ARTICLES AND THE STRUCTURE OF NP IN OMAHA[*]
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This paper presents an investigation into the structure of lexical noun phrases in Omaha, a Siouan language spoken in northeastern Nebraska. Although the morphology of nouns and nominal constructions in this, as in other Siouan languages, is rather simple -- certainly much simpler than that of verbs -- the syntactic structure of nominal constructions can be quite complex. A noun phrase may consist of a pronoun, a noun, any of various kinds of clauses (including stative verbs, which express adjective-like meanings), and/or one or more modifiers, including articles, demonstratives, numerals, and other quantifiers, whose structural relations are far from clear, in addition to a variety of conjoined or compound structures and possessed nouns, which will not be treated in this paper. I propose an analysis in which definite articles head DPs (Determiner Phrases) and many demonstratives are structurally appositive NPs or DPs.

One terminological note is necessary before beginning. The term "noun phrase" as distinct from "NP" is to be understood in this paper as refering to any constituent which may function as an argument, without prejudging the issue of whether such constituents are NP, DP, QP, or some other category.

Let us start by looking at a few relatively simple examples. The noun phrase types in (1) - (16) are not exhaustive, but they do give some idea of the possible components and their linear order. A very rough bracketing of structure is given. As a starting point I accept the assumption of Koontz (1984) that the head of NP is either a noun, a pronoun, a clause, or zero. This element is contained within an inner set of brackets in the examples. All other elements are, for the moment, simply grouped within the outer brackets with no further structure indicated. Any material outside the outer set of brackets is not part of the noun phrase. Some of the examples are followed by brief comments.

1. noun:
  a. [[Níkashí^{n}ga]] nída=b=azhi   shteo^n
       person   burn=prox=neg at-all
      'The person wasn't burned at all'

b. Athá=i=tʰe   [[nikashiⁿga]].
   go=prox=evid   person
    'He went, the person'

A noun alone is somewhat uncommon, at least in the texts I have collected. Outside of compounds and perhaps postpositional constructions[2] nouns in the usual preverbal position are nearly always accompanied by an article or a quantifier. However, unmodified nouns do occur, particularly in postverbal position, as in (1b).

2. pronoun:
    [[Wí]] wabthátʰe=ta=miⁿkʰe.
     I   I-eat-it=fut=aux
    'It's I who will eat it.'

As in other Siouan languages, personal pronouns other than the pronominal affixes on the verb are normally omitted (or null), but independent first and second person pronouns do occur when the pronoun is focused. Though the pronoun appears alone in (2), it would be more typical for it to be followed by a focusing particle, e.g. *wíshti* 'I, too, I myself'.

3. quantifier:
  a. [[ ] Wíⁿ] oⁿʼí=ga
           one   give-me=imp
      'Give me one.'

  b. [[ ] Wóⁿgithe] wewákʰega
           all   we-sick
      'We were all sick.'

Quantifiers in (3) and elsewhere in these examples are shown as non-heads. However, it is likely that some, if not all quantifiers are actually best treated as stative verbs, which is to say clauses; in that case they would be clausal heads on the pattern of (5) below. (See discussion following example (15)). Several of the examples, including (3a), have *wiⁿ* 'one' as the quantifier. It could be argued in some cases that *wiⁿ* is an indefinite article, but I assume for now that it is a quantifier even when translated with English "a" or "an".

4. demonstrative:
    [[ ] Thé] kóⁿbtha
         this   I-want
    'This is what I need/I need this.'

5. clause:
  a. [[Shóⁿge ska]]   athíⁿ
      horse   be-white   he-has
     'He has a white horse.'

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[2] The construction I have in mind is phrases like *tí ata* 'in/to the house', which may be analyzable as compounds, though they are treated as postpositional by Koontz (1984). (The morpheme *(a)ta* means roughly 'Goal'.)

b. [[Wahí thagthí]] xtátha
    bone it-chews it-likes
  'It likes to chew bones.'

Clauses which can occur as head of NP can be of essentially any type. The clause in (5a) consists of subject plus stative verb; (5b) has an active verb with an object.

6. noun + article:
    [[Níkashiⁿga] akʰá] athá=i=tʰe
     person   the   s/he-went=prox=evid
    'The person went.'

