Rasmus Rask's dilemma

Frans Plank

1. Arranging paradigms: The hows and the whys

The earliest extant grammatical texts are paradigms. Listing the inflectional forms of Sumerian on clay tablets, they date from around 1600 B.C., the period when Sumerian, the chief literary language of Ancient Mesopotamia, was being replaced by Akkadian as the medium of everyday communication, and those who continued to learn it needed grammatical instruction. By later standards (say, those of Pāṇini, Dionysius Thrax, Priscian, or his Old English adaptor, Ælfric), these Sumerian paradigms appear somewhat disorderly. Setting less store by uniformity than their latter-day colleagues, the Old Babylonian grammarians, otherwise skilled morphological analysts, would alter the arrangement of inflectional forms from one word to the next and from one part of a paradigm to the other. Admittedly, when listing Indicative forms of verbs (and there are quite a few of these among the 227 forms of ĝar 'to place', the most extensive paradigm to have survived, and among the less numerous, otherwise independently arranged forms of other verbs), they would always begin with 3rd Person, followed by 1st, with 2nd coming last. Also, in both nominal and verbal paradigms they would usually give Singular before Plural forms, although minimal pairs are not always adjacent. To exemplify the more pervasive pattern of variability, in the fragmentary lists of nominals carrying Case suffixes Locatives sometimes precede and sometimes follow Datives (with the Terminative, however, invariably following both), and Genitive and Dative likewise appear in alternative orders. Another trace of uniformity here is that basic Absolutive forms generally head (sub-) sections, which continue with Comitative and Ablative-Instrumental, which in turn are followed by the Dative, Locative, Terminative group.[1] It does not behove us to disparage the efforts of our Old Babylonian predecessors at setting out paradigms; they after all did not have the benefit of three millenia and a half of experience in work of this sort. It is more appropriate to wonder why indeed they should have felt it desirable to settle on a particular invariant order for the terms of all inflectional categories. After all, what their paradigms were designed for was the communication of knowledge about Sumerian inflectional morphology to their Akkadian-speak-

ing pupils. And did it really matter, then, in what manner, however haphazard, the inflectional forms that needed to be learned were arranged, as long as the listings were complete and each Sumerian entry was properly glossed in Akkadian?

Steeped in one or another post-Babylonian grammatical tradition, we have come to expect grammarians to stick to a single order of terms realising inflectional categories throughout all relevant paradigms or parts of them. Arbitrary inversions of the order of Cases in the various declensions or in the Singular and Plural parts of individual paradigms would no doubt jar on the aesthetic sense of the contemporary reader of grammars of Sanskrit, Latin, or Old English. In this respect (and perhaps others), grammars have become a genre where *variatio* no longer *delectat*. Uniformity, however, has not yet been enforced on the professional community as a whole. Notwithstanding the preferences that have evolved within particular traditions or schools subscribing to the principle of uniform term arrangement, from the ancient Indians to us postmoderns, individual grammarians have continued to disagree, to some extent, on the most appropriate invariant order of the paradigms of virtually all major inflectional categories. Of course, reference grammars rarely justify explicitly the paradigm arrangements they have opted for; such choices, nevertheless, are not entirely arbitrary. Their motives are practical or theoretical (rather than aesthetic), and it is their possible heterogeneity which is commonly held responsible for the continual disagreement about the best orders.

A potent theoretical, or perhaps rather metatheoretical, motive is that if everything in the realm of language — as well as in the animal, vegetable, and mineral kingdoms — is reducible to some natural order (except perhaps the exceptions), it would be odd if in inflectional paradigms, the backbone of grammar, order had to be admitted to be arbitrary. But decisions about the most natural order of paradigms have rarely been unanimous, owing to some extent to the multiplicity of criteria in principle available to the imaginative systematist. It is possible, for instance, to motivate paradigmatic order by syntagmatic order. Thus, Case paradigms have been arranged so as to reflect the normal linear order in which Case-marked constituents occur in a clause (with the Nominative, the subject Case, accordingly coming first, followed by the Accusative, the direct-object Case, etc.), or also some cognitive order underlying the 'logical' surface sequence of constituents (with Cases marking the point of departure, the resting-place, and the goal appearing in that order). Another possibility is to conceive of paradigms as a kind of grammatical thesaurus and to group inflectional forms in accordance with the principle that the closer to one another they are in meaning, the smaller

the distance between them in the paradigm. In paradigms of words inflecting for Case and Number, forms sharing a Number but differing in Case, accordingly tend to be closer to one another than forms sharing a Case but differing in Number. As in lexical thesauri, judgments of relative semantic similarity, however, invite controversy. Moreover, they may lead to arrangements which are at odds with other semantic criteria, like the syntagmatic ones alluded to above.[2]

Unlike semantically inspired decisions on uniform paradigm orders, those drawing on formal properties of the items to be ordered are essentially practical, and partly maybe also aesthetic. It seems more natural, for instance, to present less complex forms prior to more complex ones, especially if the latter can be regularly derived from the former, or forms which have implications for other paradigm members prior to these implied or to unpredictive forms. Probably the single most important practical consideration behind the conventions of paradigm designers since those of ancient India is a formal analogue to the thesaurus principle: entries should be the closer to one another in arrangement the closer they are in form. Homonymous entries, representing the extreme of similarity, accordingly ought to be adjacent to one another. It is this motive which will concern us primarily, trifling though it may appear at first sight.

The Old Babylonian grammarians were not the only ones to pay little heed to what could seem to be mere vagaries of form. In a Sumerian grammar of post-Babylonian provenance, Thomsen (1984: 88), this guideline is also disregarded when the Case suffixes are presented in this order:

(1)   Genitive   *-ak*
       Absolutive   *-∅*
       Ergative   *-e*
       Dative   *-ra*
       Locative   *-a*
       Comitative   *-da*
       Terminative   *-šè*
       Ablative-Instrumental   *-ta*
       Locative-Terminative   *-e*
       Equative   *-gin₇*

Of the suffixes which share the vocalic segment /a/, for instance, only three (Dat, Loc, Com) are adjacent, and the two which in addition have an initial alveolar consonant in common (Com, Abl-Ins) are separated by a segmentally quite dissimilar suffix (Ter). Most blatant is the large distance between the two Cases whose exponents in fact are identical (*-e*), viz. Ergative and

Locative-Terminative.[3] This raises the question why it should be more practical in the first place to have the similarity between forms reflected by the distance between them in paradigms.

The basic purpose of paradigms in reference grammars is to provide information about the inflectional categories of inflecting words (such as Case), about the terms realising these categories (such as Genitive, Absolutive, Ergative), and about the exponents (affixes, segmental or suprasegmental modifications, root exchanges, zero) expressing these terms and, if exponents cumulatively express terms of more than one inflectional category, term combinations with the relevant inflecting words. Disregarding possible drawbacks of formal similarities between exponents of different terms or term combinations (such as the confusion they might cause on the part of the hearer), identities of exponents tend to have one advantage: they reduce the number of grammatical forms that need to be memorised by the speaker, and in particular the learner, of the language. Thus, due to the homonymy[4] of Ergative and Locative-Terminative, the learner of Sumerian only needs to acquire nine, rather than ten, distinct exponents of Case. The problem that remains, however, is to know precisely which distinctions are neutralised in which paradigms. Unless there is some general strategy of delimiting the range of possible victims of homonymy, little is gained by formal parsimony as such; those who are above all faced with this problem, language learners, might just as well acquire distinct exponents. It is here that the judicious arrangement of paradigms proves pedagogically useful. The convention that those paradigm members are placed next to one another which may be expressed by the same exponents authorises an appropriate generalisation. It rules out non-neighbouring members as possible homonyms, unless they are linked by members also sharing the same exponents. With Case terms ordered as in (1), the Genitive could on this condition be expected to be possibly homonymous with the Absolutive, the Absolutive with the Ergative, the Ergative with the Dative, etc. — but not the Genitive with the Ergative (unless the Absolutive, too, were to share the same exponent), nor the Ergative with the Locative-Terminative (unless the same exponent were to be shared by the Dative, Locative, Comitative, Terminative, and Ablative-Instrumental as well), etc. The arrangement of (1) is, thus, impractical insofar as it does not alert the learner of Sumerian to the particular homonymy, that of Ergative and Locative-Terminative, which the language, economising on its formal resources, resorts to.

It has so far been taken for granted that paradigms may only be presented in the form of a list, as favoured by the Old Babylonian grammarians and others in their wake. But there obviously are alternatives, and, most impor-

tantly for us, it depends on the kinds of order one is prepared to endorse which and how many members of a paradigm may be considered neighbours.
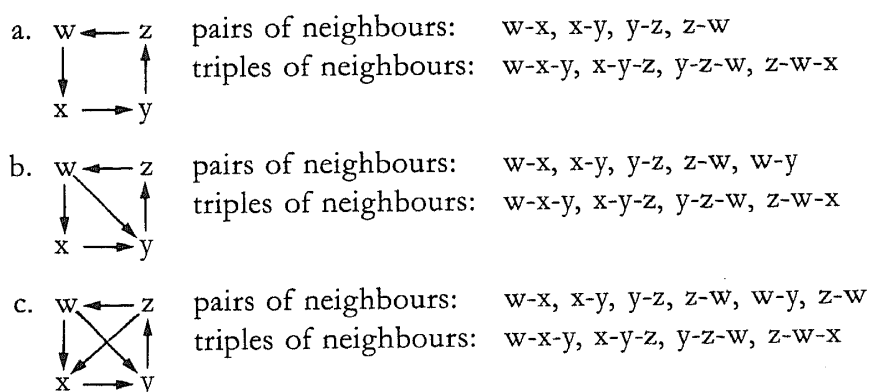
If a paradigm is presented in the form of a list all n elements of which are linearly ordered, there will be $n - 1$ pairs, $n - 2$ triples (etc.) of neighbours, with two elements, the first and the last on the list, having only one neighbour, and $n - 2$ elements having two neighbours each, as is shown schematically in (2):

(2)   linear order

w
↓
x

↓

y
↓
z

pairs of neighbours: w—x, x—y, y—z
triples of neighbours: w—x—y, x—y—z
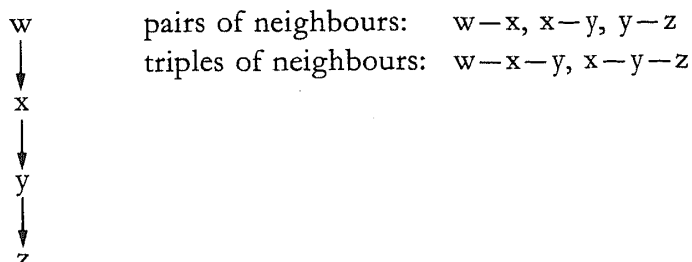
If the ordering is permitted not to be asymmetric, so that one element may precede as well as follow another, neighbourhood relations multiply. If the number of elements exceeds two, there are then at least as many pairs and (with more than three elements) triples of neighbours as there are elements directly linked to one another in a circle (all of which have two neighbours), and in the extreme case any element ends up a neighbour of any other, as shown in (3):[5]

(3)   circular order

a.   w ◄— z   pairs of neighbours: w-x, x-y, y-z, z-w
     ↓   ↑   triples of neighbours: w-x-y, x-y-z, y-z-w, z-w-x
     x —► y

b.   w ◄— z   pairs of neighbours: w-x, x-y, y-z, z-w, w-y
     ↓   ↑   triples of neighbours: w-x-y, x-y-z, y-z-w, z-w-x
     x —► y

c.   w ◄— z   pairs of neighbours: w-x, x-y, y-z, z-w, w-y, z-w
     ↓   ↑   triples of neighbours: w-x-y, x-y-z, y-z-w, z-w-x
     x —► y

If the ordering is permitted not to be connex, so that not all n elements are linearly ordered relative to all others, there will be no more than $n - 1$ pairs of neighbours (as with linear and unlike circular orders), but particular

elements may have more than two neighbours (as in circular but not in linear orders); and, as also shown in (4), there will also be more triples (etc.) of neighbours than in a linear order.

