As-ing

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This paper concerns the syntax of tensed as-clauses of the type shown in (1):

(1) •(ok) No •(*) man •(??) can •(ok) pat •(??) a •(*) cat, as I can a dog.

Externally, this clause behaves like a type of sentence adverb (others are possibly, perhaps, allegedly, I think, etc.; and you know, said Ed, not to put too fine a point on it, how can I explain it to you, worse luck, etc.), and can be inserted (between commas) at those places in (1) marked by ‘•,’ the resulting grammaticality being shown by the following parenthesized symbol. This characterization is criminally overgeneral; while the first four of these adverbs can be sandwiched between commas or not, the last five, which are underlined, require surrounding commas, as do as-clauses themselves.

And there are many further differences in distribution among what are all optimistically lumped together under the term “sentence adverbs.” However, if we say that Niching, the rule that inserts these adverbs in various places in a clause, can only insert them in niches, then we might begin to broad-brushly characterize the distribution of these niches as in (2).

(2) Niches do not appear between any left branch of a constituent and a following branch of that constituent. Graphically,

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   C
  /\  \
 A (*) B
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This restriction blocks sentence adverbs from appearing in any of the environments in (3a), exemplified in (3b-h).

(3) Nichabilities
Further, there are no niches in NP’s, though there are niches between verbs and (some of) the types of objects of these verbs, as we see from the contrasts in (4).

(4) a. He relied, not to put too fine a point on it, on astrology.
   b. * His reliance, not to put too fine a point on it, on astrology cost him a promotion.
   c. She shoved the fork (, allegedly,) into the socket.
   d. Her shove of the fork (?, allegedly,) into the socket was poorly planned.
   e. * The piece(,) perhaps(,) of pork was delicious.
   f. ? A piece(,) perhaps(,) of pork would make the stew tastier.
   g. ?? Somebody(,) possibly(,) drunk may sing. [NB: ≠ Somebody drunk may possibly sing.]
   h. They tore the contract (?, allegedly,) up.
   i. Irv wants to keep Giselle (*, allegedly,) company.
   j. They sat (*, allegedly,) in on the seance.
   k. They sat in (, allegedly,) on the seance.

This characterization of the distribution of as-clauses in their own clauses, in terms of niches, rough though it be, will have to do for the moment.

2. **External syntax.** The originating clauses of as-clauses.

Parallels with and differences from Gapping.

I postulate the existence of an optional deletion rule, called As-ing, which operates to delete the main verb of a finite as-clause, under identity with the main verb of the clause immediately to the left of the clause (which I will refer to as “the originating clause of the as-clause,” for reasons which will become clear below). Thus (5a) becomes (5b), and (5c) becomes (5d).

(5) a. I have played **chess**, as Al has played **checkers**.
   b. I have played **chess**, as Al has, ——— **checkers**.
   c. I am playing **chess**, as Al is playing **checkers**.
   d. I am playing **chess**, as Al is, ——— **checkers**.
Note the contrastive direct objects, which must receive emphatic stress (indicated by boldfacing). The contrasting subjects must also receive contrastive stress, but I will leave them unmarked, for I am here more interested in what happens after the verb. Note also the comma after the tensed verbs in (5b) and (5d): for me, there must be a rising intonation just before the pause which, signified by the “–––”, marks the site of the deleted main verb.

In the case of a simple present, (6a), we might assume a remote structure containing the classic empty verb do. I do not wish to enter the lists about how the appearance and disappearance of this little verb is to be orchestrated; (6a) obligatorily becomes (6b).

(6) a. I do play chess, as Al does play checkers.
   b. I do play [> play] chess, as Al does (,) —— checkers.

In the case of sequences of auxiliary verbs, the following types can show up.

(7) a. I have been playing chess, as Al has been playing checkers.
   b. ? I have been playing chess, as Al has been, —— checkers. ≤
   c. I have been playing chess, as Al has, ———— checkers.