The definite articles in Omaha code not only definiteness but also animacy, agency or proximateness, number, and/or spatial orientation. *Akʰá* in (6) is the animate proximate article. *Thiⁿkʰé* in (7) is the animate obviative or patient article. For the sake of economy I gloss all definite articles simply as 'the in this paper.

7. clause + article:
  a. [[Zhiⁿgá] thiⁿkʰé] uwíkoⁿ
     be-small the   they-help-her
    'They helped the little one.'

  b. [[Níkashiⁿga dóⁿba]   thiⁿkʰe]
     person   she-saw-him the
    'the man that she saw'

Various types of clauses occur in this construction Example (7b) is a relative clause.

8. clause + quantifier:
    [[Údoⁿ   xti] wiⁿ] gágha=i=tʰe
     be-good very one he-made=prox=evid
    'He made a real nice one.' (flute)

9. demonstrative + article:
    [[ ] Shé thiⁿkʰé] wíⁿ ʼí=ga
       that the   one give=imp
    'Give that guy one.'

10. noun + demonstrative:
    [[óⁿba] thé]
     day   this
    'today'

11. noun + demonstrative + article
    [[níⁿ] gá tʰe]
     water that the
    'that water'

12. noun + quantifier:
    [[níkashiⁿga] nóⁿba]
      person   two
    'two people'

13. N + article + quantifier:
    [[níkashiⁿga] amá bthúga]
      person   the   all
    'all the people'

14. N + quantifier + article:
    [[níkashiⁿga] nóⁿba amá]
      person   two   the
    'the two people'

Koontz (1984:167) suggests that when a quantifier immediately follows the noun (as in (14) and perhaps (12)) it is verbal and forms a nominalized clause with the noun, while in a structure like (13) it is not verbal. I tentatively adopt this suggestion.

15. N + demonstrative + article + quantifier:
  a. [[Íe] gá tʰe dúba] ubthá=ta=miⁿkʰe
      word this the   some   I-tell=fut=aux
     'I'm going to say these few words.'

  b. [[Xabthé] gá akʰá wíⁿ] ... noⁿzhíⁿ=i=tʰe
      tree   this the   one   stand=prox=evid
     'This one (certain) tree was standing (there)'

  c. [[Shóⁿge] shé akʰá nóⁿbá]
      horse   that the   two
     'those two horses over there'

The "basic constituent order in NPs," according to Koontz (1984:164), is (16), where "Nominal" can be either "a noun, a clause, or zero".[3]

16. Nominal - Demonstrative - Article - Quantifier

This seems to be essentially right as far as linear order goes. The sequence in (16) or a subset of it is the most common in my data, and fully expanded NPs of this type are not rare. I have given several examples in (15). But as Koontz himself notes, there are several variations on this basic pattern.[4] Not only can any or all of the constituents be missing, but they can also be rearranged. We have seen that a quantifier may directly follow (and perhaps form a nominal clause with) the

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[3] Koontz uses the term "determiner" rather than "demonstrative". I have changed it here partly to avoid confusion in the subsequent discussion of Determiner Phrases, and partly because other analyses of Siouan languages, e.g. Graczyk (1990), have used the term "determiner" to refer to the article rather than the demonstrative.
[4] One that I ignore here is the possibility of multiple quantifiers (Koontz (1984:167)).

nominal (14). Other variations occur as well, the most interesting of which involve the article and demonstrative.

It is clear that in Omaha, unlike in English, articles and demonstratives do not form a single class of "determiners". They cooccur with each other (as we have seen in (9), (11), (15)), and they differ in their behavior in several ways. Demonstratives but not articles may occur independently (4). When they do cooccur their order is fixed: demonstrative precedes article. And articles, but not demonstratives can function as apparent agreement markers in the "repeated article" construction described below. This is not an unexpected state of affairs; it is common crosslinguistically for articles and demonstratives not to belong to the same category (Dryer 1992, p.121). But it does raise questions of what syntactic role and position these two categories have, and especially of whether either of them is a determiner in the sense of being head of a Determiner Phrase.