(4)   partial linear order

w

pairs of neighbours: w-x, w-y, w-z
triples of neighbours: w-x-y, w-y-z, w-x-z

x   y   z
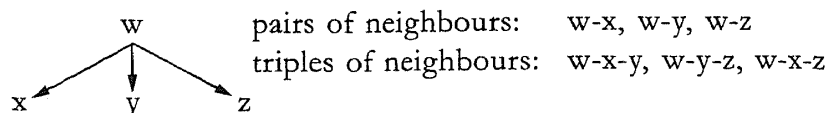
Apart from being favoured by extraneous considerations like that of saving space on a page or clay tablet, the ancient method of arranging paradigms in the form of a list, with all entries linearly ordered, is, thus, also the most restrictive one as regards the neighbourly intercourse among those entries.

We have so far dwelt on the practical advantages of arranging paradigms in accordance with patterns of formal differences and identities. We have argued that the ordinary working grammarian, if he wishes to oblige his readers, ought to place those paradigm members next to one another the distinction between which is neutralisable; we have shown that the simple method of arranging paradigms in the form of lists is the one that most severely limits the placement of members next to one another; and we have mentioned the requirement that the arrangement of terms should not vary from one paradigm, or part of it, to the other. These matters, however, are not exclusively practical or aesthetic. On the contrary, it is of considerable theoretical interest to determine whether it will in fact always be possible to comply with these three requirements of good paradigm design — viz. that inflectional homonyms be adjacent, that terms be arranged linearly, and that term orders be uniform. If it *is* possible, this would imply that inflectional homonymy in the languages of the world is subject to quantitative constraints, because the well-meaning grammarian would be unable to succeed if a language confronted him with such a diverse pattern of homonymies that it cannot be defined in terms of neighbourhood in uniformly ordered lists. Our practical advice, thus, amounts to an empirical hypothesis about permissible patterns of inflectional homonymy — one that cries out to be tested, considering that other attempts to constrain homonymy in semantic terms have only met with limited success and, in particular, have left its unequal distribution among languages of different morphological type unexplained.[6]

Obviously, the exclusive force of the neighbourhood condition always depends on a particular sequencing of terms. If, in Sumerian, Ergative and Genitive, or any other pair of terms non-adjacent in (1), were actually found to be expressed by the same exponent, all we would have to do to authorise

their homonymy (and to facilitate the learner's task) would be to alter the order of terms accordingly, without having to resort to ordering relations less restrictive than linear ones. Thus, *any* homonymy pattern can in fact be accommodated in this manner, since it is always possible to place the terms which happen to be affected next to one another in a list. Of what kind, then, are the restrictions to be derived from modes of paradigm arrangement?

The Old Babylonian Grammatical Texts VI, VII, VIII, IX, and X contain five more or less detailed verbal paradigms, all differing to some extent in the linear order in which the respective verb forms are given. This could seem to suggest that it is really necessary, in order to master the Sumerian inflectional system, to internalise lists of forms of more than one lexical item of a particular word class. Modern grammars of Sumerian, such as Thomsen (1984), indeed divide verbs into four classes, depending on the way they form their *marû* aspectual stem; but otherwise the inflectional resources are, on the morphological level, uniform for all verbs and are not distributed among several conjugation classes.[7] For nouns, a single paradigm is nowadays deemed sufficient, since there are no different declension classes calling for different sets of markers of Possession, Number, and Case. There in fact is a classification of nouns into those denoting persons and the rest; but this is a general semantic distinction, and its morphological manifestations (only personal nouns take the Plural suffix *-ene* and may appear in the Dative; the Locative, Ablative-Instrumental, and Locative-Terminative are limited to impersonal nouns, which also lack a Plural, using the basic form also as a Collective), thus, are predictable for the class of nouns as a whole. Some Case exponents may also vary depending on their phonological environment (after vowels, the Dative, for instance, may take the form *-r* instead of *-ar*); but this variation too is predictable by general (morpho-)phonological rules, hence does not necessitate the drawing up of separate paradigms — say for vowel- und consonant-final personal as well as impersonal nouns such as, respectively, *lú* 'man', *lugal* 'king', *é* 'place', *ig* 'door'. Furthermore, there is no need to repeat the list of Case markers, and analogously the markers of Number (in fact only the Plural marker, Singular being unmarked) and Possession (varying as to Person, Number, and, in the 3rd Person, Personness), with the terms of the other inflectional categories: they are the same, no matter which terms of the other categories they are combined with. If they had made a point of limiting their lists to what is unpredictable about Sumerian inflection, the Old Babylonian grammarians, therefore, could well have made do with a relatively small supply of not excessively large tablets.

Agglutinative languages, such as Sumerian, where the terms of different inflectional categories (such as Possession, Number, and Case) are typically

expressed by separate, segmentable exponents, tend to employ exponents which do not vary with the terms and lexical items they are combined with — or if they do vary, the shape they take is predictable on general semantic or phonological grounds. The overall number of exponents of all words inflecting for particular categories ideally does not exceed the sum total of the terms of these categories. Thus, instead of giving separate subparadigms for different term combinations (such as, for instance, one subparadigm of Case for the Singular and another for the Plural) and separate paradigms for separate lexical items or classes of them, it ideally suffices to list the terms plus their exponents of each category only once, supplemented by an instruction of how to join them syntagmatically (specifying, for instance, that nominal stems must be followed, in this order, by Possession, Number, and Case suffixes). As long as the number of terms per category, and of categories themselves, is not exorbitant, the fund of distinct exponent necessary to make all paradigmatic distinctions should be of manageable proportions. Economising on exponents by means of utilising them for more than one purpose, i. e. by neutralising paradigmatic distinctions, should hardly be a top priority of the users of such systems. And as a matter of fact, agglutinative languages demonstrably are not the most fertile soil for inflectional homonymies.[8]

In flective languages, on the other hand, exponents often are not morphologically invariant. Cumulative exponence implies that terms are expressed differently depending on the terms of the categories which are cumulated. What is expressed by individual exponents, thus, are term combinations rather than separate terms. To list all exponents and properly identify them, the terms of each cumulated category have to appear repeatedly in full paradigms. These can then be divided into subparadigms for each category, all but one partner of term combinations remaining constant in each subparadigm. For example, with six-term Case and two-term Number categories expressed cumulatively, there would be six subparadigms of Number, one for each Case, and two subparadigms of Case, one for each Number. Although this is not a logical implication of cumulative exponence, flective languages, furthermore, typically boast synonymous exponents not distributed along phonological or transparently semantic lines. Different classes of lexical items inflecting for the same categories, thus, differ, partly or wholly, in the set of exponents they utilise. Since the number of exponents of one inflected word here results from multiplying, rather than adding, the number of terms of the categories cumulated, and the co-existence of different inflection classes further increases this number, homonymies come in handy, serving to pare down the fund of distinct exponents when it threatens to become undesirably large. Suppose there are five declensions in our hypothetical flective language

with six Cases and two Numbers, the number of exponents could then be as large as sixty if no paradigmatic distinctions were neutralised.[9] The extent to which flective languages characteristically cut down on formal resources is illustrated by the adjective inflection of Old English, where five Cases, two Numbers, three Genders, and two 'Declensions' (i. e. Definiteness and In-definiteness) are cumulated, but there are only about ten, rather than sixty, distinct exponents (of which virtually none is confined to adjectives).

It is under flective-type circumstances that the neighbourhood condition, in conjunction with ordering regulations, becomes effective. Here paradigms multiply. If the terms of inflectional categories are expressed by alternative sets of exponents, whose distribution needs to be lexically stipulated, we have to set up parallel paradigms for these categories; and in each of them all terms recur depending on the number of terms of the categories they are cumulated with. Term distinctions are susceptible to homonymy in all these separate paradigms and subparadigms. In principle it should be possible for the patterns of homonymy to differ without limit across the various paradigms and subparadigms, even though the problems of the learner, welcoming formal parsimony as such, would thus be aggravated. Of course, the different homonymy patterns could all be accounted for individually in accordance with the neighbourhood condition by appropriately arranging the relevant paradigms and subparadigms. But to meet this requirement, the order of terms could well have to be different on different occasions. There is, thus, the potential of a conflict between the neighbourhood condition and that achievement of post-Babylonian grammarians, the invariance of term order,[10] and it remains to be seen whether such conflicts ever materialise in empirical reality.

In modern times it was Rasmus Kristian Rask who devoted most attention to the question of term order. No less persistent than the systematisers of nature of the Enlightenment, where Rask had his intellectual roots, he was almost haunted by a desire to restore the inflectional paradigms, especially of the Old Germanic tongues and of Latin and Greek, to their natural order. His efforts did not receive the acclaim they would have merited, largely because they were seen (among others by Jacob Grimm) as being wasted on peripheral matters of at best practical interest. But Rask's quest really was for insight into the structure of language, and the criteria he invoked to order paradigms struck him as no less essential than those of the naturalists pertaining to reproduction. Least convincing perhaps is his appeal to the natural order of ideas as a guideline for the arrangement of paradigms. More tangible are his two main formal criteria: derivability, with 'derived' forms slotted into place after their bases (which often suggests the placement of

Accusatives after Nominatives rather than after Datives or Genitives; cf. the Latin 3rd Person Feminine Singular demonstrative *eam*, best 'derived' from Nominative *ea*, rather than from *ēius* Gen or *ei* Dat), and homonymy, with terms sharing exponents earmarked for neighbourhood. The Case paradigms of Indo-European languages in particular were a constant source of worry for Rask and at times drove him to despair. Originally accepting the old Accusative-final order (Rask 1811), he was soon persuaded that it was more natural for the Accusative to follow immediately after the Nominative (and Vocative). He was less certain about the relative order of Dative and Genitive, although Dative-before-Genitive eventually was to carry the day. A matter he apparently never resolved for good was whether Dative or Ablative should be given precedence, opting for Ablative-first (as such he categorised the Instrumental) in the English version of his Anglo-Saxon grammar (1830), but favouring the reverse order, likewise with good reasons, in some published works and in letters on Latin.

