On the nature of FormSet
Sandiway Fong (University of Arizona) and Masayuki Oishi (Tohoku Gakuin University)

Consider unbounded unstructured sequences (UUS’s) such as (1a-b), distinguished using boldface \( \{ \ldots \} \) from Merge \{ \ldots \}. Chomsky argues that FormSet (FS), i.e. \( n \)-ary set formation, \( n \geq 2 \), is a fundamental operation available to I-language. The set must be a coherent collection of syntactic objects (SO’s), and members must obey some parallelism requirement to be licit, in (1a) referential similarity (but not number), in (1b) predicatehood. For \( n = 2 \), the output of FS differs from that of binary Merge due to this additional requirement.

1) a. \{John, Bill, my friends, the actor who won the Oscar\} (Chomsky, 2021: 31)
b. \{ran, danced, took a vacation\}

We note relative clause stacking, as in (2a), also admits a UUS derivation. FS applies to the relative CPs in (2b), optionally spelling out as (2c), cf. (3a-b). The visible edge of each Phase is \{student, \{who \{lives here\}\}\}, \{student, \{who, \{student, \{studies English\}\}\}\}, \{student, \{who, \{I, \{know, student\}\}\}\}

c. the student who lives, who studies English and whom I know

3) a. John lived on a farm with his family (Chomsky, 2021: 32)
b. John lived on a farm and with his family
c. which book did John buy which book and read which book
d. John arrived and met Bill

4) a. *Who and when did John see and ignore him?b. \{John, \{v*, \{see, who\}\}\}, \{\{John, \{v*, \{ignore, him\}\}\}, \{when\}\}, when\)

Next, consider adjectival UUS’s, as in (5a). Assuming a 1-place analysis of adjectival predication, (4a) is derived from FS on the separately formed AP’s in (5b). Extraction of IdenI hallway produces (5c), optionally (5d) when extracting to surface subject.\(^1\) In languages with adjectival inflection, Case/\( \phi \)-feature concord obtains between adjectives and nominal.

5) a. a long, narrow, (and) dark hallwayb. \{long, hallway\}, \{narrow, hallway\}, \{dark, hallway\}
c. \{hallway, \{long, hallway\}, \{narrow, hallway\}, \{dark, hallway\}\}
d. the hallway is long, narrow, (and) dark

The fact that adjectival phrases and predicative NPs can be conjoined, as in (6a), suggests they receive a structurally similar analysis, as in (6b).

6) a. the politician is greedy and a charlatanb. \{politician, \{be, \{\{greedy, politician\}, \{charlatan, politician\}\}\}\}

Both Merge and FS feed the Workspace (WS), but can any collection of similar SO’s feed FS? The simplest account is when 0-Merge is satisfied first, following Duality of Semantics.

7) a. Who did John see and greet?b. see, greet c. \{see, who\}, \{greet, who\} d. \{v*, \{see, who\}\}, \{v*, \{greet, who\}\}
e. \{John, \{v*, \{see, who\}\}\}, \{John, \{v*, \{greet, who\}\}\}\(^2\)

8) a. When and where did you see her? (Williams, 1978: 36)b. \{when, where\}, \{you, \{INFL, \{\{you, \{v*, \{see, her\}\}\}, \{when, where\}\}\}\}\)

\(^1\) We assume interpretive and defeasible pragmatic factors come into play for Spellout of (unordered) sets.

\(^2\) In (7e), as \( v^* \) is a Phase, \( who \) must move to the edge of \( v^* \) prior to FS. Similarly, for (3c).
For (7a), the sets in (7b-d) each contain unsaturated arguments, and will require tweaks to 1-to-1 \( \theta \)-role assignment.\(^3\) Only in (7e), where \( \theta \)-Merge is fully satisfied, can we proceed without additional stipulation. No \( \theta \)-Merge conflict for adjuncts arises: e.g. (8a) is derived from (8b).

Let us turn to featural properties of FS. Inclusiveness and the No-Tampering Condition (NTC) prevent encoding of set Labels or features, but \( \phi \)-features of T (and \( \nu^* \)) must be valued appropriately. For example, in (9a) subject-verb (SV) agreement marks T as plural, despite plural not being present in the set of referential SO’s. \( \phi \)-feature matching is not a pre-condition for FS, as (9b) and (1a) indicate. (9b) also suggests Case isn’t involved. It is no surprise \( \phi \)-features play no part in matching if such values are not (yet) computed/available.

9) a. John, Bill, and the actor who won the Oscar are taking a vacation
   b. John believes you and me/me and you/you and I/I and you are going to the movies\(^4\)

As Landau (2016), and references therein, have observed, SV and determiner-noun (DN) agreement may deviate, as in (10).

10) this/these committee/government has/have decided to cut the minimum wage again

(11a–c) suggest that DN agreement accesses \( \phi \)-features available at FS time, e.g. this via Minimal Search finds NUM on (wo)man in (11a), these with (wo)men in (11b). (11c) indicates Minimal Search is not reducible to first conjunct only.

11) a. this/these man and woman  b. *this/these men and women
    c. *this/these man and women/women and man (cf. this man and these women)

The above facts fall into place if we adopt the extraction story schematized in (12). Note that D must be an IdenI.

12) \( \{D, \{D, N_1\}, \ldots, \{D, N_k\}\} \)

D-conjunction receives the same analysis, e.g. (13b) for (13a), in which N is the IdenI.\(^5\) Forced identity (through FormCopy) blocks overloading of interpretable features on N, e.g. (13c), with corresponding structure (13d). Note, when identity is not forced, an interpretation is available, as in (13e), the two occurrences of book are repetitions (not copies).

13) a. How many and which details need to be disclosed?
   b. \{\{how many, details\}, \{which, details\}\}, details
   c. *the and this/a book are on sale
   d. \{\{the, book\}, \{this/a, book\}\}, book
   e. The book you mentioned and this book are on sale

(14a–b) illustrate an unresolved puzzle for NP structure. Evaluative sincere enjoys wide scope, (14c) for (14a), for (14b) raising to `s does not predict the narrow scope interpretation.\(^6\)

14) a. (sincere) friend of yours and mine (sincere wide scope only)
   b. your and my (sincere) friend (sincere scope ambiguity)
   c. {sincere, {friend, {{friend, you}, {friend, I}}}}
   d. *{friend, {{friend, you}, {sincere, {friend, I}}}} (violates parallelism)

\(^3\) (7c) and (7d) imply the construction of \{John, \{who, \{v*, \{saw, who\}, \{greet, who\}\}\}\} and \{John, \{who, \{\{v*, \{saw, who\}\}, \{v*, \{greet, who\}\}\}\}\}. John and who at the edge of \( \nu^* \), respectively. We need to add (footnote 3, cont.) stipulatary interpretive rule that John is both the external argument of saw and greet (and does not violate \( \theta \)-theory).

\(^4\) Speakers may employ explicitly memorized stylistic rules to sort between these options.

\(^5\) Which one can be simply which, e.g. set \{\{which, one\}, \{what, time\} \} in you (have to) know which and what time (British National Corpus/BNC). Similarly ambiguous is what, e.g. which and what is its height above sea level?, in the context one of the highest station on the BR network (BNC).

\(^6\) English employs the idiosyncratic double (or oblique) genitive Spellout rule for post-head personal pronouns and proper nouns only, e.g. a friend of mine/John’s/the family/Prime Minister’s). In the so-called specifier of ‘s position, we assume pronoun you + ‘s (I + ‘s) spell out as your (and my), respectively.
References
