lower nominative DP$_{3\phi}$, blocking AGREE (T$_\phi$, DP$_{3\phi}$).

The proposed theory of MULTIPLE AGREE, on the other hand, neatly explains the absence of defective intervention effects in (26) and (27). Consider a schematic derivation (29).

(29)   T-seem DP$_{1\phi}$ (NOM/DAT) [Adv. DP$_{2\phi}$ (NOM) DP$_{3\phi}$ (NOM) ...V-INF]
                    ⬆   ⬆   ⬆
            MULTIPLE AGREE (T$_\phi$, DP$_{1\phi}$, DP$_{2\phi}$, DP$_{3\phi}$)

The ϕ-feature of the probe T in Japanese, being [+multiple], matches up with all the three nominative goal DPs and then they enter into an AGREE relation with the probe derivationally simultaneously as a single syntactic operation; thus there is no defective intervention effects incurred, since the intervening goal is not yet inactive at the point of derivation where the probe α enters into an AGREE relation with the lower goals, establishing AGREE (T$_\phi$, DP$_{1\phi}$, DP$_{2\phi}$).[9]

Summarizing the discussion in this section, it has been shown that covert multiple feature-checking in the Raising-to-Subject construction in Japanese is problematic for Chomsky (2000, 2001) but nicely accounted for by our theory of MULTIPLE AGREE and the derivational DIC.[10]

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[8] Ura (2000c) reaches a conclusion that in a raising construction in Japanese the matrix Spec-TP position is occupied by a null expletive. Whether the dative experiencer is in situ or in Spec-TP, however, does not affect my argument in the following discussion. See Ura (2000c) for detailed discussions on raising in Japanese.

[9] The surface structure of (26) is derived by a further application of MULTIPLE MOVE, which in this case results in a displacement of only the closest goal. See footnote. 11.

[10] Another case of MULTIPLE AGREE, which is problematic for Chomsky's (2000, 2001) theory, multiple wh-in-situs in a multiple wh-question in English (and in Japanese).

(i)   Who bought what where?

4. A Consequence: Multiple Agree and Raising in Icelandic

The proposed theory of MULTIPLE AGREE interestingly extends to the raising construction in Icelandic with deeper consequences.

Chomsky (2000:130) argues that an Icelandic sentence (30) is excluded by the DIC. In (30) plural number agreement on the matrix T of the raising predicate is blocked by the inactive intervening dative experiencer *John*.

(30)   Me(DAT) seem(*PL) [t$_{me}$ [John(DAT) to-like horses(PL, NOM)]]
        (Chomsky 2000:130)

However, Boeckx (2000), building on Sigurðsson (1996) and Schütze (1997), correctly points out that the sentence becomes grammatical if a default singular agreement is realized instead, as is shown in (31) and (32).

(31)   *Icelandic* (Boeckx 2000, Schütze 1997)
        Mér   **virðist/*?virðast**   Jóni   líka hestarnir.
        Me(DAT) seem(default)/seem(PL) John(DAT) like horses(NOM.PL)
        'It seems to me that John likes horses.'

(32)   *Icelandic* (Boeckx 2000, Schütze 1997)
        Mér   **hefur/*?hafa**   alltar virst   honum   hafa verið
        Me(DAT) has(defalt)/have often seemed him(DAT) have been
        seldar/*selt   pessar bækur   á alltof   hár   verði.
        sold(PL/*SG) hese   books(NOM, PL) at far-too hight price
        'It has often seemed to me that he has been sold these books at far too high a price.'

In (31) and (32) the embedded quirky dative elements AGREEs with the matrix T and the number agreement is realized as default on T. Thus the presence of the dative intervener blocks an AGREE relation (i.e. number agreement) between the matrix T and the nominative object DP as a result of the DIC (Chomsky 2000, Boeckx 2000). However, although Chomsky-Boeckx's approach successfully explains the absence of plural agreement, it raises an important question: how is the structural nominative Case on the embedded nominative object DP is checked if AGREE between the probe T and the goal nominative DP is totally prohibited due to the defective intervention effect triggered by the intervening quirky dative experiencer?

