1 Intro

In this paper, it will be shown that the application of Transfer to a structure built by Simplest Merge yields an asyntactic object, i.e. one that the narrow syntax cannot manipulate. Some possible solutions to this caveat are then explored. It is concluded that the derivational approach to syntax (Epstein et al. 1998; Epstein 1999; Epstein and Seely 2002, 2006; Epstein et al. 2012a,b; Shim 2013) and allowing Self-Merge (Adger 2013) each readily offer a clean solution to the problem at hand.

2 The issue

2.1 Simplest Merge and SOs

Merge is a concatenative operation.

\[ \text{MERGE}(\alpha, \beta) = \{\alpha, \beta\} \]

Merge may apply iteratively to create recursive hierarchical structures.

(2)  \[ \text{MERGE}(\gamma, \{\alpha, \beta\}) = \{\gamma, \{\alpha, \beta\}\} \]

Syntactic objects SOs are defined on the basis of Merge.

(3)  Syntactic objects SOs (Chomsky 1995; Epstein and Seely 2006)
SOs are
   a. Lexicals items LIs, or
   b. of the form \{a,b\}, where a and b are SOs.

If any non-SO should appear in a derivation, the derivation is cancelled (Chomsky 1995; Epstein and Seely 2006).

*Special thanks to Sam Epstein, Éric Mathieu, Jae-Young Shim, and Rob Truswell for continuing discussion of some of these issues. Thanks also to the uOttawa Syntax-Semantics Group.
2.2 Transfer

Chomsky (2000, 2001, 2004, 2007, 2008) proposes that derivations proceed in chunks called phases P. Once a phase is complete, the complement of the phase head PH is sent to the interfaces for interpretation. The proposed phase heads are $v^*$ and C.

(4) **Transfer**
Transfer sends the complement of PH to the interfaces for interpretation once P is complete.

2.3 Applying Simplest Merge and Transfer

(5) Partial derivation given **Merge** and **Transfer**

1. $\text{Merge}(V,IA) = \{V,IA\}$
2. $\text{Merge}(v^*,\{V,IA\}) = \{v^*,\{V,IA\}\}$
3. $\text{Merge}(EA,\{v^*,\{V,IA\}\}) = \{EA,\{v^*,\{V,IA\}\}\}$
4. $\text{Transfer}(\{V,IA\}) = \{EA,\{v^*\}\}$

**The issue:** The object created by application of **Transfer** is not an SO. It contains a non-term, namely $\{v^*\}$. Consequently, the derivation should be cancelled but it is not. In fact, any derivation with more than one phase is predicted to be cancelled but this is not true. Although this problem has been pointed out by both Epstein (2007) and Collins and Stabler (2011), it has, in general, not been taken seriously.

3 Apparent solutions

3.1 Repairing asyntactic objects

It has been suggested that asyntactic objects do not cause cancellation of the derivation, but remain in the derivation and are repaired at a later derivational stage Epstein et al. (1998); Epstein and Seely (2002, 2006); Epstein et al. (2012b). How could the non-term be repaired?

One way in which this could apparently be accomplished is **Merge** of another element with the non-term, as in (6).

(6) $\text{Merge}(\alpha, v^*) = \{\alpha, v^*\} \\
\rightarrow \{EA,\{\{\alpha, v^*\}\}\}$

There are several problems with such an approach: (i) it violates the extension condition (Chomsky 1995), (ii) it is not clear what kind of element could undergo **Merge** with $v^*$ at this derivational stage, and (iii) most importantly, the problem is not resolved: the resulting structure still contains a non-term, namely $\{\{\alpha, v^*\}\}$.

3.2 Modifying Transfer

Another possible way of solving the issue is to modify the operation **Transfer**.

First, consider a suggestion by Collins and Stabler (2011:27) (emphasis added):

(7) “For any derivable workspace $W = \{SO\}$ where SO is a strong phase and the occurrence $A_P$ (with position P in SO) is the complement of the head of the phase or is contained in the complement
of the head of the phase, let Cyclic-Transfer<sub>P</sub>(SO) = SO′ where SO′ is obtained from SO by replacing A in position P by \(<\text{Transfer}_{PF}(A),\text{Transfer}_{LF}(A)\>).”

Some problems with this proposal are (i) that it violates the No Tampering Condition (as noted by the authors), (ii) that it violates the extension condition, and (iii) that it involves introducing a new operation, REPLACE, into the grammar.

Second, as proposed by Collins and Stabler (2011:29), perhaps Transfer does not literally remove structure from the workspace but simply makes it invisible to operations beyond the phase level. There are at least two problems with this approach: (i) in adopting such a hypothesis, the trivial reason for such material being inaccessible beyond the phase (i.e. because it no longer exists in the workspace) no longer holds, and (ii) since the “Transferred” structure is hypothesized to be invisible to the syntax, it is not clear how the syntax would recognize that this object is well-formed. In other words, while (8) is what is in the workspace, (9) (containing the non-term) is what the syntax sees.

(8) In the workspace: \{C,\{T,\{Subj,\{v*,\{V,Obj\}\}\}\}\}\}
(9) Visible to the syntax: \{C,\{T,\{Subj,\{v*\}\}\}\}\}

4 Two bases for a solution

4.1 A representational problem?

Shim (2013) states that all operations, including EXTERNAL MERGE, are triggered by phase heads (Chomsky 2007, 2008).

