DEDUCING TRANSFER FROM MERGE*

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1. Introduction

The Minimalist Program assumes the Strong Minimalist Thesis (SMT) as its basic hypothesis and argues that language is explained in a principled manner as far as its properties are deducible from the structure-building operation, Merge, and the interfaces or Full Interpretation (Chomsky 2010 among others) (=(1)):

(1) SMT: Merge + interfaces = language

Given that language is a computational system with discrete infinity, Merge has been considered the irreducible and bare minimum part of Universal Grammar or UG, and it is hence a virtual conceptual necessity. Applying iteratively to form syntactic objects (SOs) or sets, Merge interacts with general principles of minimal computation (so called "third factor principles") and SOs are structured by Merge in its simplest form (=(2)):[1]

(2) Merge(α, β) = {α, β}

Merge is thus formulated as simplest Merge.

The other element of SMT (i.e., the interfaces) can naturally be regarded as a principled element of language in that language is a system with sound and meaning. The external systems are not well understood, however, and the interfaces or conditions that they impose are, at the moment, not very clear; as Chomsky (2000: 98) puts it, progress in understanding the external systems goes hand in hand with progress in discovering the language systems that interact with them. One thing that is indubitable is that SOs created by simplest Merge, which are label-less as mother nodes and endocentric projections are not provided by (2), must be identified or labeled for interpretation: CI and externalization processes must know what kind of object a derived SO is; in order to be interpreted, SOs must at least be identified (identifiable = interpretable at the interfaces). Chomsky (2013, 2015) proposes that identification of SOs is carried out independently by the Labeling Algorithm (LA). LA determines the properties, hence "labels," of SOs through minimal search and is nothing more than one instance of minimal search. When applied to the set marked as α in (3), minimal search LA locates the closest head (in the case of a set of the form X-YP as in (3a))) or agreeing heads (in the case of an XP-YP set as in (3b)), providing necessary information about it for its CI interpretation and externalization, hence for Full Interpretation at the CI and SM interfaces:

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[1]For convenience, curly brackets and square brackets are used interchangeably in this paper ({α, β} = [α, β]). Greek letters are used for general symbols as well as for set labels. For distinction, those used as set labels are shown in italics.

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(3) a. $[_{\alpha}$ X [Y …]] (α = X)
b. $[_{\alpha}$ [X_{χ} …] [Y_{χ} …]] (α = <χ, χ>)

Labeling by minimal search is one necessary component of Full Interpretation at the interfaces. To the extent that language is explained by simplest Merge (2) and labeling (3), it will be an optimal solution to interface conditions (=(1)) and will receive a principled explanation.

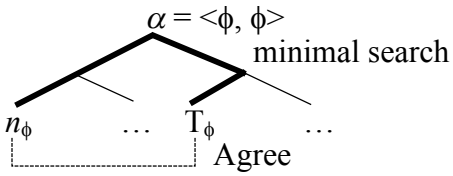
The syntactic model illustrated above can be characterized as the eliminative or reductionist minimalism, the basic idea of which is something like "less is better than more," and the generative research has sought the simplest possible account of UG through reduction. The assumption is natural and reasonable from scientific and biological viewpoints: simpler theory suggests deeper explanation in sicence, leading to better understanding of the object of inquiry; and simplification of UG, which is the theory of the faculty of language, the biological endowment, makes possible an eventual account of the origin of language as far as this can be attained (Chomsky 2015). Two recent examples of the eliminative or reductionist minimalism are [i] the reduction of Move to Merge (Chomsky 2004) and [ii] the reduction of Agree to labeling or minimal search (Abe 2016, Seely 2016, Fukui 2017, Kitahara 2017). As for [i], movement, which has been considered a peculiar property of language, is nothing more than the process whereby an already merged SO (say β) is taken and is merged with the SO that contains it. Consider (4):[2]

(4) {α, { … β … }} → {β, {α, { … ⟨β⟩ … }}}

As illustrated in (4), β is merged with {α, { … β … }}, with Merge applying to an SO internal to another SO. Move can be reformulated as one subcase of Merge (or "Internal" Merge, IM) and both base and transformational components are unified by Merge.

