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Title of extract: **Textual Criticism**

Name of Author: **Reynolds, L.D. and Wilson, N.G.**

Title/Author of book/edition (if applicable): **Scribes and Scholars: a guide to the transmission of Greek and Latin literature. 2nd edition : Reynolds, L.D. and Wilson, N.G.**

Name of Visual Creator or other acknowledgement (if applicable):

Journal details –title/Vol/Year (if applicable):

Publisher: **Oxford University Press**

Pages scanned: **186 - 213**

Course of Study (Module name and number): **Theory and Methodology for the Study of Classics CLCL7005**

Name of Designated Person

authorising scanning:

E. L. Harris

Date authorised: 20.11.13

Moodle/Powerpoint

6. TEXTUAL CRITICISM

I. INTRODUCTORY

The foregoing chapters have attempted to give some idea of the ways in which the Greek and Latin classics were handed down through the Middle Ages to the modern world, and to outline some of the more important historical and cultural phenomena which affected the transmission of these texts. The business of textual criticism is in a sense to reverse this process, to follow back the threads of transmission and try to restore the texts as closely as possible to the form which they originally had.

Since no autograph manuscripts of the classical authors survive, we are dependent for our knowledge of what they wrote on manuscripts (and sometimes printed editions) which lie at an unknown number of removes from the originals. These manuscripts vary in their trustworthiness as witnesses to the original texts; all of them have suffered to some degree in the process of transmission, whether from physical damage, from the fallibility of scribes, or from the effects of deliberate interpolation. Any attempt to restore the original text will obviously involve the use of a difficult and complex process, and this process falls into two stages.

The first stage is recension (*recensio*). The object of recension is to reconstruct from the evidence of the surviving manuscripts the earliest recoverable form of the text which lies behind them. Unless the manuscript tradition depends on a single witness, it is necessary (1) to establish the relationships of the surviving manuscripts to each other, (2) to eliminate from consideration those which are derived exclusively from other existing manuscripts and therefore have no independent value (*eliminatio codicum descriptorum*), and (3) to use the established relationship of those which remain (ideally expressed in the form of a *stemma codicum* or family tree) to reconstruct the lost manuscript or manuscripts from which the surviving witnesses descend. When the most primitive state of the text which is recoverable from the manuscripts has been reconstructed, the second main stage of the critical process begins. The transmitted text must be examined and the critic must decide whether it is

authentic or not (*examinatio*); if not, his duty is to emend it (*emendatio*), if this can be done with a reasonable degree of certainty, or to isolate the corruption. The task is often complicated by the presence of two or more variant readings, each with a claim to be the transmitted text. The whole of this second stage is sometimes still given its traditional, though misleading, name—*emendatio*.

II. THE DEVELOPMENT OF THE THEORY OF TEXTUAL CRITICISM

The invention of the printed book, and in particular the appearance of the first printed editions of Cicero in 1465, meant that for the first time the future of classical texts was secure. But it had one unfortunate side-effect: the early printers, by the act of putting a text into print, tended to give that form of the text an authority and a permanence which in fact it rarely deserved. The *editio princeps* of a classical author was usually little more than a transcript of whatever humanist manuscript the printer chose to use as his copy, a replica in print of the current manuscript article. The repetition of this text, with only minor changes, from one edition to another soon led to the establishment of a vulgate text; and while there was nothing to prevent one from improving the vulgate by piecemeal emendation, the forces of inertia and conservatism made it difficult to discard it in favour of a radically new text.

Emendation continued to do its work, as it had done in every age; and although the critic's basic equipment—common sense and judgement and taste—were natural rather than acquired gifts, the development of some of the more useful principles of emendation and the rapid progress of classical scholarship in general enabled him to make a sharper attack on textual corruption. But emendation cannot be used to the greatest effect until recension has done its work, and scholars right up to the nineteenth century were in most cases obliged to exercise their critical gifts, which were often of the highest order, not upon the transmitted text as it is properly understood, but upon an entrenched vulgate. This they tried to emend, not only by conjecture, but also by the use of such manuscripts as they could find. There were some very remarkable discoveries, but more often the new manuscripts were no better than those on which the vulgate had originally been based. For in

the days when libraries were largely uncatalogued, travel difficult, photography unknown, and palaeography in its infancy, this was a hit or miss process. Worse still, when good manuscripts were found, their usefulness was limited because their aid was sought only when the vulgate was manifestly unsatisfactory.

