p.189   (3.1.1)(a) Sandy played shortstop, and Betsy ∅ first base.

[∅ = played]

(b) Alan ran to second base, and Betsy ∅ to first base.

[∅ = ran]

(c) Betsy plays first base for the first four innings, and

Peter ∅ for the rest of the game.

[∅ = plays first base]

(d) Sandy wanted to begin to write a novel, and Betsy ∅ a short

story.   [∅ = wanted to begin to write]

Gapping is restricted to coordinate structures:

(3.1.2) *Sandy played the guitar while (after, before, since, although...)

Betsy ∅ the recorder.

p.190   Furthermore, within coordinate structures, only the highest S can undergo

Gapping.

(3.1.3) *Alan went to New York, and

(a) I know (that)

(b) it seems (that)

(c) Bill met a man who claimed (that)

Betsy ∅ to Boston.

<And, in fact, only highest S (IP); even coordinated S̄ (CP) won't do it:
    It seems that Alan went to NY, and (*that) Betsy __ to Boston >

Backwards Gapping does not occur in English:

> (3.1.6)(a) *Peter ∅ first base, and Alan played left field.
>
> (b) *Either Norma ∅ Beth, or Lois saw Norma.

> In some languages, backwards ellipsis of this type seems to be allowed. Ross (1967b) argued that in languages where both forward ellipsis (=Gapping) and backwards ellipsis occurs, both ellipses should be effected by a single rule (i.e. a bi-directional Gapping rule). Arguments against this position have been given by Hankamer (1971, 1972a) and Maling (1972).

Does Gapping occur in discourse (like VP-deletion and Sluicing) or is it strictly a rule of sentence grammar? Sag and Hankamer (1976) say the former, giving (3.1.7):
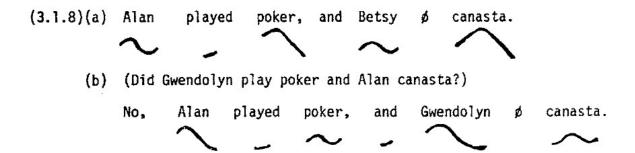
> (3.1.7) Speaker A: Jorge is peeling an apple.
>
> Speaker B: And Ivan ∅ an orange.

But Sag indicates that this argument is equivocal:

> It's not at all clear, however, what to make of examples like this. The discourse in (3.1.7) seems to some people to be a peculiar case of two people collaborating on what is actually a single sentence, in which case Gapping should perhaps be restricted to single sentences. Alternatively, one might argue that Gapping is a rule of discourse grammar, but that since Gapped clauses must begin with conjunctions, it is only in peculiar situations like (3.1.7) that Gapping can apply inter-sententially. We will return to this point in the next chapter.

"Another interesting property ... is that elements left behind in a Gapped clause are intonationally marked. Typically, each Gapping remnant carries a pitch accent (Bolinger (1958, 1965)) of its own (separated by a pause) ..."

```
(3.1.8)(a) Alan    played   poker, and Betsy  ∅   canasta.

    (b) (Did Gwendolyn play poker and Alan canasta?)

        No,  Alan   played   poker,   and   Gwendolyn  ∅   canasta.
```

Next, "Gapping remnants must also, in some poorly understood sense, be parallel to corresponding elements in the left conjunct. Thus we do not have:

p.192   (3.1.9)(a) *Sam hates reptiles, and Sandy ∅ to talk to Oh.

         (b) *Beth ate yogurt, and Norma ∅ at midnight.

When does Gapping apply?

```
    Gapping can be shown to apply after cyclic rules:

    (3.1.12)(a) Betsy was hassled by the police, and Norma ∅ by the FBI.
            (Passive)

        (b) Norma seemed to be eating less, and Beth ∅ to be eating
            more (Subject-Subject Raising)

        (c) Yesterday it was obvious that you were happy, and the day
            before, ∅ ∅ ∅ that you were quite unhappy. (Extraposition)

        (d) Tomorrow there will be a riot, and the day after ∅ ∅ ∅
            a holocaust. (There-Insertion)
```

Sag then notes that arguments that Gapping must precede syntactic rules are rare. He summarizes one from Jackendoff (1971):

(3.1.14) Did Bill eat the peaches, or Harry the grapes?

In this sentence, Jackendoff argues, Gapping must be assumed to apply before Subject Auxiliary Inversion, i.e. to the structure in (3.1.15).

(3.1.15) (Q) - Bill - past - eat - the peaches or

(Q) - Harry - past - eat - the grapes

ɸ

Unless Gapping applies at this level, Subject-AUX Inversion will apply, moving, in this case, only the tense morpheme in each conjunct leftward over the subject. Do-Support would then apply in each conjunct. The resulting sentence, prior to Gapping would be this:

(3.1.16) Did Bill eat the peaches or did Harry eat the grapes?