The proposed theory of MULTIPLE AGREE solves this apparent paradox, maintaining their insight that quirky Case involves AGREE. Suppose that the uninterpretable φ-feature of a probe T in Icelandic is [+multiple]; then the probe φ-feature 'probes for' a closest matching goal, locating the matrix quirky dative experiencer *me*.

(33)   [$_{TP}$ Me(DAT) T-seem(default) [$_{VP}$ t$_{me}$ [$_{TP}$ him(DAT) to have been sold
        these books (PL, NOM)]]]   (=(32))

Hiraiwa (2001a) also extensively discusses another case of MULTIPLE AGREE in so called Nominative-Genitive Conversion in Japanese and various other languages.

But note that under the MULTIPLE AGREE theory the probe feature, being [+multiple], does not result in immediate AGREE; rather, it continues to search for the next closest matching goals within the active phase, which results in matching with the embedded quirky dative element *him* and the nominative object *these books*. Now at this point of derivation AGREE applies *derivationally simultaneously* to all the three matching goals (AGREE (T_ϕ, *me$_\phi$*, *him$_\phi$*, *these books$_\phi$*); thus crucially there is no defective intervention effect triggered by the intervening quirky dative *him* in (33) and T is properly allowed to check the nominative Case on the lowest nominative goal as well as the structural Cases on the closer quirky dative goals.[11] Note that MULTIPLE AGREE also nicely accounts for the blocking effect for number agreement in (31) and (32); the morphological number agreement is naturally determined by the ϕ-feature of the closer quirky dative element, which is realized as default 3rd person singular agreement (cf. Boeckx 2000).[12]

5. Concluding Remarks

In this paper it has been shown that a 'minimalist' investigation of the mechanism of covert multiple feature checking naturally leads to a more restrictive theory MULTIPLE AGREE with deeper theoretical consequences. The discovery is rather surprising; the nature of what has been considered to be multiple feature-checking is a single syntactic operation MULTIPLE AGREE, not multiple instances of an operation AGREE. It has further proposed that the DIC is accordingly refined as a derivational condition on a syntactic operation AGREE. I have shown that these refinements nicely account for covert multiple feature-checking phenomena in varieties of raising in Japanese. Much empirical evidence for eliminating equidistance in multiple specifiers has also been presented, showing that a certain case of equidistance is derived from a derivational property of computational system.

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[11] Among the three goals in (32), MOVE (T, *me*) attracts the closest dative experiencer to satisfy the EPP property of T (cf. also footnote 9). Interestingly, this suggests that MOVE as well as AGREE obeys the strict locality/minimality condition like (9). See Hiraiwa (2000a) for extensive discussions about multiple options for (MULTIPLE) MOVE of multiple goals (β, γ and δ) into Spec-α; MOVE (α, β), MOVE (α, β, γ, δ) as well as MOVE (α, β, γ), but crucially not MOVE (α, β, δ) or MOVE (α, γ, δ).

[12] The fact that the nominative object cannot determine the agreement in (31) and (32) may be attributed to the deep asymmetry between Case and agreement in terms of head-marking and dependent-marking. There exists no language that shows, for example, multiple agreement on the side of probe/head in multiple feature-checking, whereas dependent-marking languages like Japanese realize multiple Case on the side of dependents (i.e. DPs).

It is a universal fact that a closer goal feature determines agreement. In a asymmetrical object language, Chichewa, in which a direct object determines object agreement, it is a closer indirect object/an applied object that determines object agreement in a double object construction and an applicative construction (cf. Baker 1988). See also possessor raising constructions in various languages, where 'a raised possessor' always determines object agreement (Baker 1988, Hiraiwa 2000).

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