As for [ii], consider (5). As discussed, the α-marked set, which is XP-YP, is labeled by minimal detection of agreeing *n* and T heads when LA applies to α (Chomsky 2013, 2015). If α is labeled to the extent that *n* and T agree, then Agree can be executed when labeling by minimal search applies (labeling of α by LA → Agree of n_{ϕ} and T_{ϕ}):[3]

(5)



Agree can be eliminated thanks to labeling, which, as I have argued, can be considered irreducible along with Merge. Both Move and Agree can be reduced to operations

[2]In (4) and elsewhere, angle brackets are used to represent copies (i.e., SOs or occurrences created by movement or Internal Merge, which receive a chain interpretation).

[3]Bold lines in (5) show minimal search by LA; dotted lines in (5) and elsewhere in this paper represent Agree relations.

motivated by SMT.[4]

Against this background, in this paper, I further explore the eliminative or reductionist minimalism and claim that Transfer, which is currently considered an independent syntactic operation in the literature, can also be reduced and eliminated, being subject to deeper explanation.

This paper is organized as follows: in section 2, I spell out my proposal and claim that Transfer is reducible to Merge. In section 3, I discuss two consequences that follow from the proposed reduction. In section 4, I summarize and conclude the paper.

2. Transfer as Merge

Transfer is the operation that ships off derived SOs over to the interface (i.e., semantic and phonological) components for interpretations at CI and SM. I maintain that the operation is another instance of Merge; more specifically, it is one subcase of movement and is reducible to IM, hence to Merge. Notice that Transfer overlaps with IM: both operations move the SO to somewhere else in the process of derivation; the only difference is that IM dislocates the SO within narrow syntax (=(6)) while Transfer dislocates it out to the interface components (=(7)):

(6) IM within narrow syntax (⇒ "movement")
[SO … [… [… ⟨SO⟩ …]]] : Narrow Syntax
↑_____|

(7) IM out of narrow syntax (⇒ "Transfer")
[… [… ⟨[SO …]⟩]] : Narrow Syntax
↓
[SO …] : Interface Components

Transfer has the property of displacement, which is shared by IM. Given that the two operations have the same property, one should be reduced to the other under the reductionist minimalism. Considering that Merge, as I have argued in section 1, is irreducible and forms a principled part of UG, the reasonable conclusion that can be reached is that Transfer is reduced to IM. Transfer, like Move, is one subcase of Merge and does not stand as an independent operation. Transfer is thus eliminated.

With the proposed reduction in mind, we need to consider two issues before we can fully claim that Transfer is reducible to Merge. The first issue is concerned with the fact that Transfer does more than sending derived SOs and that it can be decomposed. It has been argued that Transfer executes at least the following three functions:

(8) a. Deletes unvalued features that are valued by Agree
b. Hands a derivation over to the semantic and phonological components
c. Renders the derivation impenetrable to further operations

[4]Reduction of Agree to labeling (minimal search) predicts that the so-called "EPP effect" holds universally when agreement or valuation takes place, providing a fresh perspective on Spec-head agreement. See Kitahara (2017) for relevant discussion.

Of the above three functions, the core and indispensable function of Transfer is (8b), by which a derivation constructed in narrow syntax is shipped off, hence moved, to the interface components for CI and SM interpretations; without (8b), derived SOs will neither be interpreted nor externalized, and language will never be put to use. The function (8b) is reduced to Merge as I have proposed (=(7)).

As for (8a), it has been argued that unvalued features that are valued by Agree (or syntactically valued features) will be deleted from SOs when they are transferred to the semantic component; otherwise, crash will result at the CI interface as they are not themselves interpreted at CI. Thus, the claim has been made in the literature that Transfer should include a deletion function (see, e.g., Chomsky 2004, 2008). If Transfer is one subcase of Merge as I have proposed, then this function cannot be executed, the reason being that it adds a stipulation to the operation and goes against simplest Merge. Merge conforms to the condition of Inclusiveness, which can be taken to be one of the third factor principles: any SO structured by syntax is constituted of elements already present in the lexical items selected for computation, and their modification (i.e., addition or deletion) will not be allowed. (8a) violates the relevant condition and must not be a function of Transfer (i.e., Merge).