(8) a. I may have been playing chess, as Al may have been playing checkers.
   b. ? I may have been playing chess, as Al may have been, —— checkers. ≤
   c. I may have been playing chess, as Al may have, ——— checkers. ≤
   d. I may have been playing chess, as Al may, ————— checkers.

(9) a. Al may have been being followed by the NSA, as Jo may have been being followed by the FBI.
   b. * Al may have been being followed by the NSA, as Jo may have been being, ——— by the FBI.
   c. Al may have been being followed by the NSA, as Jo may have been, ———— by the FBI.
   d. Al may have been being followed by the NSA, as Jo may have, — — — — by the FBI.
   e. Al may have been being followed by the NSA, as Jo may, — — — — by the FBI.

The generalization here seems fairly clear: the rule that optionally deletes the main verb under identity can also optionally delete preceding auxiliary verbs under identity, by a process which takes first the rightmost shared auxiliary, and then moves successively to the left. There is one wrinkle that requires comment: if the passive past participle is preceded by being, when that past participle is deleted, the deletion of being is not optional but instead obligatory, as we see from *(9b). The sequence being + passive past participle is special in a number
of ways, some of which are mentioned in (Ross 1991).

But now let us examine what would happen in the case of an as-clause whose object was not in contrast with the object of the originating clause. Such a sentence is in (10a). If As-ing applies, the ungrammatical *(10b) results, and if the rightmost identical auxiliary is also deleted, *(10c) results.

(10)a. I have been eating pizza, as he has been eating [pizza/it].
   b. *I have been eating pizza, as he has been, —— [pizza/it].
   c. *I have been eating pizza, as he has, —— —— [pizza/it].

I propose that here, a mopping-up rule applies, which deletes (usually obligatorily), any non-contrastive post-verbal element in the as-clause. There are conditions on this mopping up which I will not go into here; some of the relevant facts are displayed in (11).

(11)a. I have sent money to Jan, as he has sent money to Hella.
   b. I have sent money to Jan, as he has, —— ([??money/*it]) to Hella.
   c. I have sent money to Jan, as he has sent books to [her/??Jan].
   d. I have sent money to Jan, as he has, —— books (?to her/??Jan]).
   e. I have sent Jan money, as he has sent Hella *(money).
   f. ?? I have sent Jan money, as he has, —— Hella ([*money/**it]).
   g. I have sent Jan money, as he has sent ([her/≥??Jan]) books.
   h. ? I have sent Jan money, as he has, —— ([*her/?? Jan]) books.

One fact to take note of in (11) is the general unacceptability (except for ?/??(11d)) of As-ed sentences in which more than one constituent follows the deletion site. I would like to call attention here to a striking similarity between the above facts and the behavior of the rule of Gapping (cf. Ross 1971, Hankamer 1979). This rule, which only operates in coordinate structures, elides the verb(s) of the second clause under identity with the verb(s) of the first clause. In (12), I have presented sentences highly similar to the As-ing examples of (11) to highlight the similarities of As-ed and gapped clauses.

(12)a. I have taken money to Jan, and he has taken money to Hella.
   b. I have taken money to Jan, and he ——— ([??money/*it]) to Hella.
   b'. I have taken money to Jan, and he — (%taken) ([money/it]) to Hella.
   c. I have taken money to Jan, and he has taken books to Jan.
   d. I have taken money to Jan, and he ——— books (to her).
   d'. ?? I have taken money to Jan, and he — (%taken) books (to her).
   e. I have taken Jan money, and he has taken Hella money.
   f. ?? I have taken Jan money, and he ——— Hella ([*money/**it]).
   f'. ?? I have taken Jan money, and he — (%taken) Hella ([money/**it]).
   g. I have taken Jan money, and he has taken Jan books.
   h. ? I have taken Jan money, and he ———— ([** Jan/**her]) books.
h'. ?*I have taken Jan money, and he — (%taken) ([Jan/her]) books.