One type of data which is useful for deciding this issue is a construction in which the same article appears on both a demonstrative and a noun, as in (17) and (18). Word order here is relatively free: in (17) the demonstrative precedes and in (18) it follows the noun.
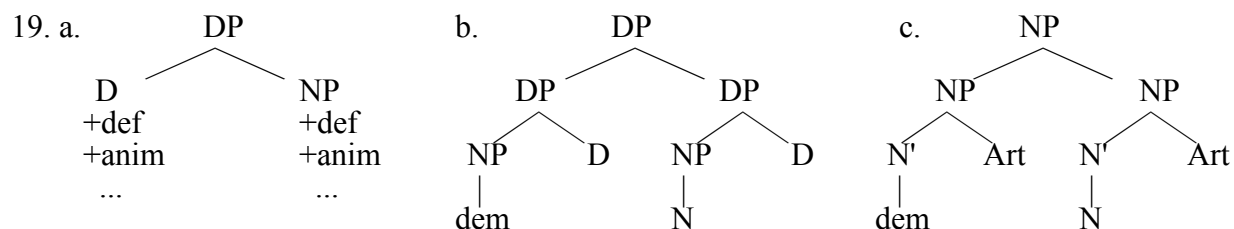
17.a. Dú-ak^{h}a núzhi^{n}ga ak^{h}á
       this-the   boy   the
       'this boy'

   b. thé t^{h}e ní^n t^{h}e
       this the water   the
       'this water'

18. Níkashi^{n}ga amá gá   ama
     person   the those the
     'those people'

This construction, which I will refer to here as the "repeated article" construction, is common in the speech of several of my consultants.[5] It suggests at least two possible analyses. One is that the strings in (17) and (18) are single DPs, with e.g. *dú akhá* in (17a) as a definite determiner head and *núzhi^{n}ga akhá* as its NP complement, marked to agree with it in definiteness and the other features coded by the article. This structure is shown schematically in (19a). A second possibility is that the construction consists of two separate phrases in an appositive relation, each marked with identical article. These phrases might be either DPs as in (19b) or NPs as in (19c).

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[5] It is likely that the "repeated article" construction is stylistically marked, and may in some cases represent a hesitation phenomenon or a parenthetical insertion. However consultants do not correct it in playback sessions (unlike false starts), so I consider it grammatical. The construction occurs in the speech of my oldest and most fluent consultants, and occasionally in Dorsey's 1890 texts, so I find it unlikely that it may be an artifact of language obsolescence, as has been suggested to me. The discourse function of this construction remains to be investigated, but I suspect that at least some speakers use it to mark foregrounded participants in a narrative.

19. a.
```
           DP
          /  \
         D    NP
        +def  +def
        +anim +anim
        ...   ...
```
b.
```
            DP
           /  \
         DP    DP
        /  \   /  \
       NP   D NP   D
       |       |
       dem     N
```
c.
```
            NP
           /  \
         NP    NP
        /  \   /  \
       N'  Art N'  Art
       |       |
       dem     N
```

The choice among these structures will carry over to the analysis of the simpler noun phrases in (1)-(15): if (19a) is correct, these noun phrases are demonstrative-headed DPs, if (19b) is correct, they are article-headed DPs, and if (19c) is correct, they are N-headed NPs. Structures similar to these have been proposed for other Siouan languages, not on the basis of repeated article constructions but for all NPs with demonstratives. Graczyk (1990) assumes an analysis of Crow NP as DP with a demonstrative determiner head, very similar to (19a), but recognizes that other analyses, including an appositive structure, would be possible. Williamson (1984, 1987) opts for an analysis of Lakhota noun phrases in which demonstratives are appositive to NP, but again with little actual argumentation. Lakhota demonstrative usually follows rather than preceding NP, while Crow demonstratives apparently always precede, but their superficial structures are otherwise similar to each other and to that of Omaha. As we have seen, demonstratives in Omaha may either follow or precede a noun: they more often precede it in the repeated article construction, but they follow it in the "basic NP order".

What evidence can we find in Omaha? One area which might be expected to give a clue is semantics. The two types of structures for the repeated article construction might be expected to correspond to different meanings: a unified "this boy" for (17a) with structure (19a) as opposed to a more separated, perhaps "afterthought" sense: "this guy, the boy" with structure (19b or c). My consultants usually translate repeated article constructions as single phrases, as indicated by the glosses given, but their translations tend to be too free to be a reliable guide to structure, and lacking anything resembling native intuitions about shades of meaning myself, I must turn to other criteria.