If Transfer is Merge, then a natural conclusion is that unvalued features syntactically valued by Agree will never be deleted upon Transfer; a deletion function will not be part of Transfer and such features will be shipped off to the semantic component as well. I argue that this does not pose a problem at all. As noted in Epstein, Kitahara and Seely (2010), if syntactically valued features are ignored by the CI interface, SOs generated in narrow syntax can converge at CI even if they bear such features. I submit that syntactically valued features (more generally, those features that do not themselves receive interpretation at CI) do not cause crash at the CI interface as they are irrelevant, hence invisible, to the relevant interface: the CI interface sees all and only features that it can use and cannot recognize those features impertinent to CI interpretation. Since syntactically valued features are not recognized, they do not at all crash at the CI interface even when SOs bearing such features are sent off to the semantic component, and to the CI interface. Given this assumption, (8a) need not be assumed as a function of Transfer. Since (8a) is removed, it does not constitute a barrier to the proposed reduction of Transfer to Merge.[5]

As for (8c), which says that computation cannot penetrate transferred SOs, I will put off the discussion until section 3, where I argue that (8c) follows as one straightforward consequence of the reduction of Transfer to Merge.

The second issue that needs to be addressed is the question of what the merge-mates are in the case of Transfer. As shown in (2), Merge is the operation that takes two SOs and forms a set out of them by symmetrically putting them together.[6] If Transfer is Merge, then what will the SO be merged with in the execution of Transfer? To answer the question, I argue that Merge is a more generalized operation, (2) being just one instance of this generalized Merge. I propose that Merge is the operation that subjects α to β (Merge = Subject). If α and β are both SOs, then the outcome of Merge(α, β) or α being subjected to β is $\{\alpha, \beta\}$, a conventional and well-known outcome of Merge: the operation combines

[5]For arguments that Transfer does not have a deletion function, see also Epstein, Kithara and Seely (2010) and Fukui (2017).

[6]Merge forms an ordered pair $<\alpha, \beta>$ when it applies asymmetrically. The same argument applies under the proposal below that Merge is Subject: given that operations are constrained only by third factor principles, in the absence of a stipulation blocking it, α can be subjected to β asymmetrically as well as symmetrically.

two SOs together and builds a structure or set out of them in narrow syntax. This is not the only instance of Merge under the proposal that Merge is Subject. Suppose that α is an SO and that β is the semantic and phonological components. In this case, Merge subjects the SO to the interface components, with the result that the SO is mapped for semantic and phonological interpretations. As the interface components are not part of narrow syntax, the SO will necessarily be moved out of it by Merge, hence transferred to the interfaces.

Going back to the question, the merge-mates in Transfer are the interface components. As I have argued, the answer is made possible by the generalized notion of Merge I have proposed. If the merge-mates of SOs are the interface components, {α, β}, the outcome of Merge, is created not in narrow syntax but outside, with SOs getting out of narrow syntax and receiving semantic and phonological interpretations.

In the discussion so far, I have argued that Transfer can be reduced to Merge. Given the proposed reduction, "Internal" Merge and "External" Merge will be given a fresh perspective. Merge applies externally to interface components in the case of Transfer (=(7)) while it takes place internally within narrow syntax in the case of structure building. If so, it can be considered that Transfer is "External" Merge in the sense that it displaces the SO out of narrow syntax and subjects it to the external, interface components; on the other hand, Merge in the case of structure building is "Internal" Merge in the sense that it is internal to narrow syntax, with both X-bar theory and Move, the mechanisms that yield the base and transformational structures in narrow syntax, falling under Internal Merge.[7]

3. Consequences

The proposed reduction of Transfer to Merge implies two consequences. In this section, I discuss them and show that they are theoretically favorable and are empirically endorsed.

3.1 Invisibility

The first consequence is that transferred SOs are invisible to computation. Merge, constrained by third factor principles, abides by the No-Tampering Condition (NTC) and SOs merged are left unchanged. When the SO is moved, IM hence yields its copies (that is, multiple occurrences of the same SO) (see also (4)):

(9) {{SO} … {⟨{SO}⟩ … {⟨{SO}⟩ … { … ⟨{SO}⟩ … }}}}

Copies are invisible to computation as they are part of a discontinuous element: only a discontinuous element as a whole or the head of a discontinuous element is visible to syntax. The invisibility of copies is demonstrated by intervention effects (Chomsky 2001, 2013) and by labeling (Chomsky 2013, 2015, Ott 2012). First consider intervention effects. As shown in (10) and (11), the *n*P does not block agreement when it moves and becomes a copy (Holmberg and Hróarsdóttir 2003; for more recent discussion of (10), see Sigurðsson and Holmberg 2008):

(10) a. Það virðist/***virðast** einhverri konu **myndirnar** vera ljótar.
EXPL seem.3SG/3PL some woman.DAT paintings.the.NOM be ugly

[7]For convenience, I continue to use IM for movement and Transfer for shipment of derived SOs to the interface components ("External Merge" in our sense); External Merge or EM is reserved for base generation.