The first step towards more scientific textual criticism was the rejection of the vulgate text as the basis for discussion and with it the illogical conservatism which regarded the use of manuscripts as a departure from the tradition rather than a return to it. In this, as in other departments of criticism, the first impulse came from New Testament studies, where the problem was more obvious: the wealth of manuscript evidence left little scope for conjectural emendation and the task of choosing the truth from the variant readings was hampered by the almost divine sanction which was attributed to the *textus receptus*. In 1721 Richard Bentley, known to classical students more for the untrammelled boldness of his conjectures, projected an edition of the New Testament based exclusively on the ancient manuscripts and the Latin Vulgate. The conservative attitude of theologians prevented the project from being realized until Lachmann's edition of 1831, but the attack on the *textus receptus* was renewed a few years later by J. J. Wettstein, and in the course of a few decades the same radical approach had percolated to the field of classical philology, where Johann August Ernesti and Friedrich August Wolf restated in the firmest terms the need to make the manuscripts the basis of any critical text.

The relentless accumulation of manuscript evidence through the seventeenth and eighteenth centuries accentuated the need to work out a valid method of sorting the grain from the chaff. Many scholars contributed to the elaboration of the stemmatic theory of recension; this had been formulated in all its essentials by the middle of the nineteenth century and, although his own contribution is much slighter than had been supposed, it is still associated with the name of Karl Lachmann. For all its limitations, it revolutionized the editing of classical texts. There were glimmerings of the genealogical method as early as the humanist age. Politian, as we have seen, saw that manuscripts which derived from an older surviving exemplar were of no value, and effectively applied the principle of *eliminatio* to some of the manuscripts of Cicero's

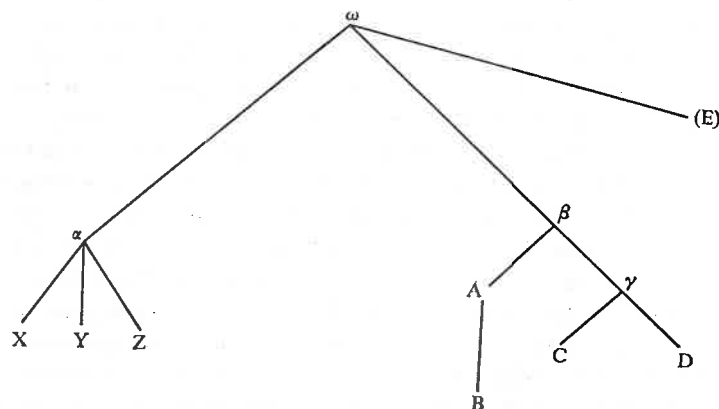
Letters. In 1508 Erasmus postulated a single archetype from which all the surviving manuscripts of a text descended; and although his notion of an archetype was less precisely defined than ours, he was able to explain how easy it is for all the manuscripts to be wrong. The notion of the medieval archetype seems to have been first entertained by Scaliger, who in 1582 tried to prove from the nature of the corruptions in the manuscripts of Catullus that they were derived from a common parent written in pre-caroline minuscule.

Scaliger was far ahead of his time. No great advance was made towards a theory of recension until the eighteenth century and then the impetus came, once again, from New Testament scholarship. In the thirties J. A. Bengel perceived that the manuscripts of the New Testament could be classified on a genealogical basis. More than that, he spoke of the day when they would be reduced to what he called a *tabula genealogica*, and saw clearly the potentialities of his *tabula* as an instrument for the critical evaluation of variants. His genealogical approach was adopted with varying success by classical scholars of the late eighteenth and early nineteenth centuries, and brought to fruition in a brilliant burst of scholarship in the 1830's. In 1830 Lachmann, preparing the way for his edition of the New Testament, gave a more detailed formulation of the rules which Bengel had expounded for the choice of variants; in 1831 Carl Zumpt, in his edition of the *Verrines*, drew what appears to have been the first *stemma codicum* which the world had seen, and gave it the name which has won general acceptance; the great editions published by Ritschl and Madvig over the next few years refined and established the method. The most famous of all stemmata, that of Lucretius, was constructed by Jacob Bernays in 1847, and it remained for Lachmann, in his edition of 1850, to apply his rules for the mechanical application of the stemma and to give a classic demonstration of the validity of the hypothetical archetype by reconstructing its physical form and telling his astounded contemporaries how many pages it had, and how many lines to the page.