Rask has been criticised for his dogmatic insistence on the necessary parallelism of semantic and formal criteria of paradigm order.[11] It is of course an empirical issue to determine how close the fit is between independently inspired arrangements. But another, more elementary question is whether Rask's programme could have succeeded if it had been based on the formal criterion of homonymy alone. The position Rask took on this point was the most restrictive one conceivable, as outlined above: he subscribed to the neighbourhood condition on inflectional homonymy, assumed that paradigms were to be ordered linearly, and expected term orders to be invariable throughout, and indeed across, languages. Was he thus heading for a resounding defeat, bound to be inflicted upon him by an utter intrinsic disorderliness of inflectional homonymy? An examination of the Case system of Old English and, in less detail, of various other languages should help us to identify precisely where a position like Rask's is unrealistically restrictive.[12]

2. Old English Case

With five Cases,[13] of which one, the Instrumental, is presumably best recognised only with adjectives and non-personal pronouns, the diversity of patterns of homonymy is potentially great. To be precise, the sum total of possible two-, three-, four-, and five-term homonymies is twenty-six:

(5)   1. Nom = Acc   11. Nom = Acc = Gen   21. Nom = Acc = Gen = Dat

     2. Nom = Gen   12. Nom = Acc = Dat   22. Nom = Acc = Gen = Ins

     3. Nom = Dat   13. Nom = Acc = Ins   23. Nom = Gen = Dat = Ins

     4. Nom = Ins   14. Nom = Gen = Dat   24. Nom = Acc = Dat = Ins

     5. Acc = Gen   15. Nom = Gen = Ins   25. Acc = Gen = Dat = Ins

     6. Acc = Dat   16. Nom = Dat = Ins

     7. Acc = Ins   17. Acc = Gen = Dat   26. Nom = Acc = Gen =

     8. Gen = Dat   18. Acc = Gen = Ins   Dat = Ins

     9. Gen = Ins   19. Acc = Dat = Ins

   10. Dat = Ins   20. Gen = Dat = Ins

Any linear arrangement of five terms licenses no more than ten such patterns, as shown abstractly in (6).

(6)   list of terms: permitted homonymies:

       a   a = b, b = c, c = d, d = e;

       b   a = b = c, b = c = d, c = d = e;

       c   a = b = c = d, b = c = d = e;

       d   a = b = c = d = e.

       e

With five terms, the alternative linear arrangements number no less than 120, which for our purposes may be reduced by half since neighbourhood relations are the same in corresponding inverted sequences. There are, thus, sixty different *sets* of homonymy patterns which could in principle be accommodated by choosing an appropriate linear term order. Since there are numerous classes of nominal, pronominal, and adjectival lexical items differing in the set of Case exponents they require, and also numerous subparadigms of Case, owing to the various categories Case is cumulated with in different classes of words (two- or three-term Number in nouns, adjectives, and pronouns; three-term Gender in adjectives and pronouns; two-term Definiteness in adjectives), the potential of a very diverse composite picture of Case homonymies is enormous, too.

Here is a summary of the patterns of Case homonymies and their instances as actually attested in Old English, keyed to the enumeration in (5).

1. Nom = Acc:

Singular of all masculine and neuter *a/wa*-nouns and phonologically identifiable subclasses of *ja*-nouns (suffix -*Ø*), heavy-stem masculine and neuter *i*-nouns (-*Ø*), feminine *i*-nouns (where Acc may also have distinct exponent -*e*), *u*-nouns (-*u*/-*Ø*), neuter weak nouns (-*e*), athematic nouns (masc. -*Ø*, fem. -*u*/-*Ø*, plus appropriate root vowel), nouns in -*nd*- (-*Ø*), nouns in IE -*es*/-*os*

(-∅), dental stems (with or without final -*þ*, suffix -∅), Indefinite ('strong') Neuter adjectives (-*u*/-∅), Indefinite Feminine adjectives with final -*h* such as *hēah* (*hēa* — *hēa*), Definite ('weak') Neuter adjectives (-*e*), Neuter 3rd Person personal pronoun (*hit*), Neuter demonstrative and interrogative pronouns (*þæt, þis; hwæt*); Plural of *a*/*ja*/*wa*-nouns (masc. -*as*, neut. -*u*/-∅), masculine and neuter *i*-nouns (-*e*/-*as*, -*u*/-∅), weak nouns (-*an*), athematic nouns (masc. -∅, fem. -*e*/-∅, plus appropriate root vowel), nouns of relationship (-*as*, -∅, -*a*/-*u*), nouns in -*nd*- (-∅/-*e*/-*as*), *es*/*os*-stems (-*u*), dental stems (-∅ and final -*þ*), Indefinite adjectives (Masc -*e*, Fem -*e*/-*a*, Neut -∅/-*u*), Definite adjectives (-*an*), 3rd Person personal pronoun (*hīe*/*hī*/*hēo*), demonstrative pronouns (*þā, þās*).

2. Nom = Gen:

In the Plural, *ō*/*jō*/*wō*-nouns have normally -*a* in Nominative, Accusative, and Genitive in West-Saxon, but in early West-Saxon Accusative has occasionally -*e*, distinguishing this Case from Nominative and Genitive (late West-Saxon also has Gen -*ena*).

6. Acc = Dat:

Singular, Dual, and Plural of 1st and 2nd Person personal pronouns (*me, unc, ūs; þe, inc, ēow*); outside West-Saxon, however, there tends to occur a distinctive Accusative (*mec, unket, ūsic; þec, incit, ēowic*), but these forms may later be generalised also to Dative function.

8. Gen = Dat:

Singular of feminine *i*-nouns (-*e*, which may, however, also extend to Acc), *u*-nouns (-*a*), neuter weak nouns (-*an*), feminine athematic nouns (-*e*/-∅, but there may be a difference in root vowels), dental stems (-∅ and final -*þ*), Definite Neuter adjectives (-*an*; Definite adjectives also lack a distinct Instrumental), Feminine 3rd Person personal pronoun (*hire*).

10. Dat = Ins:

Plural of all adjectival and pronominal forms having a separate Instrumental in the Singular.

11. Nom = Acc = Gen:

Plural of *ō*/*jō*/*wō*-nouns (-*a*, cf. No. 2 above), feminine *i*-nouns (-*a*, where Acc may alternatively be -*e*), *u*-nouns (-*a*), athematic feminine noun *ēa* (-∅); Singular of the nouns of relationship *brōþor, mōdor*, and *dohtor* (-∅).

12. Nom = Acc = Dat:

Singular of masculine and neuter *ja*-nouns retaining the original stem formative (-*i* > -*e*) other than those with stem-final -*r* (i. e. the phonological

subclass complementary to that in No. 1) (suffix *-e*), light-stem masculine and neuter *i*-nouns (*-e*), heavy-stem *i*-masculine *sæ* (where *sæ-e* → *sæ* DatSg), heavy-stem feminine athematic nouns (*-∅* and unumlauted root; but mutation is common, hence usually Dat ≠ Nom = Acc).

17. Acc = Gen = Dat:
Singular of *ō/jō/wō*-nouns (*-e*), feminine *i*-nouns (*-e*; but Acc may have *-∅*, hence Acc ≠ Gen = Dat), masculine and feminine weak nouns (*-an*), Definite Masculine and Feminine adjectives (*-an*).

20. Gen = Dat = Ins:
Singular of Indefinite Feminine adjectives (*-re*) and Feminine demonstratives (*þære, þisse*).

21. Nom = Acc = Gen = Dat:
Singular of nouns of relationship *fæder* and *sweostor* (*-∅*), dental stems (*-∅*, and *-þ* extended to Nom and Acc), feminine *i*-nouns *sæ* (cf. No. 12 for its use as a masculine) and *æ* (*-∅*, because *sæ-e, æ-e* ← *sæ, æ*), feminine athematic noun *ēa* (*-∅*, but West-Saxon has frequently *īe* in GenSg and DatSg).

There are, thus, exactly ten homonymy patterns, which is the maximum number permitted by the neighbourhood condition if five terms are linearly ordered. This particular set, however, is not among those licensed by any of the sixty possible linear arrangements of our five Cases. The cause of the predicament is easily seen if only two linear alternatives are examined.[14]

(7) a. Nom   b. Nom
         Acc   Acc
         Gen   Dat
         Dat   Ins
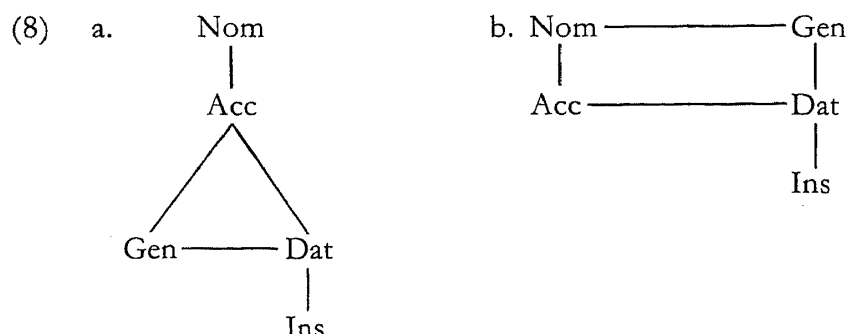   Ins   Gen

Seven of the ten homonymy patterns permitted by (7 a) are actually attested in Old English: Nos. 1 (Nom = Acc), 8 (Gen = Dat), 10 (Dat = Ins), 11 (Nom = Acc = Gen), 17 (Acc = Gen = Dat), 20 (Gen = Dat = Ins), and 21 (Nom = Acc = Gen = Dat). In fact, if Definite adjectives too are attributed an Instrumental, on the analogy of Indefinites, one further permissible pattern is exemplified by Masculine and Feminine Definite adjectives in the Singular, which conflate all Cases except the Nominative (No. 25). (Extending the Instrumental to nouns and all pronouns as well would shift our examples of pattern No. 21 to the fully neutralising pattern No. 26, but would in addition eliminate all instances of pattern Nos. 6, 8, 12, and 17, because the Instrumental here would have to be added as a Case coinciding with the Dative.)

Permitted by (7 a), but not attested are only three, or even two, homonymy patterns: Nos. 5 (Acc = Gen), 26 (Nom = Acc = Gen = Dat = Ins), and, provided Definite adjectives are refused an Instrumental, 25 (Acc = Gen = Dat = Ins). Not permitted by (7 a), but attested are three further patterns: Nos. 2 (Nom = Gen), 6 (Acc = Dat), and 12 (Nom = Acc = Dat). Of these, the first is somewhat dubious, homonymies of Nominative and Genitive being highly uncharacteristic of ō/jō/wō-nouns in later West-Saxon. On balance arrangement (7 a) fares better than (7 b), and indeed all other permutations. Permitted by (7 b) and actually attested are five homonymy patterns: Nos. 1 (Nom = Acc), 6 (Acc = Dat), 10 (Dat = Ins), 12 (Nom = Acc = Dat), 20 (Dat = Ins = Gen). Permitted but not attested are also five patterns: Nos. 9 (Gen = Ins), 19 (Acc = Dat = Ins), 24 (Nom = Acc = Dat = Ins), 25 (Acc = Gen = Dat = Ins), and 26 (Nom = Acc = Gen = Dat = Ins). With the Instrumental also extended to Definite adjectives, pattern No. 25 would strengthen the ranks of attestations. Not permitted by (7 b), but attested are five patterns, one again being doubtful: Nos. 2 (Nom = Gen, the uncertain one), 8 (Gen = Dat), 11 (Nom = Acc = Gen), 17 (Acc = Gen = Dat), and 21 (Nom = Acc = Gen = Dat).