Gapping then applies, yielding:

(3.1.17) *Did Bill eat the peaches, or did Harry ɸ the grapes?

"Ordering Gapping before Subject-Auxiliary Inversion solves this problem, for tense is gapped along with the verb in the second conjunct, hence blocking Subject-Auxiliary Inversion and Do-Support there." <An alternative: Gapping needs conjoined IPs, yet SAI implicates CP.>

What can be Gapped?
"It is clear that simple verbs are the most likely deletion targets for Gapping, as we have seen in most of the above examples. Auxiliary verbs, if present, also undergo Gapping:

(3.1.18)(a) Alan should have been upset, and Peter ɸ overjoyed.

[ɸ = should have been]

(b) Alan has talked to his editor, and Janis ɸ to her graduate

advisor. [ɸ = has talked]

One perplexing restriction, pointed out by Ross (1967b) is that a negation in the auxiliary cannot Gap:

(3.1.19)(a) I didn't eat fish and Bill didn't eat ice cream

(b) *I didn't eat fish and Bill ∅ ice cream.

However, if the negation inheres in the conjunction (i.e. <u>nor</u>), Gapping is possible.

Sag reports that this restriction "remains mysterious".

Adverbs are also Gappable:

(3.1.21)(a) Betsy quickly dropped the frying pan, and Peter ∅ the soup bowl.   [∅ = quickly dropped]

(b) Betsy sometimes sleeps with Duke, and Peter ∅ with his teddy bear.   [∅ = sometimes sleeps]

However, as Ross and Jackendoff have pointed out, when the pre-verbal adverbs are not identical, Gapping is impossible:

(3.1.22)(a) *Betsy quickly dropped the frying pan, and Peter suddenly ∅ the soup bowl.

(b) *Betsy sometimes sleeps with Duke, and Peter frequently ∅ with his teddy bear.

Rather generally, Gapped clauses with 3 remnants are degraded, but there are exceptions.

(3.1.22)(a) *Alan gave Sandy a book, and Peter ∅ Betsy a magazine.

(b) *Alan told Harry that the sky was falling, and Sam ∅ Betsy that Chicken Little was right.

(c) *Arizona elected Goldwater Senator, and Massachusetts ∅ McCormack Congressman.

Some of the exceptions:

(3.1.23)(a) Peter talked to his boss on Tuesday, and Betsy ∅ to her

supervisor on Wednesday.

(b) John talked to his supervisor about this thesis, and Erich

∅ to the dean about departmental policies.

Judgements concerning other sentences containing Gapped clauses with

three remnants seem to vary considerably from speaker to speaker. Jackendoff

(1971, p. 26) finds a contrast in acceptability depending on whether or not

the third remnant is a PP that is strictly subcategorized by the (Gapped)

verb. He cites these examples.

(3.1.24)(a) ?*Willy put the flowers in a vase, and Charlie on the table.

(b) ??Charlie entered the bedroom at 5:30, and Vera ∅ the

kitchen at 6:00.

<There is a typo in (3.1.24)a. It should read:
    (3.1.24)(a) ?*Willy put the flowers in a vase, and Charlie the book on the table. >

"In the most common cases, where only the verb has been Gapped and the first remnant is the subject of the second conjunct, the second remnant may be an NP, an Adjective (Phrase), an Adverb (Phrase), a that-clause, a for-to clause, or a Prepositional Phrase:

3.1.25)(a) Peter loves Betsy, and Betsy ∅ Peter. (NP)

(b) Alan seemed happy, and Sandy ∅ sad. (AP)

(c) Tom ran slowly, and Alex ∅ quickly. (Adv. Ph.)

(d) Alan claimed that he was cheated, and Sandy ∅ that she

was the one who cheated him. (that-S)

(e) Alan prefers for Tom to do it, and Sandy ∅ for Alan to do it.

(for-to clause)

(f) Betsy stood in left field, and Sandy ∅ in right field.

(PP)

Ross 1976 had noted that VP does not make a good remnant:

```
(3.1.26)(a) ?*He may stay inside, and she ø go to the beach.

        (b) ?*He has taken the Star of Pittsburgh, and she ø stolen
              the Moon of Altoona.

        (c) ??He was squeezing a tennis ball, and she ø greasing a shoe.

        (d)  ?He was driven to Aix, and she ø taken to Ghent.
```

Another constraint:

```
      Notice also, that if the second Gapping remnant is an S (or S̄ in the
sense of Bresnan (1970, 1972)), then a complementizer must be present, even
if that complementizer is otherwise deletable:

      (3.1.27)(a)  Sandy said (that) he was a fool, and Betsy ø that he was
                   out of his mind.

             (b) *Sandy said (that) he was a fool, and Betsy ø he was out
                 of his mind.

      (3.1.28)(a)  Sandy preferred for Alan to do it, and Betsy ø for Peter
                   to do it.

             (b) *Sandy preferred for Alan to do it, and Betsy ø Peter
                 to do it.
```