'It seems to some woman that the paintings are ugly.'

b. Henni **virðast** ⟨Henni⟩ **myndirnar** vera ljótar.
her.DAT seem.3PL paintings.the.NOM be ugly
'It seems to her that the paintings are ugly.' (Sigurðsson and Holmberg 2008)

(11) a. Which dogs **am** I seeing?
b. *Which dogs **are** I seeing?

For illustration, consider the derivation of (11). The *wh*-phrase moves to Spec-*v** (a phase edge) on its way to Spec-C (=(12a)). When the CP phase is structured, it intervenes between the T probe, which inherits ϕ-features from C, and the subject (=(12b)). However, if the *wh*-phrase moves out of Spec-*v**, agreement of T with the subject will be possible and will not be blocked by the *wh*-phrase (=(12c)), which is evidenced by the morphological forms of the verb *be* in (11):

(12) a. [$_{v*P}$ which dogs [I [*v** [… ⟨which dogs⟩]]]]
b. [C [T_{ϕ} [$_{v*P}$ which dogs [I [*v** [… ⟨which dogs⟩]]]]]]
c. [which dogs [C [T_{ϕ} [$_{v*P}$ ⟨which dogs⟩ [I [*v** [… ⟨which dogs⟩]]]]]]]

The invisibility of copies is also endorsed by (13), which are examples from Kilega, one of the Bantu languages:

(13) a. **Bíkí** **bi-á-kás-íl-é** bábo bíkulu mwámí mu-mwílo?
8what 8CA-A-give-PERF-FV 2that 2woman 1chief 18-3village

b. **Bábo** **bíkulu** **b-á-kás-íl-é** mwámí bíkí mu-mwílo?
2that 2woman 2SA-A-give-PERF-FV 1chief 8what 18-3village
'What did those women give the chief in the village? (Carstens 2005)

In (13), unlike in (12), when the *wh*-phrase moves, it is not the subject but the *wh*-phrase that agrees with T. As evidenced by (13b), when *wh*-movement does not apply, the subject does agree with T. Obata, Epstein and Baptista (2015) argue that given third factor principles, the order of operation applications is under-specified and without a stipulation blocking it, operations can apply in any order at the derivational point where they apply. In (14), both Agree and IM can apply and the application of either of the two operations is optimal, conforming to third factor principles:

(14) [C [T_{ϕ} [$_{v*P}$ *Wh*P [Subj [*v** [… ⟨*Wh*P⟩ …]]]]]]

Suppose that in Bantu (13), Agree applies first and then IM is executed when the CP phase is created ([1] Agree → [2] IM). Since the partially moved *wh*-phrase is not a copy when Agree applies, it agrees with T and blocks agreement between T and the subject:[8]

[8]Holmberg and Hróarsdóttir (2003) report that when the SO undergoes Ā-movement, ϕ-feature agreement will be with the SO, not with the subject, in Icelandic. Consider (i):

(15) [C [T_{ϕ} [$_{v*P}$ bíkí [bábo bíkulu [*v** [… ⟨bíkí⟩ …]]]]]] (=(13a))

On the other hand, suppose that in English, IM applies before Agree at the derivational stage (14) ([1] IM → [2] Agree). In this case, the partially moved *wh*-phrase is a copy when Agree applies. As shown in (11), since T agrees with the subject, not the *wh*-phrase, when IM applies first, this argues that copies, unlike non-copies, are syntactically invisible.[9]

The invisibility of moved SOs is also demonstrated by labeling. In (16), the α-marked set, which is XP-YP, cannot be labeled since *n* of the subject and *v** do not agree; when applied to the set, minimal search LA cannot detect agreeing heads for identification of XP-YP and labeling is ambiguous. Once the *n*P moves out of α and becomes a copy, however, minimal search LA can unambiguously locate *v** and the set can be labeled (Chomsky 2013: 44):

(16) a. *It will [$_{\alpha}$ the student [$_{\beta}$ read-*v** the book]] (α = ?)
b. The student will [$_{\alpha}$ ⟨The student⟩ [$_{\beta}$ read-*v** the book]] (α = *v**)

This argues that copies are invisible to labeling or minimal search, hence to computation in syntax.