The weaknesses of (7 a) and (7 b) are essentially complementary. What (7 a) cannot cope with are homonymies involving Accusative and Dative, which are unproblematic for (7 b), where these two terms are neighbours. (7 b), on the other hand, is defeated by homonymies involving Accusative and Genitive, terms adjacent in (7 a). An additional disadvantage of (7 b) is that the Instrumental, a term not realised in all Case paradigms, intervenes between Dative and Genitive, two terms homonymous in three patterns. The regularity that Accusative does not coincide with Genitive unless Dative or Nominative or both share the same exponent as well, escapes (7 a) completely, where Accusative and Genitive are adjacent, and is only partly captured by (7 b), where Dative (and Instrumental) but not Nominative is intermediate between Accusative and Genitive.

Evidently, in no single linear arrangement is there a way out of the dilemma that both Dative and Genitive may separately coincide with Accusative, a Case most frequently homonymous with Nominative. This difficulty was not appreciated by Rasmus Rask for Old English, because in both the original Danish (1817) and the revised English (1830) versions of his Anglo-Saxon grammar he has the Dative closer to Accusative than the Genitive. It is only in his grammar of Old Norse (1818) that he toys with the idea of reversing this order, but more on the analogy of Slavonic (where animate nouns may employ the Genitive in lieu of an Accusative) than on language-internal grounds. For Old English, we clearly have to adopt a stance less tough than Rask's. An invariant order where all Case terms anywhere involved

in homonymies, and as few others as possible, are adjacent has got to be non-linear. To withdraw no further than to partial linear ordering, as illustrated in (4), unfortunately does not suffice: at least some terms must be allowed to form a circle. The partly circular arrangements in (8) are two candidates on which it seems difficult to improve.[15]

(8) a.   Nom   b. Nom ─────────── Gen
                  | | |
                 Acc   Acc ─────────── Dat
                 /\ |
                / \   Ins
               /   \
           Gen ───── Dat
                  |
                 Ins

Unequal distances between neighbouring terms are intended to reflect unequal homonymy proclivities. Thus, (8 b) implies that vertical neighbours neutralise more commonly than horizontal ones, while according to (8 a) both vertical and horizontal neighbours neutralise more commonly than diagonal ones.

To compute the scores of these less familiar arrangements, (8 a) permits fourteen homonymy patterns, of which nine or ten are attested: Nos. 1 (Nom = Acc), 6 (Acc = Dat), 8 (Gen = Dat), 10 (Dat = Ins), 11 (Nom = Acc = Gen), 12 (Nom = Acc = Dat), 17 (Acc = Gen = Dat), 20 (Gen = Dat = Ins), 21 (Nom = Acc = Gen = Dat), and possibly, if an Instrumental is recognised with Definite adjectives, 25 (Acc = Gen = Dat = Ins). Permitted but unattested are five or four patterns: Nos. 5 (Acc = Gen), 19 (Acc = Dat = Ins), 24 (Nom = Acc = Dat = Ins), 26 (Nom = Acc = Gen = Dat = Ins), and possibly 25. Pattern No. 2 (Nom = Gen), which is only marginally attested in West-Saxon, if at all, is disallowed by (8 a). The eleven further homonymy patterns which are logically possible but incompatible with (8 a) do not occur. Of the sixteen homonymy patterns permitted by (8 b), ten or eleven are attested: Nos. 1 (Nom = Acc), 2 (Nom = Gen, at best marginal), 6 (Acc = Dat), 8 (Gen = Dat), 10 (Dat = Ins), 11 (Nom = Acc = Gen), 12 (Nom = Acc = Dat), 17 (Acc = Gen = Dat), 20 (Gen = Dat = Ins), 21 (Nom = Acc = Gen = Dat), and possibly 25 (Acc = Gen = Dat = Ins). Permitted but unattested are six or five patterns: Nos. 14 (Nom = Gen = Dat), 19 (Acc = Dat = Ins), 23 (Nom = Gen = Dat = Ins), 24 (Nom = Acc = Dat = Ins), 26 (Nom = Acc = Gen = Dat = Ins), and possibly 25. None of the ten logically possible patterns that are incompatible with (8 b) are attested. Although (8 a) could seem slightly superior to (8 b) on the grounds of its greater restrictiveness (14 vs. 16

patterns permitted) and its higher ratio of actual to permitted patterns (64.29%
vs. 62.5%, or 71.43% vs. 68.75%), the only material difference in arrangement
rather tends to argue for (8 b). In (8 b) Genitive is directly linked to Nomi-
native rather than, as in (8 a), Accusative, which fits in well with two
observations: Gen = Nom is on record, if marginally, as one of the two-term
homonymies, while Gen = Acc is not; and the Nominative, intermediate
between Genitive and Accusative only in (8 b), is one of the Cases whose
identity is a prerequisite of the neutralisability of these two terms. In favour
of (8 a), on the other hand, is one regularity: Nominative and Dative do not
coincide unless they also coincide with the Accusative — and the only path
from Nominative to Dative is via the Accusative in (8 a) but not in (8 b).[16]

Instead of sacrificing linearity, the diversity of Case homonymies in Old
English could also be accounted for by weakening the neighbourhood con-
dition — a step Rask was very reluctant to take. With (7 a) serving as the
invariant linear order, what would have to be admitted are homonymies
across not more than one intervening term with a distinct exponent. The
resultant possibilities are in fact not exhausted in Old English, where Accu-
sative is homonymous with Dative across the Genitive (Nos. 6 and 12),
Nominative at best marginally with Genitive across the Accusative (No. 2),
but not Genitive with Instrumental across the Dative. If (7 b) were selected
as the linear invariant, allowances would have to be made for homonymies
across two or even three intervening terms (and three, in a five-term sequence,
indeed is the theoretical maximum), because Genitive can be homonymous
with Dative across the Instrumental (Nos. 8, 17, 21), with Accusative across
the Instrumental and Dative (No. 11), and marginally with Nominative across
the Instrumental, Dative, and Accusative (No. 2).[17] The third, Old Babylo-
nian-style way of coping with the complexities of Case homonymy is to back
down from the invariance requirement. Between them, the two linear ar-
rangements (7 a) and (7 b) would suffice to take care of virtually all attested
patterns in terms of neighbourhood. Only the homonymy of Nominative and
Genitive, of dubious standing in West-Saxon, would necessitate yet a third
linear alternative. Needless to say, admitting three different linear orders in
principle creates a vast potential of homonymy variability, much in excess of
that actually observed in Old English. It is gratifying, therefore, that there
is a better partner of (7 a) than (7 b):

(7)   c.   Gen
            Nom
            Acc
            Dat
            Ins

Order (7 c), not without merits of its own despite its unorthodoxy, neatly complements (7 a), licensing precisely those homonymies prohibited by (7 a), viz. Acc = Dat and Nom = Gen, and very few extra patterns that are unattested (Acc = Dat = Ins, Nom = Acc = Dat = Ins).[18] (Independently, if chosen as the linear invariant, (7 c) would have to put up with homonymies across one (Gen = Acc) or two (Gen = Dat) intervening terms.)

It is time to assess the damage caused by the facts of Old English to the principles espoused by Rask. In several respects, it is less severe than it could seem at first sight.

Case is realised by five terms in Old English, but it suffices to accommodate all homonymies if only three (8 a) or four (8 b) of them, rather than all five, are arranged in a circle, or alternatively if only one intervening term in a linear arrangement (viz. 7 a), rather than the maximum of three, is allowed to be skipped, or if only two linear permutations (viz. 7 a and 7 c), rather than the maximum of sixty, are made use of in combination. If any of the five Case terms were directly linked to any other, fully exploiting the capacities of circular ordering, there would be no less than ten pairs, ten triples, five quadruples, and one quintuple of neighbours, which is far in excess of the five pairs, five triples, three (8 a) or four (8 b) quadruples, and one quintuple of neighbours definable in (8). The number especially of pairs and triples of neighbours in the partly circular arrangements in (8) is in fact closer to that obtained in linear orders of five terms.[19]

What this suggests is that deviations from the linear mode can be restrained in a principled manner. On the present evidence they need only be *minimal*: If terms need to be arranged circularly, they cannot form more than one circle (which rules out representations such as (3 b/c)), and only three or at most four terms can be members of this circle, irrespective of how many terms a category happens to be realised by. In effect, categories with the lowest number of terms amenable to circular ordering, i. e. three, would thus set the limit also for categories of arbitrarily many terms with regard to the permissible diversity of homonymy patterns.[20] Violations of the neighbour-hood condition are minimal, correspondingly, if only a single intervening term may be skipped by homonymies. And violations of the invariance requirement are minimal if recourse is had to no more than two linear orders in combination.

What should also be taken into consideration is the systemic relevance of the patterns of homonymy which caused these minimal relaxations of our constraints. Since (7 a) has had the best marks of all linear permutations, it is the homonymies inconsistent with this arrangement whose status in the inflectional system of Old English deserves closer scrutiny — viz. those of

Nominative and Genitive (No. 2), Accusative and Dative (No. 6), and Nominative, Accusative, and Dative (No. 12).

As was mentioned before, the Nom = Gen pattern is dubious and probably unattested in later West-Saxon. The Act = Dat pattern likewise is not met with in all regional and historical varieties of Old English. As to systemic relevance, homonymies of Nominative and Genitive across a distinct Accusative are completely *isolated* insofar as these two terms do not participate in any further, otherwise permissible patterns where more than two terms are homonymous. Unlike, for example, Nom = Acc, which recurs in three- and four-term homonymies (Nom = Acc = Gen and Nom = Acc = Gen = Dat), the Nom = Gen pattern is not accompanied by Nom = Gen = Dat and Nom = Gen = Dat = Ins. The Acc = Dat pattern is slightly less isolated, as there is one corresponding three-term pattern, Nom = Acc = Dat; unattested are, however, Acc = Dat = Ins and Nom = Acc = Dat = Ins, which would imply no additional infractions of the neighbourhood condition. Equally unattested is Nom = Acc = Dat = Ins, the only more extensive pattern to contain Nom = Acc = Dat($\neq$ Gen).

The three offensive patterns, furthermore, are clearly surpassed by all inoffensive ones, except one or two, in the number of their instances throughout subparadigms. As Case is cumulated with two- or three-term Number (with all relevant words), two-term Definiteness (only adjectives), three-term Gender (adjectives, pronouns except 1st and 2nd Person personal ones),[21] and three-term Person (only personal pronouns), there is a wide variety of subparadigms across which homonymy patterns could be distributed. The Nom = Gen and the Nom = Acc = Dat patterns are in fact limited to a single Number subparadigm each: Nom = Gen to Plural and Nom = Acc = Dat to Singular. The Acc = Dat pattern is also limited to Number subparadigms, but is found in all three of them; its domain further includes 1st and 2nd Person subparadigms. With the exception of pattern No. 21 and perhaps No. 11, all inoffensive ones are distributed more widely across subparadigms:

1. Nom = Acc: Singular, Plural; Indefinite, Definite; Neuter, Feminine; 3rd Person.
8. Gen = Dat: Singular; Definite; Neuter, Feminine; 3rd Person.
10. Dat = Ins: Plural; Indefinite; Masculine, Neuter, Feminine.
11. Nom = Acc = Gen: Singular, Plural.
17. Acc = Gen = Dat: Singular; Definite; Masculine, Feminine.
20. Gen = Dat = Ins: Singular; Indefinite; Feminine.
21. Nom = Acc = Gen = Dat: Singular.
25. Acc = Gen = Dat = Ins?: Singular; Definite; Masculine, Feminine.