The examples in (12 b', d', f' and h') are less than wildly popular, but there are people who can use gapping to delete only partially a string of identical verbs (deleting only the tense-bearing first auxiliary). Leaving undeleted a past participle is the least popular of all such undeletions. In (13), I have cited examples with undeleted present participles and even bare verbs, which seem easier to stomach than the examples in (12) with undeleted past participles.

(13)a. I am taking money to Jan, and he is taking money to Hella.
   b. I am taking money to Jan, and he —— ([?money/*it]) to Hella.
   b'. I am taking money to Jan, and he – (?taking) ([money/it]) to Hella.
   c. I am taking money to Jan, and he is taking books to Jan.
   d. I am taking money to Jan, and he —— books (to her).
   d'. I am taking money to Jan, and he — (?taking) books (to her).
   e. I am taking Jan money, and he is taking Hella money.
   f. ?I am taking Jan money, and he —— Hella ([*money/**it]).
   f. ??I am taking Jan money, and he — (?taking) Hella *(money).
   g. I am taking Jan money, and he is taking her books.
   h. ?I am taking Jan money, and he ——— (【** Jan/**her]) books.
   h'. ?I am taking Jan money, and he — (??taking) (*her) books.
   i. He will play some Beethoven, and she — (?play) some Vivaldi.
   j. He may have seen her, and she — (??have) seen him.

I have not done a detailed study of the circumstances under which such undeletings are acceptable, and I will leave the matter for future researchers to investigate.

It is sometimes claimed that in a gapped clause, no more than one contrasted constituent can follow the deletion site. But while it is clear that there are robust inequalities between the sentences in (14) (the notation “X ≥ Y,” makes the claim that no speaker will find Y to be more grammatical than is X. (Cf. Ross 1987, 2000 for discussion):

(14)a. ??He sent Jan money, and she — Tom books. << (14b)
   b. ?He sent me money, and I —— him books
   c. He sent Jan money, and she — — books. >> (14a)

With respect to the inequality linking (14a) and (14b), while very few speakers can swallow anything like (14a), when there is morphological/case information that indicates clearly the role of the first post-gap NP (as there is in ?(14b), a few more speakers can tolerate the structure. And while a claim that there can be no sentences with two post-gap constituents would be overly restrictive, it is equally clear that the inequality (14b) >> (14c) is easily confirmed.
Finally, it is also the case that sentences in which two NP’s without preceding prepositions follow the gap are by far the most heavily dispreferred by speakers, as we see from the inequality in (15).

(15)a He sent me money and I —— him books. <<
   b. He sent money to me and I —— books to him.

But finally, when it is the case that one or both of the post-gap constituents are adjuncts, and are not in the argument structure of the verb, as is the case in (16),

(16)a. He orders lasagna when it rains, and she —— gnocchi when it snows.
   b. He works in LA in the summers, and she —— in NY in the winters.

many speakers find such sentences acceptable.

The reason that this discussion is relevant for present purposes is that inspection of the sentences in (11) reveals that also as—clauses in which there are more than one argument following the deletion site left by As-ing are not acceptable to many speakers. The worst case would be a sentence such as *(17b), which is the result of As-ing a structure like that underlying (17a). As ??(17c) shows, even replacing the first two NP’s in (18b) with case-marked pronouns can only improve this structure slightly.

(17)a. Todd sent Alice flowers, as Alice sent Todd love poems.
   b. ?? Todd sent Alice flowers, as Alice did, ___ Todd love poems. <
   c. ??We sent him flowers as he did, ___ us love poems.

The point of this discussion is that the restrictions on sequences of constituents that follow the verb-deletion site left by the application of As-ing closely resemble the restrictions on the types of post-deletion constituents in gapped structures.