At this point it will be useful to consider a few more examples. The non-demonstrative part of the construction may be of any NP form, not just a noun. It may include a quantifier, as in (20), a stative verb, as in (21), a relative clause as in (22), and so on.

20. shé   amá wa'ú   nó^{n}bá amá
     those   the woman two   the
     'those two women'

21. duá-thi^{n}k^{h}e   zhi^{n}gá   thi^{n}k^{h}e
     this-the   be-young the
     'this child'

22.a. shé k^{h}e John Turner athí^n k^{h}e
      that the   he-has-it the
      'the one (flute) John Turner has'

b. gá thiⁿkʰe uthúthe gthiⁿ   thiⁿkʰe
    that the   caught   he-sits the
    'the one who is stuck sitting'

In an earlier paper I assumed structure (19a) for examples like those in (22), because this nicely provided a clause-external head, the demonstrative "determiner", for the relative clause construction. Structure (19a) seems to be favored by cases like (23), in which it looks as though what I have been calling the article is actually a definiteness suffix that can "spread" to any or all parts of the NP, marking agreement between the noun quantifier, and demonstrative:

23. níkashiⁿga akʰá nóⁿba akʰá thé akʰá
     person   the   two   the   this the
     'these two people'

However, other data strongly favor the other type of analysis, a structure like (19b) or (c). First, it is possible to find examples in which there two or more nominal heads with articles in addition to the determiner + article constituent:

24.a. thé   akʰá níkashiⁿga akʰá núzhiⁿga akʰá
       this the   person   the   boy   the
       'this boy'

   b. se   ama ittimi   ama Gloria ama
       that the   her-aunt the   the
       'her aunt Gloria'

   c. shé akʰá níkashiⁿga akʰá winégi   akʰá Charlie Parker akʰá
       that the   person   the   my-uncle the   the
       'my uncle Charlie Parker'

Second, repeated articles sometimes occur without any demonstrative being involved, as in (25). The examples in (24) and (25) strike me as being quite clearly appositive, as they clearly contain more than one nominal head, and therefore more than one NP or DP.

25.a. zhiⁿgá   akʰá wahóⁿthishige akʰá
       be-young the   orphan   the
       'the child, the orphan'

   b. winégi   ama shúde=naze   amá
       my-uncle the   smoke=yellow the
       'my uncle Yellow Smoke'

In (26), there are three clearly appositive phrases, the last of which contains the referential demonstrative *é* 'the aforesaid'.

26. [Nú zhuáwagthe kʰa ithádi   akʰá] [witígoⁿ   akʰá] [e=shti] égoⁿ=tʰe.
     man together   the his-father the   my-father-in-law the   ref-too   thus=evid
       '[My husband's father], [my father in law], [he] was like that.'

I have found a few examples of appositives without matching articles. These all occur in very similar discourse circumstances, namely, when a narrator wishes to point out that a person referred to in the narrative is present at the time of telling. A typical case is (28): in the course of telling her life history the speaker referred to "a man" (*nú wíⁿ*)", then, gesturing toward her husband, who was seated next to her, said *duá thiⁿkhe* "this one here", then continued her sentence.

27. Égithe [nú wíⁿ duá thiⁿkʰe] zhuágthe
    finally man one this the   I-marry-him
    'Finally I married this man here.' (... a man, this one here...)

Example (28) is similar, except that the second half of the construction is postposed to postverbal position. The speaker referred to my visits first with the impersonal *wáxe wíⁿ* "a white person", then gestured toward me and clarified *dú akʰa* "this one here".

28. Íⁿchʰoⁿ wáxe   wíⁿ atʰí=noⁿ   dú akʰa
    now   white-person one she-arrives=usually this the
    'Now a white person has been coming here, this one here.'

The existence of such clearly appositive constructions, along with the free order of the supposed determiner and NP constituents in (19a), which would be very odd given the fairly rigid order of heads and modifiers in other Omaha constructions, is enough to convince me that structure (19a) is wrong and that all of the repeated article constructions have a structure like (19b) or (c).