If Transfer is reduced to Merge or IM as I have proposed, then it will create copies in narrow syntax when it applies, and transferred SOs will be syntactically invisible as they are part of a discontinuous element. This derives the impenetrability of transferred SOs, and the function (8c), which is mentioned in the last section and is repeated below as (17) for convenience, is not a stipulation any more but follows in a principled manner:

(17) Renders the derivation impenetrable to further operations (=(8c))

It has been assumed in the literature that transferred SOs are invisible and that this explains the Phase Impenetrability Condition (PIC) (=(18)): phase complements like TP and VP are cyclically transferred and become syntactically impenetrable, hence invisible:

(18) The domain of a phase head H is not accessible to operations but only the edge of HP.

Phase impenetrability is empirically supported by successive cyclic movement. For instance, in (19), unless the *wh*-phrase moves successive cyclically through the phase edge, it will be trapped in lower phases in the course of the derivation and cannot move out:

(i) Hvaða konu finnst/***finnast** **myndirnar** vera ljótar?
what woman.DAT finds.3SG/*3PL paintings.the.NOM be ugly
'Which woman finds the paintings ugly?' (Sigurðsson and Holmberg 2008)

The agreement pattern in (i) is explained on par with that in (13a), with Agree applying before IM. I leave for future the discussion of the order of Agree and Merge in A- and Ā-movement in Icelandic.

[9]For expository convenience, the discussion here is based on the traditional assumption on Agree. Details are put aside here but mutatis mutandis, the same argument goes through under the reduction of Agree to labeling.

(19) [$_{CP}$ Which picture of himself [did John [$_{v*P}$ ⟨Which NP⟩ [think [$_{CP}$ ⟨Which NP⟩ [that Bill will [$_{v*P}$ ⟨Which NP⟩ [admire ⟨Which NP⟩]]]]]]]]?

The invisibility of transferred SOs, hence PIC, is deduced from the proposed reduction of Transfer to Merge or IM, which creates copies, and the assumption can be removed that transferred SOs are invisible to computation (i.e., the function (8c) stipulated on Transfer). Notice that the proposed reduction removes another overlap of Transfer with movement: that is, lower copies and transferred SOs are both opaque to syntactic computation. This supports the proposal in this paper that Transfer is another instance of IM.

3.2 Free application of Transfer

The second consequence is that Transfer can apply freely in derivation. It has been assumed that Merge applies freely under the assumption of simplest Merge: to the extent that Merge is constrained only by third factor principles, only a stipulation can block its free application. If Transfer is reduced to IM, hence to Merge, then it is free to apply or not to apply at any point in the course of derivation and any SO can be transferred. This consequence will remove the assumption in (20), which underlies PIC:

(20) Transfer applies to phase-head complements at the phase level.

The removal of (20) is theoretically desirable in that the assumption in question stipulates both timing (*at the phase level*) and domain (*phase-head complements*) of Transfer, which do not follow from anything and hence do not receive principled explanations. If Transfer is one instance of Merge and hence applies freely, the two stipulations will go away and need not be explained.

I argue that the application of Transfer is given a principled explanation by SMT, with Transfer or Merge applying freely without any problems in narrow syntax. To see this, consider a simple transitive sentence in (21):

(21) The student read the book.

At one point in the derivational process, (22) is structured:

(22) [$_{\kappa}$ C [$_{\lambda}$ T [$_{\alpha}$ *n*P [$_{\beta}$ *v** [R …]]]]]

In (22), the α-marked set, which is XP-YP yielded by the external merge of the *n*P with the β-market set, will not be labeled unless the *n*P moves out of the set and becomes a copy; as I have argued, *n* and *v** do not agree and agreeing heads cannot be detected by LA for identification; likewise, the λ-marked set will not be labeled for weakness of T as a label: T can label only when visible Spec-T is created, in which case T can strengthen as a label and can work as a labelable head (Chomsky 2015). Unless the *n*P moves to Spec-T, labeling failure will result with α and λ, and Full Interpretation will be violated at the interfaces, with the derivation of (21) ruled out.