Another strong parallel between As-ing and Gapping concerns the behavior of Gapping as it applies to sentences whose verbs are followed by a direct object (whose thematic role is that of a Gruberian Theme) and a directional particle (which, following an insightful proposal of (Fraser 1976), should derive from a reduced directional phrase). Thus a structure like that underlying (18a) would be converted into (18b) under Fraser’s analysis. Following the ellipsis of the two PP’s whose object is place, the remaining particles, in and out, can be moved leftwards to follow the verb bring. As we see from *(18e), gapping is only possible when the post-gap constituents appear in their underlying order – direct object + reduced directional phrase.

(18)a. I will bring the wine in (to some place), and he will bring the beer out (from that place).
   b. I will bring the wine in, and he will bring the beer out.
c. I will bring the wine in, and he ——— the beer out.
d. I will bring in the wine, and he will bring out the beer.
e. * I will bring in the wine, and he ——— out the beer.

As far as I know, no explanation is currently available for the difference between (18c) and *(18e). What is of great relevance for the analysis of *-ing clauses is that the same asymmetry appears in parallel *-ing clauses, as we see in (19).

(19)a. I will bring the wine in, as he will bring the beer out.
   b. I will bring the wine in, as he will, ——— the beer out.
c. I will bring in the wine, as he will bring out the beer.
d. * I will bring in the wine, as he will, ——— out the beer.

In trying to find a more general constraint which might cover the parallels between (18) and (19), I have noticed that in some cases, inverting the order of post-verbal arguments of some verbs blocks both Gapping and *-ing, as we see in (20) and (21),

(20)a. I painted an old pickup truck red.
   b. I painted red an old pickup truck.
   c. * I painted red an old pickup truck, and he ——— blue an old trailer.
   d. I painted red an old pickup truck, as he painted blue an old trailer.
e. * I painted red an old pickup truck, as he did, ——— blue an old trailer.

(21)a. I kicked the left door shut and he kicked the right door open.
   b. I kicked shut the left door and he kicked open the right door.
   c. * I kicked shut the left door and he ——— open the right door.
   d. I kicked shut the left door, as he kicked open the right door.
e. * I kicked shut the left door, as he did, ——— open the right door.

It might look as if it were only when the argument that comes to immediately follow the deletion site is only “a single word” that the Gapping and *-ing must be blocked. This would account for why the sentences in (22) are somewhat better than are *(18d) and *(19d),

(22)a. ?? I will bring into the hall the wine, as he will, ——— out of the hall the beer.
b. ??* I will bring into the hall the wine, and he ——— out of the hall the beer.

but it is a hollow “victory,” for adding wide as a left modifier of open in *(21c,e) does nothing to improve it, and nor would modifying out with right produce a fully acceptable sentence in *(18d) and *(19d), as we see in (23):
(23)a. *I kicked shut the left door and he ——— wide open the right door. (cf. *(21c))
   b. *I kicked shut the left door, as he did, ——— wide open the right door. (cf. *(21e))
   c. *I will bring in the wine, and he ——— right out the beer. (cf. *(19d))
   d. *I will bring in the wine, as he will, ——— right out the beer. (cf. *(20d))

I conclude that whatever constraint it is that makes *(18d) and *(19d) ungrammatical has yet to be discovered. However, the fact that they do exhibit such a striking parallel provides strong evidence for the correctness of analyzing As-ing as a transformation which parallels Gapping, in that both rules delete a verb (or verbs) under identity with another verb in a separate clause. I surmise too, that when the confused facts presented in (11)-(17) are understood better than I have been able to thus far, they too will point to a verb-deletion analysis for both Gapping and As-ing.