In this sense, offences against the neighbourhood condition can, thus, be characterised as *local*, inoffensive patterns being generally more pervasive.

Moreover, with one exception, all individual subparadigms of Case as well as their appropriate combinations are consistent with some linear ordering of Case terms. The homonymies in Indefinite (Nom = Acc, Dat = Ins, Gen = Dat = Ins), Definite (Nom = Acc, Gen = Dat, Acc = Gen = Dat, Acc = Gen = Dat = Ins?), Masculine (Nom = Acc, Acc = Gen = Dat, Acc = Gen = Dat = Ins?), Neuter (Nom = Acc, Gen = Dat), Feminine (Nom = Acc, Gen = Dat, Acc = Gen = Dat, Gen = Dat = Ins, Acc = Gen = Dat = Ins?), and 3rd Person (Nom = Acc, Gen = Dat) subparadigms can all be accounted for by (7 a) alone. If 1st and 2nd Person subparadigms (Acc = Dat) are collated with that of 3rd Person, the ordering Nom-Acc-Dat-Gen (i. e. (7 b), with Ins, not realised in Person paradigms, omitted) takes care of all homonymies. The Dual (Acc = Dat) and Plural (Nom = Acc, Nom = Gen, Acc = Dat, Dat = Ins, Nom = Acc = Gen) subparadigms square with (7 c). Only the Singular subparadigm, richest in homonymy patterns (Nom = Acc, Acc = Dat, Gen = Dat, Nom = Acc = Gen, Nom = Acc = Dat, Acc = Gen = Dat, Gen = Dat = Ins, Nom = Acc = Gen = Dat, Acc = Gen = Dat = Ins?), does not admit of a uniform linear arrangement of the five Cases. The offence against linearity is, thus, local as well.

Many attested homonymy patterns are found with different parts of speech inflecting for Case:

1. Nom = Acc: nouns, adjectives, personal (3rd Person), demonstrative, interrogative pronouns;
8. Gen = Dat: nouns, adjectives, personal pronouns (3rd Person);
10. Dat = Ins: adjectives, demonstratives;
17. Acc = Gen = Dat: nouns, adjectives;
20. Gen = Dat = Ins: adjectives, demonstratives.

Five or six patterns, among which the three offensive ones, are restricted to single parts of speech: Nos. 2 (Nom = Gen), 11 (Nom = Acc = Gen), 12 (Nom = Acc = Dat), 21 (Nom = Acc = Gen = Dat) to nouns; No. 25 (Acc = Gen = Dat = Ins?) to adjectives; and No. 6 (Acc = Dat) to personal pronouns (1st and 2nd Person). This is another sense, then, in which some homonymy patterns can be said to be local.

Among nouns, the illicit homonymy of Accusative (plus Nominative) and Dative (No. 12) indeed is a peculiarity of phonologically identifiable groups of members of various inflection classes, viz. *ja*- and *i*-masculines and neuters and, less regularly, athematic feminines. Owing to their syllabic structure, the relevant nouns were able to avoid the loss, by regular phonological rule or

analogy, of a final high vowel, hence retained final $-e$ ($<$ $-i$) as exponent of Nominative and Accusative Singular, identical to the originally distinct exponent of Dative Singular; or, in one case, it was as a result of the phonological contraction of the Dative Singular exponent $-e$ with the stem-final vowel ($s\bar{æ}-e$ → $s\bar{æ}$) that Dative happened to coincide with Accusative. This homonymy pattern is, therefore, an accident of Old English phonology rather than a deep-seated trait of the morphological system, hence deserves to be dismissed as *superficial*.

If this phonologically conditioned pattern and the Nom $=$ Gen pattern, occasionally found with $\bar{o}/j\bar{o}/w\bar{o}$-nouns in early West-Saxon, are disregarded, *all* Old English words inflecting for Case except 1st and 2nd Person personal pronouns are in their Case homonymies consistent with the linear arrangement (7 a). The cause of the insufficiency of linear ordering (or of the invariance or neighbourhood assumptions) can, thus, be localised very precisely: it is the homonymy behaviour of two items, the only ones which neither inflect for Gender nor have Case exponents sensitive to Gender, viz. the personal pronouns of 1st and 2nd Person. They alone require linear orders where Dative is adjacent to Accusative (as it is, for example, in (7 b), (7 c), or the circles of (8)), or permission to neutralise these two terms at a minimal distance, if their linear order as in (7 a) is to be invariant. If Nom $=$ Acc $=$ Dat and Nom $=$ Gen are not disregarded, the inflection classes where they are at home turn out to show only such further homonymy patterns as are consistent with linear Case orders. Nom $=$ Acc $=$ Dat is accompanied by Nom $=$ Acc with the relevant *ja-*, *i-*, and athematic nouns, and with the latter also by Gen $=$ Dat, which is compatible with (7 b) if the Instrumental, not realised with nouns, is omitted. And Nom $=$ Gen is accompanied by Acc $=$ Gen $=$ Dat with $\bar{o}/j\bar{o}/w\bar{o}$-nouns, which squares for example with the arrangement Nom-Gen-Dat-Acc, the old order Rasmus Rask (1811) started out with, but soon found as arbitrary and as unnatural as classifications of plants according to their height or natural histories beginning with the fishes and continuing with the metals.

We have seen that what *minimal* violations of the linearity, neighbourhood, or invariance conditions there are to be found in the Old English Case system, they are due to homonymy patterns which are *isolated, superficial*, and in various respects *local*.[22] If even homonymies of such marginal systemic relevance are unable to commit more than minor offences, this ought to inspire confidence in the constraints which, in the spirit of Rask, we have expressed in terms of paradigm arrangement.

Old English Case, moreover, tends to reassure the belief, held among others by Rask, that different criteria for the arrangement of paradigms ought

to harmonise, with formal similarities of paradigm entries reflecting semantic similarities, and with semantic relatedness in particular being conducive to homonymy. The term arrangements above which best account for homonymies are, at the same time, well-motivated semantically and functionally.

It is possible to recognise in the several linear orders that were found expedient (7 a/b/c) as well as in both of the alternative partly circular orderings (8 a/b) a grouping of core syntactic clause-level Cases (Nominative and Accusative), adverbial Cases (Dative, Instrumental, and also Genitive),[23] and of a phrase-level Case (Genitive). It is exclusively the Genitive whose homonymy patterning militates against the completely linear ordering of Old English Case terms, and the variability of its ordering relative to the Nominative-Accusative and the Dative-Instrumental groups, manifest from the ensemble of arrangements in (7) and (8), may be taken to reflect the functional versatility of this Case employed at phrase- as well as at clause-level. However the Genitive links up with the two other groups, it never intervenes between the members of either. Syntactic operations likewise betray affinities between Cases, and those in evidence in Old English seem to fit in best with the partly circular arrangement (8 a). There is, for example, the subject-centred diathesis of passive, which pairs Accusative with Nominative (insofar as only Accusative objects of active clauses are eligible for Nominative marking, i. e. subjecthood, in passives), while object-centred alternations (as in *se him fultum tiþaþ* 'who grant them (Dat) help (Acc)' vs. *ne hine mon his bene tyþigean wolde* 'one did not want to grant him (Acc) his request (Gen)') pair Dative with Accusative and Accusative with Genitive. Nominalisations pair Accusative as well as Nominative with Genitive (*objectivus* and *subjectivus*, respectively), and it is only the first of these associations which is compatible with (8 a), the second being more in line with (8 b) or also (7 c). Thus, in analogy to the picture emerging from the patterns of inflectional homonymy, we must reckon with a network of functional-semantic affinities whose complexity transcends, though again presumably not dramatically, the representational power of uniform and linear arrangements of Case terms.

3. Case (dis-)order elsewhere

A preliminary survey of Case homonymies in some other languages, almost all inevitably Indo-European, suggests that, while Old English is not unique in the extent to which it obeys the neighbourhood, linearity, and invariance conditions, there is, nevertheless, scope for variation.

On the positive side, there are languages which do not fall short of even the highest of Rasmus Rask's expectations. One of these is Arabic, a genealogical outsider with rather few Case (or State) terms, the other Sanskrit, the 'perfected' tongue, which, despite its numerous Cases, once more lives up to its name.

(9)   *Modern Standard Arabic*   attested homonymies:
         Nom
         Gen   Nom = Gen, Gen = Acc;
         Acc   Nom = Gen = Acc.

(10)   *Sanskrit*
         Voc
         Nom
         Acc   Voc = Nom, Nom = Acc, Dat = Abl,
         Ins   Abl = Gen, Gen = Loc;
         Dat   Voc = Nom = Acc, Ins = Dat = Abl.
         Abl
         Gen
         Loc

No wonder Pāṇini and his colleagues had an easy time agreeing on the most appropriate linear order of Case paradigms!

My current sample includes one language, Old Norse, where incomplete linear ordering suffices to accommodate all Case homonymies:[24]

(11)   *Old Norse*

         Nom
          | Nom = Acc, Acc = Dat, Acc = Gen;
         Acc ——— Gen   Nom = Acc = Dat, Nom = Acc = Gen,
          | Acc = Dat = Gen; Nom = Acc = Dat = Gen.
   Dat

If couched in terms of deviations from the linear mode of ordering (with the invariance and neighbourhood requirements retained in their strictest form), the sets of homonymy patterns in most of the languages so far examined turn out to dictate circular orderings of their Cases. However, regardless of the number of Cases, the arrangements almost always resemble that (or those) of Old English insofar as a single circle suffices and only a subset of terms is involved in this circle, with Latin somewhat exceptionally exceeding the minimum number for circle members by two.

(12)   *Russian*[25]

Nom
|
Acc
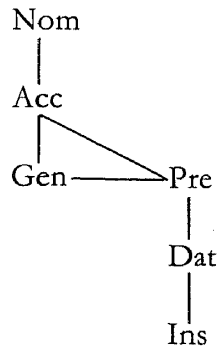
Gen———▸Pre
|
Dat
|
Ins

Nom = Acc, Acc = Gen, Gen = Pre,
Pre = Dat, Dat = Ins; Nom = Acc = Gen,
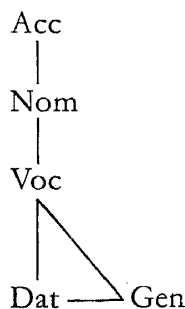Nom = Acc = Pre, Acc = Gen = Pre,
Gen = Pre = Dat; Gen = Pre = Dat = Ins.