As discussed above (see the discussion around (16)), the movement of the *n*P will solve the problem of labeling failure. When it does move, however, the λ-marked set will be forced to be transferred; otherwise, the derivation will fail as it applies counter-

cyclically (Epstein, Kitahara and Seely 2012, Mizuguchi 2014). For our purpose here, suppose, following Chomsky (2007, 2008), that movement or IM applies at the phase level. Epstein, Kitahara and Seely (2012) maintain that A-movement will create a double-peaked structure or an intersecting SO (=(23)) as Merge conforms to NTC, and that one peak of the derived structure (that is, γ) must be eliminated through Transfer in order for the derivation to continue; they argue that if γ is not transferred, the derivation will halt as intersecting SOs are not accessible to further Merge:

(23) $[_{\kappa}$ C
$[_{\lambda}$ T $[_{\alpha} \langle n\text{P} \rangle$ $[_{\beta}$ *v** [R …]]]]]
$[_{\gamma}$ *n*P → Transfer

On the other hand, in Mizuguchi (2014), I claim that transfer of λ will make A-movement possible by allowing the *n*P to be merged at the root; in (22), λ is embedded and is not a root, with the result that IM of the *n*P with λ, as it infixes the SO, will tamper with the existing structure, violating NTC. As illustrated in (24), if the λ-marked set is transferred, IM can apply at the root and A-movement does not violate NTC, as required by (2):

(24) [C [$_{\lambda}$ T $[_{\alpha}$ *n*P $[_{\beta}$ *v** [R …]]]]]
↓ Transfer
$[_{\gamma}$ *n*P $[_{\lambda}$ T $[_{\alpha} \langle n\text{P} \rangle$ $[_{\beta}$ *v** [R …]]]]]
↑ IM of *n*P

Whether we adopt Epstein, Kitahara and Seely (2012) or Mizuguchi (2014), their arguments suggest that given simplest Merge, A-movement of the *n*P will necessarily lead to transfer of λ or a phase head complement; otherwise, the derivation will fail.[10]

In fact, it can be argued that movement or IM generally implies Transfer. As I have discussed, when the SO is moved, IM creates its copies as the operation, like EM, conforms to NTC. However, there must be some procedure to distinguish copies from distinct repetitions for proper interpretations at the interfaces as both IM and EM yield multiple occurrences of the same SO. To see this, consider (25). In both (25a) and (25b), Merge yields the four occurrences of the *n*P *the student* in the derivation; however, those in (25a) are interpreted as one, receiving a single or chain interpretation (i.e., the occurrences are copies) while those in (25b) receive distinct interpretations (i.e., the occurrences are repetitions of the same SO):

[10]The argument here also applies to the transfer of RP (or VP), marked as δ in (i), in the *v**P phase:

(i) $[_{\beta}$ *v** $[_{\delta}$ R *n*P]]

R, like T, is weak as a label and can label only when overt Spec-R is created. Since δ is embedded, it will be transferred upon A-movement of the object *n*P to Spec-R.

(25) a. [The student$_4$ [seems [the student$_3$ [to be believed [the student$_2$ [to be [the student$_1$ intelligent]]]]]]]

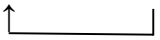
b. [The student$_4$ [believes that [the student$_3$ [said that [the student$_2$ was likely to visit the country where [the student$_1$ [was born]]]]]]]

The four occurrences are yielded by IM in (25a) and by EM in (25b). To the interfaces, however, occurrences formed by IM and those created by EM are indistinguishable. Given the Inclusiveness Condition, indices cannot be resorted to in order to make sure that the occurrences created in (25a) are copies, being part of a discontinuous element. On the assumption that syntax is interfaced with the outside systems through the interfaces, multiple occurrences of the SO can be identified as copies, instead of repetitions, if the information is locally available to the interfaces (or to the interface components) that the SO is internally merged. Chomsky (2007, 2008) proposes that this is made possible if IM applies at the phase level together with Transfer, stipulating (20). In Mizuguchi (2016), I argue that the assumption "at the phase level" should be removed. This is theoretically desirable in that the assumption imposes a constraint on Merge and stipulates its application. Rather than assuming that IM and Transfer apply at the phase level, I claim that IM implies Transfer: unless IM and Transfer co-occur, occurrences formed by IM will be identified as repetitions, which will incur ill-formed interpretations: as discussed, the interfaces cannot know whether occurrences created are by IM or by EM. The co-occurrence of IM and Transfer results in proper interpretations at the interfaces as it locally provides the information about IM. Derivations which fail to apply Transfer at the time of IM will violate Full Interpretation and will be ruled out at the interfaces. IM + Transfer yields copies (or occurrences that receive a chain interpretation); without Transfer, Merge yields repetitions (i.e., occurrences that receive independent interpretations).