Here's something interesting: "These facts might be attributed to a general principle blocking clauses without complementizers in certain positions (as was suggested by Lasnik; see Postal (1974a, p. 128, nt. 35; p. 131, nt. 39) ..." <I was concerned with such things as *(That) John won is believed; What I believe is *(that) John won; I believe sincerely *(that) John won . Similarly with *for*.>

Sometimes there are multiple Gapping possibilities:

p.200

```
       (3.1.31)  John tried to begin to write a play, and Harry

             (a)  ø to begin to write a novel.

             (b)  ø to write a novel.

             (c)  ø a novel.
```

p.201   3.2 Previous Proposals and Problems
Ross 1970 (Sag references the 1967 version circulated by the Indiana University Linguistics Club)

He gave no explicit formulation of the rule. However, he clearly had in mind a rule roughly as sketched in (3.2.1) (this formulation of what Ross had in mind is due to Hankamer (1973a)).

(3.2.1) Gapping (Ross)

$$NP_1 - X - A - Y - \underline{and} - NP_2 - X - B - Y \Rightarrow$$
$$NP_1 - X - A - Y - \underline{and} - NP_2 - B$$

where A and B are non-identical major constituents (see above)

"This rule has a couple of noteworthy properties. First, it deletes non-constituents, i.e. a variable. This was, as far as I know, the first proposal that rules could delete non-constituents."
"Let us adopt the convenient terminology of Hankamer (1971, 1973a) and refer to rules that delete a variable as ellipsis rules. Ross's formulation of Gapping is then an ellipsis rule."

p.203   3.2.2 Hankamer (1971, 1973a)
"Hankamer conceives of Gapping as a rule that deletes variable strings freely, leaving just two remnants in the right conjunct. His rule looks like this, roughly:

(3.2.4) Gapping (Hankamer)

$$X - A_1 - Y - B_1 - Z - \underline{and} - X - A_2 - Y - B_2 - Z \Rightarrow$$
$$X - A_1 - Y - B_1 - Z - \underline{and} - A_2 - B_2$$

Sag then argues that this rule over-generates. "the Gapping deletion target cannot be a sequence-like verb-preposition or (auxiliary-)adjective-preposition if the preposition is the head of a prepositional phrase

(3.2.5)(a) *John spoke to Harry, and Bill ∅ Mike.

[∅ = spoke to]

(b) *John was happy with his girlfriend, and Betsy ∅ her boyfriend.   [∅ = was happy with]

(cf...and Betsy ∅ with her boyfriend)

A similar constraint holds for term A2 for cases of Gapping, as the following contrast shows:

$$(3.2.6)(a) \quad \text{At our house, we play poker, and at Betsy's house } \phi \text{ bridge.}$$

$$[A_2 = PP, \phi = \text{we play}]$$

$$(b) \quad *\text{At our house, we play poker, and } \phi_1 \text{ Betsy's house } \phi_2 \text{ bridge.}$$

$$[\phi_1 = \text{At}; A_2 = NP, \phi_2 = \text{we play}]$$

Hankamer had claimed that Gapping is just one instantiation of a completely general ellipsis rule. But Sag argues that the constraint we just saw does not obtain for some other ellipsis phenomena:

$$(3.2.7)(a) \quad \text{My mother met with the principal on Thursday, and } \phi$$

the dean on Friday. $[\phi = \text{my mother met with}]$

$$(b) \quad \text{My sister spoke to Mrs. Wimble on Friday and } \phi \text{ the dean}$$

on Saturday. $[\phi = \text{my sister spoke to}]$

Here we have left-peripheral ellipsis that includes a preposition. In terms of Hankamer's rule, term A_2 has successfully analyzed an NP in the configuration $[_{PP}P\_\_\_\_\_]$; precisely what we observed is impossible in cases of Gapping. It is difficult to see how Hankamer's collapsed rule can be constrained so as to take these facts into account.

Another interesting restriction on Gapping involves the conjunction "as well as". Fiengo (1974), who points out that sentences like {3.2.13) are ungrammatical.

(3.2.13) *Tom is happy as well as Dick is sad.

It seems that <u>as well as</u> cannot conjoin sentences. but only sub-constituents:

$$\{3.2.14)(a) \quad \text{I walk as well as talk.}$$

$$(b) \quad \text{Betsy is tired as well as hungry.}$$

$$(c) \quad \text{He spoke to Alan as well as to Bill.}$$

Notice however, that embedded sentences with complementizers can be conjoined with as well as, but the same sentences without complementizers are impossible:

(3.2.15)(a) I know that John is a fool as well as that Bill is a fool.

(b) *I know John is a fool as well as Bill is a fool.

Presumably then, as well as can conjoin two $\bar{S}$'s, but not two S's.