(13)   *Lithuanian*
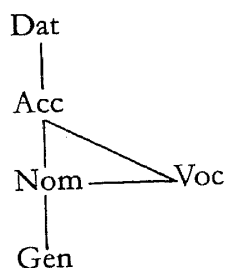
Loc
|
Voc

Ins——Dat

Nom
|
Acc
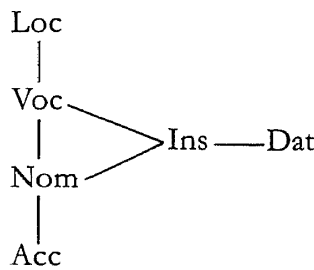
Loc = Voc, Voc = Nom, Voc = Ins,
Nom = Ins, Nom = Acc, Ins = Dat;
Voc = Nom = Acc, Voc = Nom = Ins.
(Genitive, Illative, and Allative are not in-
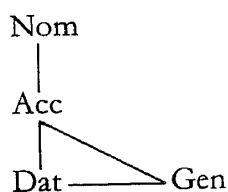volved in homonymies, nor was the obsolete
Adessive.)

Gen
Ill
All
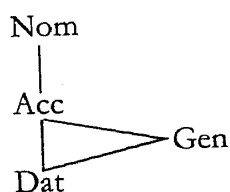
(14)   *Classical Greek*[26]

Acc
|
Nom
|
Voc

Dat ——▸ Gen

Acc = Nom, Nom = Voc, Voc = Dat,
Voc = Gen, Dat = Gen; Acc = Nom = Voc.

(15)   *Gothic*

Dat
|
Acc
Nom———>Voc
|
Gen
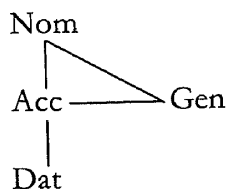
Dat=Acc, Acc=Nom, Acc=Voc,
Nom=Voc, Nom=Gen; Dat=Acc=Voc,
Acc=Nom=Voc; Dat=Acc=Nom=Voc.

(16)   *Old Frisian*[27]

Nom
|
Acc
Dat———>Gen

Nom=Acc, Acc=Dat, Dat=Gen;
Nom=Acc=Dat, Nom=Acc=Gen,
Acc=Dat=Gen; Nom=Acc=Dat=Gen.

(17)   *Modern High German*

Nom
|
Acc———>Gen
Dat

Nom=Acc, Acc=Dat, Acc=Gen,
Dat=Gen; Nom=Acc=Dat,
Nom=Acc=Gen, Acc=Dat=Gen;
Nom=Acc=Dat=Gen.

(18)   *Modern Icelandic*

Nom
Acc———>Gen
|
Dat

Nom=Acc, Nom=Gen, Acc=Dat,
Acc=Gen; Nom=Acc=Dat,
Nom=Acc=Gen, Acc=Dat=Gen;
Nom=Acc=Gen=Dat.

(19)   *Old High German*

Nom
|
Acc
Gen
|
Dat———>Ins
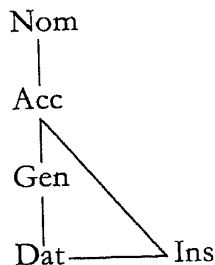
Nom=Acc, Acc=Gen, Gen=Dat,
Dat=Ins; Nom=Acc=Gen,
Nom=Acc=Ins, Acc=Gen=Dat;
Nom=Acc=Gen=Dat.

(20)   *Latin*[28]

Voc
|
Nom

Acc

Abl

Dat

Gen
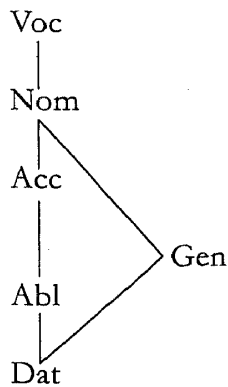
Voc = Nom, Nom = Acc, Acc = Abl,
Abl = Dat, Dat = Gen; Voc = Nom = Acc,
Voc = Nom = Gen, Nom = Acc = Abl,
Abl = Dat = Gen;
Voc = Nom = Acc = Abl = Dat.

For the languages slightly less well-behaved than Arabic and Sanskrit it would have to be shown now that the homonymy patterns responsible for minimal or near-minimal deviations from linear order (or, equivalently, neighbourhood or invariance) are systemically marginal. In many instances it is as transparent as it was in Old English that crucially non-conformist patterns are isolated, superficial, and local. Most commonly offences are brought about by inconsistencies between the homonymy patterns of different subparadigms, declensions, or classes of Case-marked words, which individually are all consistent with a single invariant linear order. And usually the pattern preventing an optimally restrictive overall paradigm arrangement clearly stands out as the one with the most limited scope of occurrence. What should be borne in mind, though, is that the preferred linear arrangement need not always be the one supported by the majority of homonymy patterns, regardless of their systemic marginality or centrality. In Gothic, for instance, one linear order, (15′), accounts for all attested patterns except one.

(15′)   Dat
         Acc
         Voc
         Nom
         Gen

But this single pattern that is inconsistent with (15′), Acc = Nom, happens to be the most widespread in this language.

Case homonymies seem unrulier in Polish. With seven Cases — Vocative, Nominative, Accusative, Genitive, Locative, Instrumental, and Dative —, 119 homonymies would be possible: 21 two-term, 35 three-term, 35 four-term, 20 five-term, 7 six-term ones, and one affecting all seven Cases. Twenty

of these are actually attested, which is one less than could in principle be accounted for in terms of linearity, invariance, and neighbourhood. However, the patterns of these twenty attested homonymies are so diverse as to require at least two circles (Nom-Acc-Gen-Dat-Loc-Nom, Acc-Loc-Voc-Ins-Acc) plus one further link (Gen-Loc) — if we sacrifice linearity and uphold invariance and the neighbourhood condition:

(21) *Polish*

Nom —— Acc —— Gen

Voc ——————— Loc ——▷ Dat

Ins
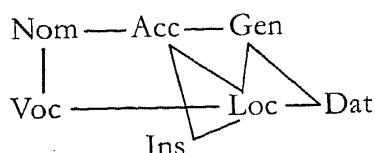
attested homonymies:

Voc=Nom, Voc=Loc, Nom=Acc,
Acc=Gen, Acc=Loc, Acc=Ins,
Gen=Loc, Gen=Dat, Loc=Ins,
Loc=Dat; Voc=Nom=Acc,
Voc=Gen=Loc, Acc=Gen=Loc,
Gen=Loc=Dat;
Voc=Nom=Acc=Gen,
Voc=Gen=Loc=Dat,
Acc=Gen=Loc=Dat,
Gen=Loc=Ins=Dat;
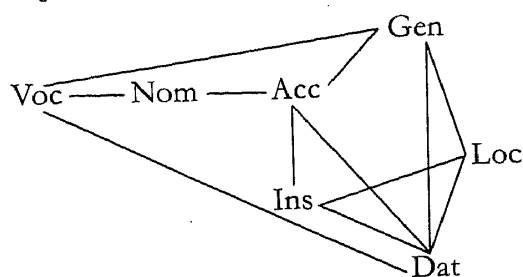Voc=Nom=Gen=Loc=Dat;
Voc=Nom=Acc=Gen=Loc=Ins=Dat.

Such paradigm arrangements are not quite the thing Rask would have delighted in. It should be noted, nevertheless, that even here interconnections are not so profuse as to sanction all 119 possible homonymies. Of the twenty-one two-term patterns possible, the arrangement in (21) permits ten, and these indeed are those which are attested. The proportion of permitted to attested homonymies is less ideal with the more complex patterns: of thirty-five three-term homonymies possible, for instance, (21) permits sixteen, of which only four are attested; or, even worse, all seven six-term homonymies possible are permitted by (21), but none is attested. Matters improve dra-matically, however, as soon as the systemically central Case homonymies of Polish are distinguished from the more marginal ones. The most common patterns are Voc=Nom, Nom=Acc, Acc=Gen, Gen=Loc, Loc=Ins, Loc =Dat, Voc=Nom=Acc, Acc=Gen=Loc, and Gen=Loc=Dat, followed, at some distance, by Acc = Ins. All others are isolated, superficial, and/or local: Voc=Loc is limited to the Singular of masculine nouns, Acc=Loc to the 1st Person Singular personal pronoun, Gen = Dat to the Singular of irregular masculine nouns in -*a* and to the 3rd Person Singular Feminine personal pronoun, Voc=Gen=Loc to the Singular of masculine nouns, Voc = Nom = Acc = Gen to the Plural of consonantal feminine nouns and to

collective plural nouns, Voc = Gen = Loc = Dat to the Singular of consonantal feminine nouns, Acc = Gen = Loc = Dat to the 1st Person Singular personal pronoun, Gen = Loc = Ins = Dat to the Masculine cardinal numeral *dwa* 'two', Voc = Nom = Gen = Loc = Dat to the Singular of feminine nouns in -*i*, and Voc = Nom = Acc = Gen = Loc = Ins = Dat to the Singular of neuter nouns in -*um* (such as *muzeum*). To take care of all central Polish Case homonymies, plus some of the more marginal ones, a slight deviation from linearity suffices, with four Case terms arranged in a circle:

(21')   Voc
          |
         Nom
          |
         Acc
          ↖
         Gen ⟍
 | ⟍
         Loc —→ Ins
          |
         Dat
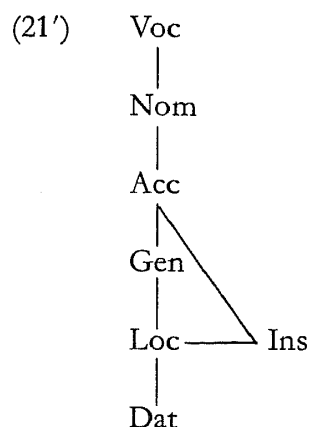
In four of the six marginal homonymies inconsistent with (21'), the blame is to be put on the Vocative, which is especially inclined to coincide with the Locative, of all non-neighbours (cf. Voc = Loc, Voc = Loc = Gen, Voc = Loc = Gen = Dat, Nom = Voc = Loc = Gen = Dat).

Czech has seven Cases like Polish, but is even richer in homonymies. Of 119 possibilities, twenty-six patterns are attested, and their diversity exceeds that encountered in Polish, requiring more numerous neighbourly interconnections (22). Such deviations from linearity surely can no longer be called minimal. But again, as in Polish, it is the systemically more marginal homonymies which are responsible for nearly all the non-linear connections. The by far most widespread Case homonymies in Czech are Nom = Acc, Acc = Gen, Gen = Loc, Loc = Dat, Voc = Nom = Acc, and Gen = Dat = Loc; somewhat less common, though not entirely local nor isolated, are Voc = Nom, Acc = Ins, Voc = Dat = Loc, and perhaps Gen = Dat = Ins = Loc. The arrangement consistent with these, (22'), is reminiscent of the simplified one for Polish, (21'), except that the Instrumental here links up with the Genitive rather than the Locative and the Vocative's affinity with the Locative (also observed in Polish) necessitates a second circle.