It remains, then, to decide which of the two appositive structures is right, that is, whether the sister constituents in the repeated article construction and the simple phrases in examples (1)-(15) are NPs or DPs. Or, to put it another way, the question is whether the Omaha definite articles are the heads of the constructions in which they occur. I suggest that the answer is "yes": the articles are members of the category Determiner and they function as the syntactic head of DPs. Noun phrases which have an article have a superordinate DP constituent, as in (29). (Those which have no article may have an empty D position, though I know of no evidence for null Ds at this point.) Appositive constructions have structure (19b), repeated here as (30)

29.   DP   30.   DP
        ╱   ╲   ╱   ╲
      NP   D   DP   DP
              (article)   ╱   ╲   ╱   ╲
   NP   D   NP   D
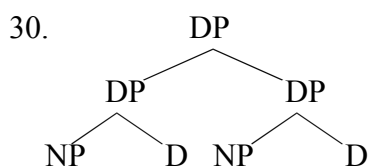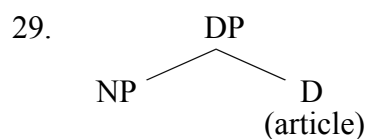
The main reason for choosing this structure is the analysis of clausal noun phrases. Given the DP analysis, nominalized clauses will have exactly the same structure as non-clausal noun phrases, except that the complement of D will be S (i.e. probably IP) rather than NP, as in (31). Appositives containing a nominalized clause simply have a clausal complement in one or more of the DP constituents, as schematized in (32).

31. DP
  IP   D
      (article)

32. DP
  DP   DP
(IP) D (IP) D
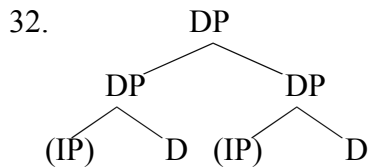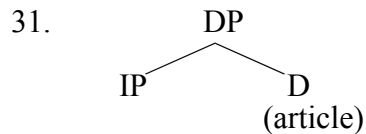
This is particularly nice for relative clauses: since the Determiner is head of the relative construction, there is no need for a null N head to satisfy X-bar requirements. One would expect, given standard X'-theory assumptions, that the complement of D could be any maximal projection: abstracting away from questions of whether DP has a specifier, the standard schema should be DP → XP D. This is probably descriptively accurate for Omaha noun phrases. I know of no evidence for a VP separate from IP in Omaha, nor for AP. So NP and IP[6] are the only maximal phrases that could occur as complements of D.

Noun phrases and clauses -- DP and CP -- have a lot in common in Omaha, even when non-nominalized clauses are considered. As in both Lakhota (deReuse 1982) and Crow (Graczyk 1990: 138-9, 140, 155) there is some homophony (perhaps even identity) between articles on the one hand and complementizers or other clause-final elements on the other. To give just a couple of Omaha examples, the form t^he is both an article and the evidential marker, and the articles *thi^{n}khe* and *ak^{h}á* are used as complementizers following the future tense marker. This overlap is at least suggestive of a deeper connection between DP-final and S-final markers. Under the present analysis this is not surprising. Both types of morphemes mark a maximal constituent boundary, and both are functional heads: articles head DP, and complementizers head CP. However, some of the clause-final elements may be auxiliary-like elements heading IP; see note 5. Within this framework nominalized clauses and noun phrases in Omaha would have structure (33), while non-nominalized clauses have structure (34).