From this it follows, nothing more being said, that Gapping is impossible with as well as. This seems to be correct.[2]

(3.2.16)(a) ??John likes Susan, as well as Peter ∅ Melinda.

(b) *Peter is happy as well as Betsy ∅ sad.

Hankamer also discusses in some detail a constraint already noted by Ross and by Jackendoff, and illustrated by (3.2.25):

(3.2.25) Bill expects Harry to find the way to the party, and Sue

to find the way home.

(a) ---and [Bill expects] Sue to find the way home.

(b) ---and Sue *[expects Harry] to find the way home.

Some more examples:

(3.2.26) Jack calls Joe Mike, and Sam Harry.

(a) ---and [Jack calls] Sam Harry.

(b) ---and Sam *[calls Joe] Harry.

(3.2.27) Max wanted Ted to persuade Alex to get lost and Walt Ira.

(a) ---and [Max wanted] Walt [to persuade] Ira [to get lost].

(b) ---and Walt *[wanted Ted to persuade] Ira [to get lost].

(c) ---and Walt *[wanted] Ira [to persuade Alex to get lost].

To account for these, Hankamer proposes a new sort of condition on Gapping:

Hankamer proposes the following "No-Ambiguity Condition" to account for
these facts (1973a, p. 29).

(3.2.28) The No-Ambiguity Condition (NAC)
          Any application of Gapping which would yield an output struc-
          ture identical to a structure derivable by Gapping from another
          source, but with the "gap" at the left extremity, is disallowed.

"The kind of "ambiguity" Hankamer has in mind is purely structural. Thus sometimes a particular Gapping derivation must be blocked even if the blocking derivation, i.e. the one with a left-peripheral gap, produces an ungrammatical sentence."

(3.2.29) Jack asked Mike to wash himself, and Sue to shave himself.

          (a)*---and [Jack asked] Sue to shave himself.

          (b) ---and Sue *[asked Mike] to shave himself.

Some apparent counterexamples to the NAC:

(3.2.30) Massachusetts elected McCormack Congressman, and Pennsylvania,
          Schweicker.

          (a)*---and [Massachusetts elected] Pennsylvania, Schweicker.

          (b) ---and Pennsylvania [elected] Schweicker [Congressman].

The (b) reading should be bad if the constituent structure of elected McCormack Congressman is V NP NP). So Hankamer proposes that 'titular' expressions are not actually NPs.

Another ex. that we have seen before is also an apparent counter-example:

(3.2.31) Paul Schachter has informed me that the basis order in Tagalog
          and related languages if VOS; Ives Goddard that the unmarked
          order in Algonkian is OVS; and Guy Cardin that the basic order
          in Aleut is OSV. (Ross (1967b)).

"Hankamer argues that here the pronoun me has been cliticized to the preceding verb, and has hence lost its NP status. To support this, he compares a similar sentence with a full NP instead of the (cliticized) pronoun me, where the NAC in fact seems to make the correct prediction that only the (a) reading is possible:

(3.2.32) Paul Schachter has informed Haj Ross that the basic order

in Tagalog and realted languages is VOS; Ives Goddard that

the unmarked order in Algonkian is OVS; and Guy Cardin that

the basic order in Aleut is OSV.

(a) --- [Paul Schachter has informed] Guy Carden that the basic

order in Aleut is OSV.

(b) ---Guy Cardin *[has informed Haj Ross] that the basic order

in Aleut is OSV.[4]

"it is important to notice that Hankamer views [the NAC] it as a "transderivational constraint", and "as a particular case of a more general, universal constraint which he terms "The Structural Recoverability Hypothesis":

(3.2.34) The Structural Recoverability Hypothesis
Deletion rules involving variables are universally subject to
a transderivational condition which prevents them from applying
in such a way as to introduce structural ambiguity. (Hankamer,
1973a, p. 40)

Sag worries about the claim of universality, saying "many informants accept certain sentences which are ruled out by the NAC." He goes on "Quirk et al. (1972), for instance cite the following examples as fully acceptable (as indeed they seem to be).

(3.2.35)(a) Joan will cook the meals today, and Barbara ∅ tomorrow.

[∅ = will cook the meals]

(b) Peter is playing football for his school and Paul ∅ for

his club. [∅ = is playing football]

Sag cites more examples from Quirk et al., reporting that all his informants agree:

Notice that in certain contexts there can be ambiguity as to
whether the subject and verb are ellipted or the verb and object
are ellipted. For example, the sentence

Bob will interview some candidates this morning and Peter this
afternoon.

can be interpreted as having either of these two kinds of ellipsis:

Bob will interview some candidates this morning and (he will
interview) Peter this afternoon.

Bob will interview some candidates this morning and Peter (will
interview some candidates) this afternoon. (Quirk et al., 1972,
p. 580)