III. THE STEMMATIC THEORY OF RECENSION

The classic statement of the theory of stemmatics is that of Paul Maas. In practice the stemmatic theory has serious limitations, as Maas was well aware, since its successful operation depends on the tradition being 'closed'; these limitations are discussed below. The essentials of the theory are as follows:

(a) *The construction of a stemma.* Of fundamental importance in stemmatics are the errors which scribes make in copying manuscripts; for these errors provide the most valid means of working



out the relationships of the manuscripts. Special attention is paid to errors of omission and transposition. For stemmatic purposes these errors can be divided into (a) those which show that two manuscripts are more closely related to each other than to a third manuscript (conjunctive errors), and (b) those which show that one manuscript is independent of another because the second contains an error or errors from which the first is free (separative errors). Care is taken to see that these errors are 'significant', i.e. not such mistakes as two scribes are likely to make independently, or such as a scribe could easily remove by conjecture. On this basis the interrelationships of the various manuscripts and manuscript groups are worked out step by step until, ideally, a stemma of the whole manuscript tradition has been reconstructed.

(b) *The application of the stemma.* The mechanical application of the stemma to reconstruct the reading of the archetype is best illustrated by a hypothetical stemma, as shown above. ω represents the archetype; the intermediate lost manuscripts from which the survivors descend are indicated, as is customary, by Greek letters. The extant manuscripts are eight in number (ABCDEFGXYZ); for the sake of the illustration, it is assumed that E is a fragment available only for a small part of the text.

1. If B is derived exclusively from A, it will differ from A only in being more corrupt. The first stage, therefore, is to eliminate B.
2. The text of γ can be inferred from the agreement of CD or from the agreement of one of them with an outside witness (A or α).
3. The text of β can be inferred from the agreement of ACD or of AC against D or of AD against C or from the agreement of either A or γ with α .
4. The text of α can be inferred from the agreement of XYZ or of any two of them against the third or from the agreement of one of them (provided the other two disagree with each other) with β .
5. When the texts of the two hyparchetypes (α and β) have been reconstructed, the readings peculiar to the individual witnesses ACDXYZ can be eliminated from consideration (*eliminatio lectionum singularium*).
6. If α and β agree, they may be assumed to give the text of the archetype (ω). If they disagree, either of the two readings may be the text of the archetype. It is the task of *examinatio* to decide which of these two variants is authentic.
7. If at some point in the text we have the evidence of a third independent branch of the tradition (E), then the principle of two against one will operate and the text of the archetype will only be in doubt if all three disagree or if two of them are likely to have fallen into the same error independently.

The application of these principles is sometimes a simple matter. The relationship of the manuscripts may be made clear by one or more glaring faults. Particularly striking examples are afforded when a book has suffered physical damage which is reflected in the copies made from it, whether directly or at more than one remove.

The first scholar to use this form of argument was Politian, in his discussion of Cicero's letters, but the utility of the method remained unappreciated by other scholars for a very long time. In the tradition of Lucretius important inferences were made by Lachmann from physical damage that must have taken place in a lost book. It is evident that at one time there was a copy with twenty-six lines to the page. Some leaves of this fell out and were incorrectly replaced, thus causing serious dislocation of the text in some surviving copies. A more far-reaching conclusion can be drawn from the manuscripts of Arrian's work on Alexander's expedition to India. There are about forty of these, and all have a substantial gap in the text at one point. As a rule this lacuna occurs in the middle of a page and the scribes have copied the text without noticing its existence. But in one manuscript (Vienna, hist. gr. 4) it occurs between the end of one verso page and the beginning of the next recto page, and further investigation shows that there is one leaf missing at this point. All other manuscripts evidently descend from this book after it had suffered mutilation. In this case, therefore, the archetype is preserved. Another preserved archetype is the Oxford Epictetus (Auct. T. 4.13, Plate V); here a smudge of dirt has obscured a few words of text, which are missing from all other copies.

But such methods of inference cannot be applied in the majority of traditions. In general it may be possible to establish a few facts about the relation of the later manuscripts of an author from minor textual omissions, but for the main outline of the stemma it will be necessary to classify and arrange the manuscripts by reference to a series of significant errors.