Given the proposed analysis, it straightforwardly follows that A-movement is counter-cyclic: counter-cyclicity is not a consequence of the assumption in Chomsky (2007, 2008) that IM applies at the phase level, which is got rid of under free application of Transfer. Consider once again (21). Suppose that in the derivation of (21), the *n*P moves cyclically when λ is created and before C is merged, as assumed in pre-minimalist models of syntax such as GB theory:

(26) a. [$_\lambda$ T [$_\alpha$ *n*P [$_\beta$ *v** [R …]]]]

b. [$_\gamma$ *n*P [$_\lambda$ T [$_\alpha$ ⟨*n*P⟩ [$_\beta$ *v** [R …]]]]]



If IM implies Transfer for proper interpretation of occurrences at the interfaces, then when the *n*P moves in (26b), Transfer will apply. Given that Transfer qua Merge applies freely, any SO in (26b) can be transferred upon the movement. Whichever SO gets transferred, however, the derivation will crash at the interfaces (or given our discussion in the last section, at the SM interface) as the *n*P is transferred with its Case feature unvalued: Case is valued under ϕ-feature agreement (Chomsky 2000) and ϕ-features on T are inherited from C, a phase head. In (26b), however, Transfer applies due to IM of the *n*P before T inherits ϕ and agrees with the *n*P. Whether γ or λ or α is shipped off by Transfer, it contains an occurrence or occurrences of the *n*P with unvalued Case, causing crash (see Mizuguchi 2015 for relevant discussion). Recall that Transfer is free not to apply at (26b); as I have argued, Transfer qua

Merge applies freely and only a stipulation can force the co-occurrence of IM and Transfer. If Transfer does not apply when the *n*P moves, ϕ-feature agreement, hence Case valuation, can be executed. In this case, however, an occurrence of the *n*P in Spec-*v** will be identified as a repetition, not a copy, and a non-chain, hence ill-formed, interpretation will result at the interfaces, with Full Interpretation being violated.[11]

It should be noted that the co-occurrence of IM and Transfer for a chain interpretation as well as counter-cyclicity in A-movement, which follows from it, can give a principled explanation to successive cyclic movement across phases (e.g., (19); as for A-movement, see footnote 11), deriving successive cyclicity without the assumption or stipulation that Transfer applies at the phase level. Consider once again (22), which is repeated below as (27):

(27) $[_{\kappa}$ C $[_{\lambda}$ T $[_{\alpha}$ *n*P $[_{\beta}$ *v** [R …]]]]] (=(22))

As discussed, the EPP effect is explained by labeling: unless the *n*P moves to Spec-T, λ and α will not be labeled and labeling failure will arise. When (27) contains an SO that moves into higher clauses or phases, the SO will have to be internally merged with κ, moving to Spec-C; otherwise, it will be trapped in λ, which is transferred due to IM of the *n*P with λ (i.e., its A-movement to Spec-T), and the movement out of λ, hence the derivation of cross-phasal movement, will fail. Given that IM and Transfer co-occur for copy identification or a chain interpretation and that A-movement applies counter-cyclically, successive-cyclic movement through the phase edge (or successive-cyclic Ā-movement) is explained in a principled manner by labeling (labeling of λ and α), hence by Full Interpretation at the interfaces.

From the discussion so far, it can be concluded that free application of Transfer is warranted by SMT: Transfer, which is nothing more than one instance of Merge, is free to apply or not to apply; its application is explained by simplest Merge (Merge conforming to NTC) and the interfaces (copy identification or a chain interpretation and labeling).

4. Conclusion

In this paper, assuming SMT as the basic hypothesis, I have investigated the eliminative or reductionist minimalism further. I have proposed that Transfer, which has been considered an independent operation in the literature, can also be reduced to Merge; more specifically, it is one subcase of IM. I have demonstrated that the proposed reduction of Transfer to IM brings theoretically favorable consequences, deducing the invisibility of transferred SOs (or PIC) and eliminating constraints or stipulations assumed with Transfer.

To the extent that the proposal in this paper is correct, it further propels the eliminative or reductionist minimalism, simplifying UG and reaching deeper explanation of the faculty of language through simplification. The discussion here not only argues that Transfer is reducible to Merge; it also strengthens the role of Merge in language, endorsing the hypothesis that language keeps to Merge, the simplest recursive operation.

[11]The discussion here implies that A-movement is not successive cyclic. See Mizuguchi (2014, 2015, 2017) for arguments for this conclusion.

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