33.   DP
  IP/NP   D
        (article)

32.   CP
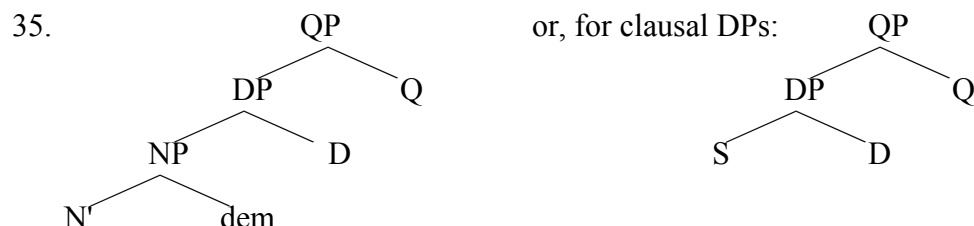 IP   C
       (complementizer)
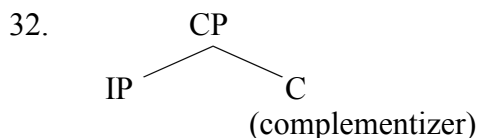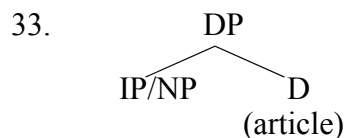
This structural parallelism fits nicely with recent theoretical claims: NP or DP is analyzed as virtually identical in structure to CP in much GB work building on Abney (1987) (cf. Giorgi & Longobardi (1991) for discussion and bibliography). The formal and functional similarity of articles and clause markers is not a new idea within Siouan studies either: De Reuse (1982) has suggested for Lakhota that the function of the articles is to mark what precedes as a nominal (or "argument") constituent rather than a verbal or sentential one. Graczyk treats the "Comp" (=article?) at the end of nominalized clauses as the head of the nominalization (p. 176) and the clause as incorporated.

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[6] I assume here that the relevant sense of "clause" for clausal complements is IP, and that CP is barred from occurring as the complement of DP either because of the similarity of the C and D constituents (see below), or perhaps even because it is (a type of) DP. Much more work remains to be done on the question of IP as opposed to CP in Omaha. For many of the clause-final particles (or "enclitics", as they are known in the Siouanist literature) it is unclear to me at this point whether they should be classified as complementizers, conjunctions, or auxiliaries, and the issue of what constituent they are contained in is similarly murky.

Note, incidentally, that it is irrelevant to the DP analysis whether articles are independent words, clitics, or even affixes. Even if we call article a definitizing suffix it can still be analyzed as head. In fact, affixes are often treated as heads of words, and sometimes of larger constituents (see e.g. Dryer (1992:125) and sources cited there).

For maximally expanded noun phrases of the type in (15) (the full schema (16)), I propose the following structure:

35.

```
              QP                        or, for clausal DPs:          QP
            /    \                                                  /    \
         DP       Q                                              DP       Q
        /   \                                                   /   \
      NP     D                                                 S     D
     /   \
   N'     dem
```

A quantifier following a DP heads a further superordinate constituent, a Quantifier Phrase (QP).[7] (A quantifier preceding the article would be treated as clausal, as noted above). The node marked "dem" is the demonstrative. If N' is null, the result is a noun phrase like (4) or (9), consisting of only a demonstrative or demonstrative + article. It may look odd at first glance that N' precedes the demonstrative within NP, since this reverses the head-modifier order of the rest of the tree -- but since the demonstrative is a single unbranching word, the order is exactly what would be expected under Dryer's recent reinterpretation of word order universals in terms of branching direction.

To sum up the proposed analysis, Omaha noun phrases with an article are DPs, and the article is the head of the superordinate phrase. Phrases with repeated articles are appositive constructions, consisting of two (or more) coindexed DPs. Since they are coreferential, the appositive DPs will normally agree in all features coded by the determiner (definiteness, animacy, proximateness, orientation, and so on), and thus have the same article. A partial exception must be made for cases like (27)-(28), in which there is a different frame of reference for each of the appositive DPs. Nominalized clauses, including relative clauses, have the same structure as non-clausal noun phrases, but with S rather than NP as the complement of D.

Finally, note that the articles I've classified as DP-heading determiners are all definite. The existence of indefinite "articles" in Omaha is uncertain. The word wi^n 'one' translates English 'a/an' but is clearly a numeral quantifier in many if not all of its usages. *Dúba* 'some' is also a quantifier. The suffix =*de* is probably a topic or focus marker, similar in its syntactic behavior to Lakhota *ča* (Rood & Taylor (1974:54), Williamson (1985:49)). But as John Koontz has pointed out to me, it also seems to mark some indefinite-headed relative clauses in much the same way that definite articles mark relative clauses with definite heads, and may be analyzable as an indefinite article heading indefinite DPs. I hope to explore this possibility in further research.

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[7] Graczyk (1990) proposes a similar QP structure for Crow.

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