(22)   *Czech*

attested homonymies:

Voc=Nom, Voc=Ins, Nom=Acc, Acc=Ins, Acc=Gen,
Gen=Dat, Gen=Loc, Loc=Dat, Loc=Ins, Ins=Dat;
Voc=Nom=Acc, Voc=Nom=Gen, Voc=Nom=Ins,
Voc=Loc=Dat, Acc=Gen=Loc, Acc=Dat=Loc,
Gen=Dat=Loc, Gen=Dat=Ins; Voc=Nom=Acc=Gen,
Voc=Nom=Acc=Ins, Voc=Gen=Dat=Loc,
Acc=Gen=Dat=Ins, Gen=Dat=Ins=Loc;
Acc=Gen=Dat=Loc=Ins;   Voc=Nom=Acc=Gen=Dat=Loc;
Voc=Nom=Acc=Gen=Dat=Loc=Ins.

(22′)
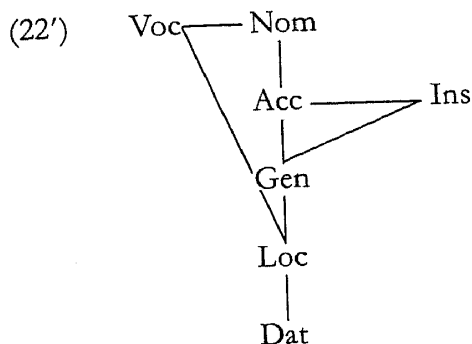
In the nine marginal patterns which are inconsistent with (22′) it is mostly
the Vocative and the Dative that are homonymous with non-neighbours:
Vocative with Instrumental or Genitive (cf. Voc = Ins, Nom = Voc = Ins,
Nom = Voc = Gen) and Dative with Genitive, Instrumental, or Accusative
(cf. Dat = Gen, Dat = Ins, Dat = Gen = Ins, Loc = Dat = Acc, Dat = Gen =
Ins = Acc). Loc = Ins, limited to the Masculine and Neuter Singular of soft-
stem adjectives, is the remaining distant connection, taken care of in (22).

The diversity of Case homonymies in Czech is unquestionably far greater
than that in Sanskrit or Arabic, but it is hardly great enough to deserve to
be branded as chaotic. There is reason to believe, in particular, that it is

controlled, if in a less than authoritarian manner, by principles such as those espoused by Rask, restricting homonymies, at least those most characteristic of the inflectional system, to neighbours in invariant, linearly ordered paradigms.

In addition to taking the toughest stand possible on the diversity of inflectional homonymies permissible in particular languages, Rasmus Rask nourished the hope of being able to find a single invariant linear order that would do for all languages with the same inflectional categories and terms alike, at least when they were descended from a single mother. If taken literally, this hypothesis is not confirmed by our comparative survey of Case homonymies, which shows that paradigm arrangements based on this formal criterion may differ even between languages of close genealogical affiliation. Nevertheless, Rask's desire perhaps was not entirely idle, for there appear to be certain common themes behind the observed variation. Pending the establishment of functional equivalences between the Cases of different languages (which of course cannot rest on the mere identity of Case names), the ensemble of graphic representations (7)—(22) should suffice to deduce some of these.

As it turns out, not all Cases are equally likely to be involved in the circular or partly linear sections of these paradigms. It is most frequently the Accusative and the Genitive (ten times each) which require more neighbours than they could be provided with in linear arrangements; they are followed by the Dative (eight times) and the Nominative (six times).[29] It is, thus, primarily the Accusative and the Genitive which show some disinclination to yield to linear ordering relative to one another on the strength of their homonymy behaviour. Its most typical function being the marking of nominal attributes at the level of noun-phrases, the Genitive is opposed to the main clause-level Cases of Nominative, Accusative, and Dative, typically marking the syntactic core relations of subject, direct, and indirect object. On the present evidence it seems that if the attributive Case is formally associated with the group of clausal Cases by means of homonymy, it does not conveniently fit into their sequence at any single point, hence tends to link up with them without interfering with their connections among one another. Thus, in virtually all languages examined, there are paths connecting Nominative, Accusative, and Dative which do not go via the Genitive, with Genitive being entirely unconnected in Lithuanian (13). The only exception is Standard Arabic (9), but here the link between Genitive (the Case of nominal attributes as well as of complements of prepositions) and Nominative is a tenuous one: in nouns with a semivowel as third root-consonant preceded by *i*, Nominative

forms happen to be phonologically assimilated to Genitive forms (cf. *qāḍiy-un* → *qāḍin* Nom, *qāḍiy-in* → *qāḍin* Gen 'a judge').

If there are circles which do not include Genitive, as in Lithuanian (13), Gothic (15), and, on one interpretation of their nets of circles, Polish (21) and Czech (22), Vocative and Nominative are part of them instead. The Vocative is a notorious loner among the Cases, and indeed has often been denied genuine Casehood because it does not mark grammatical relations at the level of phrases or clauses. Its functional singularity could, thus, provide an analogous motive for not letting it obstruct the path between the truly relation-marking Cases. While generally closest to the Nominative, which as citation form may also be used outside the relational frame of clauses, the Vocative accordingly almost never separates it from its relational companions. The two exceptions occur in Lithuanian (13), where the Vocative isolates an adverbial Case, and in Greek (14), where the paradigmatic cohesion between Accusative and Nominative on the one hand, and Genitive and Dative on the other, the two groups separated by the Vocative, is minimal, to judge by homonymies.

A third regularity of the same general kind is that local and other adverbial Cases — such as Ablative, Instrumental, Prepositional, Locative, Illative, Allative, and also Dative — are not interspersed among Nominative and Accusative, the two Cases with the least semantic content, whose tasks are prototypically syntactic.[30] The preferred adverbial associate of the Accusative is the Dative, the most syntactically inclined member of its group, followed by the Instrumental. On the adverbial side, the Dative associates most closely with the Instrumental, or otherwise with the Locative. Corresponding to such formal patternings, an Instrumental appears to be the second most likely adverbial Case, after Dative, to be entrusted with syntactic functions, and the Dative's semantic potential seems closest to that of the Locative of all adverbial Cases.

Convinced of the pervasiveness of order, as well as of its recognisability, Rasmus Rask had no doubts that underlying the orderly arrangement of inflectional paradigms on overt formal criteria such as the susceptibilities to homonymy there was a more fundamental ordering principle: the natural order of ideas expressed by the terms of inflectional categories. His credo tends to be vindicated by our conclusions, but needs to be updated. He was essentially right to suppose that semantic and functional affinities between Cases (or presumably between the terms of any other category as well) are conducive to homonymy. But his view of paradigms as grammatical thesauri was prone to oversimplification. Since affinities at the level of content or function define complex networks of more or less close interrelations between

individual Cases (with phrasal and clausal syntactic Cases, adverbial Cases, and a non-relational Case typically emerging as especially close-knit groups), patterns of homonymy are to be expected to be correspondingly manifold. Their diversity, all the same, is subject to limitations which can be specified in terms of the arrangements of paradigms. If such arrangements cannot always be linear, it is these partly linear or partly circular structures themselves which reflect the networks of functional and semantic affinities, whose complexity had been underestimated by Rask, that champion of the simplest order. If the judicious arrangement of paradigms enables the grammarian to formulate constraints on homonymy, it would be a pity if such useful representational devices were confined to the printed page or the clay tablet. If represented in some analogous manner in the heads of speakers, this would improve the learnability of inflectional systems by controlling the conflation of paradigmatic distinctions, dictated by the drive to economise on formal resources.

Notes

1. See Jacobsen 1974 for a more detailed analysis of the paradigms of the Old Babylonians.
2. See Allen — Brink 1980 for an excellent historical survey of the various Case orders and their motivations, or Plank 1985 on the semantic rationale of the order of Persons.
3. Of course it needs to be demonstrated that there are two separate Cases in the first place. Thomsen's (1984: 93 ff.) main argument is that Ergative and Locative-Terminative may co-occur in a single clause. Incidentally, her paradigm (1) is at odds with at least one further criterion, viz. that unmarked terms, i. e. Absolutive, should come first — not an improvement on the Old Babylonians!
4. I generally use the term 'homonymy' to refer to suspensions of paradigmatic distinctions, regardless of their systemic significance. Sometimes, especially if in need of a corresponding verb, I also employ 'to neutralise', well aware that 'homonymy' and 'neutralisation' are not synonymous for everybody.
5. Equivalent to the circular orders in (3 a) and (3 b) are these matrices with two columns and two rows of cells:

(a)

| w	z
x	y

(b)

w	z
x	y

In this format, less convenient to model the circular order (3 c), those cells are neighbours which share a boundary line. Such effectively circular arrangements are employed, for example, by Jakobson (1936) and Stewart (1975) for the Case paradigms of Russian and Old English.

6. It is above all Skalička (1979) who has recognised that the incidence of homonymies is type-specific. That this distribution can be explained in terms of formal economy has been suggested by Carstairs (1984) and Plank (1986).

7. There is a distinction of transitives and intransitives; but roots are not lexically restricted to one of these classes.

8. In agglutinative languages there even is a danger of homonymies increasing rather than decreasing the number of exponents (cf. Carstairs 1984). Suppose the homonymy of Ergative and Locative-Terminative in a language like Sumerian were restricted to the Plural, with two separate suffixes distinguishing these Cases in the Singular: there would then be *three* exponents to express two Cases, rather than the two which would suffice if there were no homonymy.

9. Elsewhere (Plank 1986) I have suggested that the limit for nominal inflection is about thirty exponents.

10. The relative scarcity of homonymies in the agglutinative language they sought to regiment perhaps excuses the Old Babylonian grammarians' failure to fully appreciate invariance. In a paradigm devoid of homonymy any term order is as good as any other, if the possibility of being homonymous is to be the criterion for neighbourhood.

11. For instance by Allen — Brink (1980: 77—83), in their meticulous documentation of his various changes of mind.

12. The following section is based on Plank 1990.

13. An endingless kind of Locative, as found in early Old English, is ignored here, as are early distinct Instrumental forms of nouns.

14. (7 a) is the widely favoured 'new' order of Cases, followed also by Campbell (1959), the main source of the preceding account of homonymies. It never appealed to Rask, though, who for Old English preferred Nom-Acc-Dat-Gen (1817) or, with the Instrumental distinguished from Dative, Nom-Acc-Ins-Dat-Gen (1830).

15. Apart from being semantically not unnatural in their grouping of core syntactic (Nom, Acc), adverbial (Dat, Ins, Gen?), and phrase-level (Gen) Cases (on which see below), both arrangements in (8) avoid a diachronic problem faced by (7 a): Nominative, Accusative, and Dative are later syncretised, while the Genitive, interrupting their sequence in (7 a), continues to be distinguished.