A word is in order about how the two verb deletion transformations differ with respect to the treatment of auxiliaries. In a way, they are complementaries: as we see in (11). Gapping requires that the auxiliary bearing the tense be deleted – this has happened in (11b', d', f' and h'). I have not conducted a survey to establish what percentage of speakers accept this kind of gapping, but my impression is that it is a tiny minority at best. Thus for these speakers, only the gappings in (11b, d, ??f, and ?h) are acceptable, and all of these are worsened if repeated elements remain in the gapped sentences, as I have tried to indicate by the asterisks inside the parentheses in these examples. The default rule for gapping for the largest dialect of English, as far as I know, is that the gap must contain the main verb and all preceding identical auxiliary verbs, and that the post-gap part of a gapped clause should contain just one contrastively stressed element. Furthermore, it is definitely preferred for any repeated (and therefore non-contrastive) elements in the gapped clause to be deleted.

Thus (24a) is preferred to (24b),

(24)a. I will be writing and he ——— reading. >>
   b. *I will be writing and he ——— be reading.

and (25a) to (25b),

(25)a. I will be writing novels and he ——— letters. ≥
   b. ?I will be writing novels and he ——— writing letters. >>
   c. *I will be writing novels and he ——— be writing letters.

and (26a) to (26b),
As-ing

(26)a. I wrote **letters** to them and she —— **cards. ≥**
    b. I wrote **letters** to them and she —— **cards (?to them)**.

and (26b) to (27),

(27) I wrote **letters to him** and she —— **cards to them**.

and (27), with its post-gap sequence of a NP and a PP, is far preferable to (28), with its post-gap sequence of two NP’s.

(28) I wrote him **letters** and she —— (**him**) **cards**.

It would take me too far from our main topic to go into further details about **Gapping**, or in fact to point out all of the parallels between these gapping facts and the As-ing facts that we see in comparing (11) and (12).

Summing up, however, what we notice in the gappings of two clauses with multiple auxiliaries, while the zeroing of all repeated auxiliaries and the main verb is what would make most speakers the happiest, there are speakers who allow progressively greater subsequences of the repeated auxiliaries to remain, starting from the those closest to the main verb – cf. (29).

(29)a. Jo could have been being followed by the CIA, and
    Al could have been being followed by the NSA.
    b. Jo could have been being followed by the CIA, and
    Al —— followed by the NSA.
    c. Jo could have been being followed by the CIA, and
    Al —— followed by the NSA.
    d. Jo could have been being followed by the CIA, and
    Al —— being followed by the NSA.
    e. Jo could have been being followed by the CIA, and
    Al —— have been being followed by the NSA.
    f. Jo could have been being followed by the CIA, and
    Al —— have been being followed by the NSA.

By contrast, if we look at a parallel initial **as-clause-containing sentence**, and pay attention to the variants it offers, we see a reverse pattern emerging:

(30)a. Jo could have been being followed by the CIA, as
    Al could have been being followed by the NSA.
    b. *Jo could have been being followed by the CIA, as
    Al could have been being ——- by the NSA.
    (Cf. the comment on the ungrammaticality of *(9b) above)
    c. Jo could have been being followed by the CIA, as
Al could have been ___________ by the NSA.
d. Jo could have been being followed by the CIA, as
   Al could have ___________ by the NSA.
e. Jo could have been being followed by the CIA, as
   Al could ___________ by the NSA.

The strange complementarity of these two processes is brought into focus in
the following brief statement:

(31) In Gapping, at least the auxiliary bearing the tense morpheme must be
deleted; in As-ing, at least this morpheme must be retained.

There is another mysterious difference between these two deletion processes:
Gapping operates only between two or more adjacent coordinate clauses; As-ing
requires only that the clause whose main verb (and optionally, some number of
preceding identical auxiliaries) are optionally deleted (I will refer to this clause as
the target clause) be in the same island as the originating clause, as I will
demonstrate in Section 3.

3. **How originating clause and target clause must be configured.**
   **The Islandmate Condition.**

In the examples considered thus far, the *as*-clause has contained only one
subordinate clause (the target clause), which, if it bore the requisite structural
parallels to the originating clause (whose dominating sentence node immediately
dominated the *as*-clause), could have its verb deleted by the rule of As-ing. This is
the case for (32a); in (32b), As-ing has deleted the shared main verb *wash*, and
the mopping up rule has deleted *the cats*.