(10) Derivation according to Shim (2013)

1. Introduce a PH into the workspace.
   \(v^*\)

2. Introduce into the workspace the LIs necessary to satisfy the PH’s selectional features, and the LIs necessary to satisfy the selectional features of these non-PHs.
   \(v^*,\text{EA, V, IA}\)

3. LIs which each bear one or more unsatisfied selectional features cannot undergo MERGE with one another. Only once a selector no longer has unsatisfied selectional features can it project as the label.

4. Once \(v^*\) undergoes MERGE with V, feature inheritance FI takes place.

5. IA undergoes INTERNAL MERGE with V to satisfy V’s [EPP] feature.
6. A multiple-peak structure (Epstein et al. 2012) cannot be interpreted at the interfaces. The relation between $v^*$ and $V$ is broken, and $\{IA,\{V,IA\}\}$ is sent to the interfaces.

7. **Transfer**($\{IA,\{V,IA\}\}$)

8. As Epstein and Shim (p.c.) note, after the point of Transfer, what remains is an SO, as defined in (3). No non-term is created in the course of the derivation.

4.2 **Self-Merge**

Adger (2013:18) notes that in the definition of **Simplest Merge** ((1)), there is a (usually implicit) distinctness condition imposed on $\alpha, \beta$ such that $\alpha \neq \beta$. This is pure stipulation. He proposes that this stipulation should be lifted. He also proposes the following axioms.

(11) Label Transition Functions $\Lambda = \{..., <D,v^*>,<V,v^*>,...\}$

(12) a. Transition Labeling

If $\alpha, \beta \in \gamma$, then $\text{Label}(\gamma) = \text{some } L \in \text{CLex}$, such that there are (possibly nondistinct) $f$ and $g \in \Lambda$ such that $f(\text{Label}(\alpha)) = g(\text{Label}(\beta)) = L$.

b. Root Labeling

$\text{Label}(\{\sqrt{x}\}) = \text{some } L \in \{N,V,A\}$ Adger (2013:22)

Adger’s (2013) system is similar to Brody’s (2000) Mirror Theory, since they both adopt telescoped structures like that in (13).

(13) Structure with projections

<table>
<thead>
<tr>
<th>Telescoped structure</th>
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<tbody>
<tr>
<td>CP</td>
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<tr>
<td>C</td>
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<td>TP</td>
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<tr>
<td>EA</td>
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<tr>
<td>$T'$</td>
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<tr>
<td>$v^*P$</td>
</tr>
<tr>
<td>$&lt;EA&gt;$</td>
</tr>
<tr>
<td>$v^*_{1}$</td>
</tr>
<tr>
<td>$V$</td>
</tr>
<tr>
<td>IA</td>
</tr>
</tbody>
</table>

(14) Partial derivation of John ran.

1. $\text{MERGE}(\sqrt{\text{John}}, \sqrt{\text{John}}) = \{\sqrt{\text{John}}, \sqrt{\text{John}}\} = \{\sqrt{\text{John}}\}$

$\text{MERGE}(\sqrt{\text{run}}, \sqrt{\text{run}}) = \{\sqrt{\text{run}}, \sqrt{\text{run}}\} = \{\sqrt{\text{run}}\}$

4
2. \text{LABEL}(\{\sqrt{\text{John}}\}) = D
\text{LABEL}(\{\sqrt{\text{run}}\}) = V \text{ (via (12-b): } V \in \{N,V,A\})
3. \text{MERGE}((\{\sqrt{\text{John}}\},\{\sqrt{\text{run}}\}) = (\{\sqrt{\text{John}}\},\{\sqrt{\text{run}}\})
4. \text{LABEL}((\{\sqrt{\text{John}}\},\{\sqrt{\text{run}}\})) = v^* \text{ (via (12-a): there are } f \text{ and } g \in \Lambda \text{ such that } f(D) = g(V) = v^*)

Since \text{MERGE} is now defined such that it may generate objects of the form \{\alpha\}, the definition of \text{SO} in (3) must be modified in a way such that it includes objects of this form. Consequently, the non-term created in (10) is now an \text{SO}.

\begin{align*}
(15) \quad \text{SOs are} & \\
& \text{a. LIIs, or} \\
& \text{b. of the form } \{\alpha, \beta\}, \text{where } \alpha, \beta \text{ are distinct or non-distinct SOs.}
\end{align*}

5 \quad \text{Future directions}

\begin{itemize}
\item There is a problem with the structure in step 4 of (10): the label \(v^*_{2}\) should not exist. An item projects only once all its selectional features are satisfied. This is the case for \(v^*\) once it undergoes \text{MERGE} with \(V_2\). In derivational terms, \(v^*\) undergoes \text{MERGE} with \{V,IA\}, then projects. Therefore, the projection of \(v^*\) should be relevant for \{\(v^*,\{V,IA\}\}\} (resulting in \(v^*_{3}\)) but not for \{EA, v^*\} (eliminating \(v^*_{2}\)). This situation then raises the question of how much structure must be labeled in order for an \text{SO} to be interpreted.\(^1\)
\item How can we integrate \text{SELF-MERGE} into a more mainstream Minimalist theory?
\end{itemize}

References


\(^1\)Noam Chomsky (p.c.) insists that every node must be labeled.