16. A further alternative would be to switch Dative and Instrumental, and to put the latter in parentheses, thus indicating its limitation to particular inflection classes and maybe subparadigms:
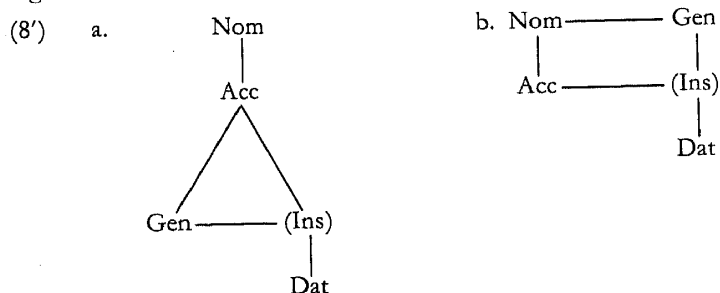
This would account for the regularity that Dative does not coincide with Genitive or Accusative or both unless it also coincides with Instrumental (cf. pattern No. 20) or unless the relevant inflection class lacks an Instrumental (cf. instances of Nos. 6, 8, 12, 17, 21). On the other hand, (8'), unlike (8), misses the generalisation that Instrumental, where realised, is not homonymous with Genitive without also coinciding with Dative (cf. Nos. 10, 20). This also holds for an analogous permutation of the linear arrangement (7 a):

(7′)   a.   Nom
            Acc
            Gen
            (Ins)
            Dat

17. The situation could be slightly improved by again putting the Instrumental in parentheses, in recognition of its limited occurrence.

18. This does not exhaust the range of possible complementary linear orders. A perfect partner of (7 c), for example, would be the sequence Nom-Acc-Dat-Gen-Ins.

19. If translated into the Jakobsonian format, both (8 a) and (8 b) turn out to be more restrictive than the paradigm of Old English Cases as arranged by Stewart (1975).

(8)   a.

Nom	
Acc	
Gen	Dat
	Ins

b.

Nom	Gen
Acc	Dat
	Ins

(Stewart)

Nom	Acc	Gen
Ins		Dat

There are five shared boundary lines in (8 a) (Nom|Acc, Acc|Gen, Acc|Dat, Gen|Dat, Dat| Ins) as well as in (8 b) (Nom|Acc, Nom|Gen, Acc|Dat, Gen|Dat, Dat|Ins), whereas Stewart has seven (Nom|Acc, Nom|Ins, Acc|Gen, Acc|Ins, Acc|Dat, Gen|Dat, Ins|Dat).

20. Among the three-term categories of Old English, Gender and Mood indeed do require circular ordering if invariance and neighbourhood requirements are to be upheld.

21. With nouns, inflectional exponents are assumed to be *sensitive* to, but not really to express, Gender.

22. On the pictorial convention adopted in (8), it should, thus, be impossible for all terms to be equidistant in circular arrangements, if distance is used to depict systemic relevance. — In terms developed by Wurzel (1984), our isolated, superficial, and local patterns could be characterised as 'system-incongruous'. Wurzel (1984: ch. 3) in fact discusses the gamut of homonymy patterns in Old and Modern High German, but without recognising any principled constraints. For him it seems an arbitrary choice which and how many patterns particular languages decide on as constitutive of their inflectional systems. In the terminology of Carstairs (1987: ch. 4), our isolated, superficial, and local patterns would be 'accidental' rather than 'systematic' homonymies. Most of Carstairs's accidental homonymies are pho- nologically conditioned, but his main criterion of systematicity is recurrence in several word classes. In the present volume similar distinctions are also suggested by Coleman and Zwicky.

23. The Genitive is not contiguous to the two other adverbial Cases in (7 c). For Old English a clear-cut boundary between syntactic-core (Acc) and adverbial (Dat, Ins, Gen) object Cases is unjustified, anyway, as I have argued elsewhere (Plank 1982).

24. It was not without reason, thus, that Rask (1818) contemplated two alternative linear orders, Nom(-Voc)-Acc-Gen-Dat and Nom(-Voc)-Acc-Dat-Gen.

25. If Russian is analysed as having eight Cases, with our Genitive and Prepositional both split up into two, a further circle would have to be added to take care of the homonymy of this second, partitive Genitive (exponent *-u/-ju*) with the Dative. This modified arrangement would still be more restrictive, though, than the many-circled paradigm of Jakobson (1936), with no less than ten shared boundaries:
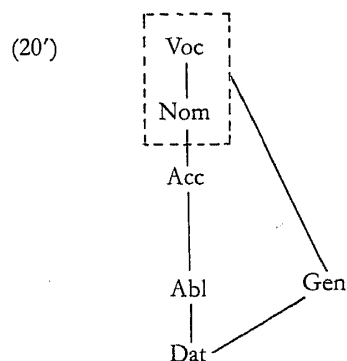
Nom	Acc	Gen$_1$	Gen$_2$
Ins	Dat	Pre$_1$	Pre$_2$

The traditional linear order Nom-Gen-Dat-Acc-Ins-Pre as well as its replacement Nom-Acc-Gen-Pre-Dat-Ins, argued for by Chvany (1982), are both too restrictive.

26. Oddly, the single linear order Rask would always give for Greek is Nom-Voc-Acc-Dat-Gen.
27. Rask's (1825) preference here was for Nom(-Voc)-Acc-Dat-Gen, which is indeed consistent with all non-marginal homonymies of Old Frisian.
28. The recognition of a separate Locative, on the strength of some residual distinct forms, could create problems: the number of circles might even have to be increased to allow for the homonymy of this Locative with Genitive, Dative, or Ablative. — The alternative linear orders Rask proposed for Latin, Nom-Voc-Acc-Dat-Abl-Gen and Nom-Voc-Acc-Abl-Dat-Gen, account for the homonymy behaviour of the Genitive only in combination, but even in tandem fail to cope with that of the Vocative. Ignorant of, or uninterested in, previous attempts to constrain homonymy in terms of paradigm arrangement, Williams (1981) has suggested that paradigms be assigned tree structures, which for Latin allows him to group together Nominative and Accusative as 'direct' and Dative and Ablative as 'oblique' Cases and to predict that homonymies will not transcend group limits:

```
              /‾‾‾‾\‾‾‾‾‾
         direct        oblique
          /\            /\
        /    \        /    \
      Nom    Acc    Dat    Abl
```
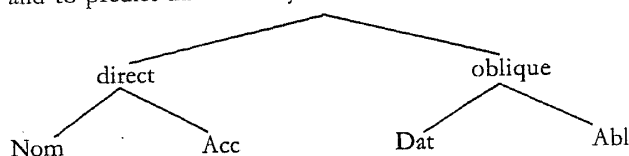
Pointing out Williams's failure to take into account all Cases of Latin and all attested homonymy patterns and to distinguish properly between systematic and accidental patterns, his critics (especially Baldi 1983 and Joseph — Wallace 1984) have gone to the other extreme of virtually denying the possibility of constraints on Case homonymies. Our representational format does not recognise superordinate nodes like Williams's 'direct' and 'oblique', but it would in principle be possible to group terms and to make links also with such groups rather than only with individual terms. We could thus indicate that in Latin the Genitive need not be adjacent to the Nominative as such, not coinciding with it individually, but only to the pair consisting of Nominative and Vocative, with which Genitive does neutralise:

(20')

```
        ┌ ─ ─ ─ ┐
        ¦  Voc  ¦ \
        ¦   |   ¦  \
        ¦  Nom  ¦   \
        └ ─┼─ ─ ┘    \
           |          \
          Acc          \
           |            \
           |             \
          Abl      Gen
           |        /
          Dat ─ ─ ─/
```

However, such configurations, with an extralinear term linking up with a pair of terms rather than an individual term, are not characteristic of all paradigms where recourse must

be had to circular ordering. In Old English (and all following languages except Old High German, Russian, and Old Frisian) the circular parts of the Case paradigms consist exclusively of individual terms and do not include pairs as in (20′).

29. These numbers for the Dative and Nominative reduce to six and five, respectively, if reference is made to the simplified arrangements (21′) and (22′) for Polish and Czech.

30. Some such functional grouping of Cases seems to have informed the order preferred by the Old Babylonian grammarians of Sumerian, who did not have to wrestle with intricate homonymy patterns.

References

Allen, W. Sidney — C. O. Brink
  1980   "The old order and the new: A case history", *Lingua* 50: 61 — 100.

Baldi, Philip
  1983   "On some recent claims in morphological theory", *General Linguistics* 23: 171 — 190.

Campbell, A.
  1959   *Old English grammar*. Oxford: Clarendon Press.

Carstairs, Andrew
  1984   "Outlines of a constraint on syncretism", *Folia Linguistica* 18: 73 — 85.
  1987   *Allomorphy in inflexion*. London: Croom Helm.

Chvany, Catherine V.
  1982   "Hierarchies in the Russian case system: For N-A-G-P-D-I, against N-G-D-A-I-P", *Russian Language Journal* 36, No. 125: 133 — 147.

Coleman, Robert
  1991   "The assessment of paradigm stability: Some Indo-European case studies", this volume.

Jacobsen, Thorkild
  1974   "Very ancient linguistics: Babylonian grammatical texts", in *Studies in the history of linguistics. Traditions and paradigms*, ed. by Dell Hymes, 41 — 62. Bloomington: Indiana University Press.

Jakobson, Roman
  1936   "Beitrag zur allgemeinen Kasuslehre", *Travaux du Cercle Linguistique de Prague* 6: 240 — 288.

Joseph, Brian — Rex Wallace
  1984   "Lexical relatedness, head of a word, and the misanalysis of Latin", *Working Papers in Linguistics* (Ohio State University) 29: 30 — 49.

Plank, Frans
  1982   "Coming into being among the Anglo-Saxons", *Folia Linguistica* 16: 73 — 118.
  1985   "Die Ordnung der Personen", *Folia Linguistica* 19: 111 — 176.
  1986   "Paradigm size, morphological typology, and universal economy", *Folia Linguistica* 20: 29 — 48.

1990   "Paradigm arrangement and inflectional homonymy: Old English Case", in *Papers from the 5th International Conference on English Historical Linguistics*, ed. by Sylvia Adamson et al., 379—406. Amsterdam: Benjamins.

Rask, Rasmus
1811   *Vejledning til det islandske eller gamle nordiske sprog.* Kjøbenhavn: Schuboth.
1817   *Angelsaksisk sproglære tilligemed en kort læsebog.* Stokholm: Wiborg.
1818   *Undersøgelse om det gamle nordiske eller islandske sprogs oprindelse.* Kjøbenhavn: Gyldendal.
1825   *Frisisk sproglære udarbeidet efter samme plan som den islandske og angelsaksiske.* København: Beeken.
1830   *A grammar of the Anglo-Saxon tongue, with a praxis.* (A new edition enlarged by the author. Translated from the Danish by B. Thorpe.) Copenhagen: S. L. Møller.

Skalička, Vladimír
1979   *Typologische Studien.* Braunschweig: Vieweg.

Stewart, Ann H.
1975   "A note on case conflation in the Old English nominal declension", *Papers in Linguistics* 8: 165—176.

Thomsen, Marie-Louise
1984   *The Sumerian language. An introduction to its history and grammatical structure.* Copenhagen: Akademisk Forlag.

Williams, Edwin
1981   "On the notions 'lexically related' and 'head of a word'", *Linguistic Inquiry* 12: 245—274.

Wurzel, Wolfgang U.
1984   *Flexionsmorphologie und Natürlichkeit. Ein Beitrag zur morphologischen Theoriebildung.* Berlin: Akademie-Verlag.

Zwicky, Arnold M.
1991   "Systematic versus accidental phonological identity", this volume.