(32)a. [I will wash the cats, [as Jo will wash the cats]S2]S1 ➔
    b. [I will wash the cats, [as Jo will ___________]].

But in (33), we see that another sentence intervenes between originating
clause and target clause:

(33)a. [I will wash the cats, [as Al knows [that Jo will wash the cats]S2]S3]S1 ➔
    b. [I will wash the cats, [as Al knows [that Jo will ___________]].

And in (34), a second sentence has been interposed:

(34)a. [I will wash the cats [as everybody says [that Al knows [that Jo will
    wash the cats]S2]S5]S3]S1 ➔
    b. [I will wash the cats, [as everybody says [that Al knows [that Jo will
    ___________]].]
As-ing

Clearly, there is no limit to the number of such interpositions. And yet originating clause and target clause must be in the same island (for a definition of this term, cf. (Ross 1986, Chapter 6). The sentences in (35) violate this island-mate condition, for various types of island-forming nodes; all are ungrammatical.

(35)a. *[I will wash the cats, [as Al knows a man [who will ————————]].
   (a violation of the Complex NP Constraint)
  
b.  * [I will wash the cats [as Al likes me and knows [that Jo will ————]].
   (a violation of the Coordinate Structure Constraint)
  
c.  * [I will wash the cats, [as [that Jo will ————————] might upset Tim].
   (a violation of the Sentential Subject Constraint)

Technically, of course, the sentences \(S_2, S_a\) and \(S_b\) are not in the same island as the elements dominated by the \(as\)-clause, because adverbial subordinate clauses are themselves islands. But for ease of exposition, I will disregard this point.

In summary, let me make one point of theoretical interest. In order for the rule of As-ing, as I have formulated it, to apply, it must inspect some originating clause (this is easy to find: an originating clause will have an \(as\)-clause adjoined to it), and then must be able to proceed indefinitely far down into this \(as\)-clause to find a possible target clause. If the target clause matches it in structure sufficiently, which is not the case in (36) – (if As-ing were to apply to (36a), the ungrammatical (36b) would result),

(36)a.  [I will wash the cats [as the cats will be washed by Jo]\(S_2\)]\(S_1\) ➔
  
b.  * [I will wash the cats [as the cats will (be) ———— by Jo]].

then the deletion of the identical verb in the \(as\)-clause may proceed.

This seems to me to be an unusual way for the notion of constraints on extraction to enter into a syntactic process. The search for a comparable clause is what is here subject to extraction constraints – though nothing is being extracted. And the search is catalyzed by the presence of \(as\), a conjunction, a word to which nothing happens. It just sits there and sops up the milk.

However, it is putting it way too mildly to merely say that this is an unusual way for an extraction constraint to apply: the constraints suggested in Ross (1986) do not constrain optional deletion transformations such as VP Deletion – nor will they constrain the similar rule of As-ing. The grammaticality of the sentences in (37), which are grammatical with or without the struck-through phrases,

(37)a.  The bowler who won last week married a bum who didn’t (\textit{win last week}). (To delete the italicized phrase, VP Deletion will have to “violate” the Complex NP Constraint)
  
b.  If you enter, I will swallow my pride and try to (\textit{enter}) also.
   (To delete the italicized phrase, VP Deletion will have to “violate” the
given the ungrammaticality of the sentences in (35), thus leaves us in a quandary. Some recasting of the conditions specifying what types of syntactic operations are subject to island constraints will have to be formulated. However, at present, it is completely unclear to me how this should be attempted.

I will end with one more parallel between Gapping and As-ing: as is well known, as-clauses exclude negatives (cf. (38a)), as does Gapping – cf. (38b).

Hmm.

(38)a. I am rich, as my neighbors (*don’t) know.
   b. I (*don’t) like pizza, and Bill ___ lasagna.

References
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