IV. LIMITATIONS OF THE STEMMATIC METHOD

The apparent simplicity and finality of the stemmatic method as outlined above is deceptive. Though it often answers the editor's problem of selecting the right manuscript or manuscripts for his text, there are circumstances in which its utility is restricted. The theory assumes that readings and errors are transmitted 'vertically' from one manuscript to another, that is to say directly from one book to the copies that are made from it. But it has become increasingly evident as scholars have pursued more detailed in-

quiries that the tradition of many texts, including some of the highest interest and importance, cannot be elucidated by the application of the stemmatic theory. In these cases the manuscripts cannot be assigned to classes or families characterized by groups of errors because there has been contamination or 'horizontal' transmission. Readers in ancient and medieval times did not necessarily copy a text from a single exemplar; as their texts were often corrupt, they compared different copies, entering in their own manuscripts good readings or interesting variants as they found them. In some traditions—an example is Xenophon's *Cyropaedia*—the process was undertaken so often that the tradition has been hopelessly contaminated by the date of the earliest extant manuscripts. Scholarly activity naturally led to this result, and in many manuscripts the process can be observed, since variant readings are quoted in the margins or between the lines. It follows that the texts most commonly read, including those prescribed for the school syllabus, are most likely to show serious contamination. But the tradition of more recondite authors is not exempt from this feature, as the example of Diogenes Laertius shows.

A further difficulty in the theory lies in its assumption that all surviving manuscripts can be traced back to a single archetype, datable to the late ancient world or early middle ages. In practice thorough examination of manuscript variants has often suggested that this is not so, but that the tradition is 'open'. It may be possible to account for almost all the variants on the assumption of a stemma leading back to an archetype, but some readings refuse to fit the pattern, and if they are apparently ancient readings (a question of judgement arises here), another source has to be postulated for them. This source may be one or more manuscripts representing a different branch of tradition, which ceased to be copied as a whole but was consulted by scholars for some readings; these readings became variants within the main tradition, whether incorporated into its 'archetype' or at a later stage (see pp. 53-54). The plays of Aeschylus and Euripides which came to be prescribed for school reading probably went through this process.

Occasionally the facts are even more puzzling. In 1899 an Oxford manuscript of Juvenal (Canonici class. lat. 41) was found to contain thirty-four lines in satire VI that appear nowhere else,

except that two of them are quoted by a scholiast. The passage has been regarded as spurious, but it is probable that interpolators would have lacked the powers or the motive to insert it; on the other hand if it is genuine, how are we to explain its survival in an otherwise mediocre copy and in only one of some five hundred manuscripts? A similar puzzle arises in the letters of Saint Cyprian. Recent work revealed the existence in a single copy (Holkham lat. 121) of a letter hitherto unknown and yet beyond all reasonable doubt genuine. Here too the tradition is copious and contaminated. No satisfactory explanation has yet been devised, but one feature is common to both cases: the Juvenal manuscript was written at Monte Cassino, while the Cyprian manuscript is very closely related textually to another book from the same monastery, which possessed so many unique texts.

One final complicating factor is the possibility that the ancient author himself made corrections or alterations to his original text after publication. Sometimes these would be extensive enough to justify us in speaking of a second edition. Under the conditions of the ancient publishing trade a second edition was much less likely to supplant its predecessor than in the modern world. Cicero's attempts to revise or eliminate errors in his works did not affect all the copies from which our archetypes descended (see p. 23). The two versions circulated side by side throughout antiquity with horizontal transmission taking place. Where a stemma cannot now be worked out this may be the reason. One or two examples can also be given in which authors' revisions are visible but have not affected the stemma so seriously. At Martial 10.48.23 it looks as if the name of a charioteer stood in the first edition of the book, but for the second edition, prepared after his death, the no longer topical name was replaced by a word indicating the team to which he belonged. A possible explanation of the incoherence of a scene in Aristophanes' *Frogs* (1437-53) is that some of the lines come from a revised version of the play. Similarly Galen (15.624) attributes the confused state of one of Hippocrates' works to marginal additions and revisions by the author.

V. AGE AND MERIT IN INDIVIDUAL MANUSCRIPTS

The notion of a best manuscript is sometimes found in discussions of textual problems, and there was a time when an appeal to the authority of the *codex optimus* was the normal or the most common way of discriminating between variant readings. But this procedure has rightly been criticized, since it was frequently used without regard to stemmatic method, and in any case it involves an error of logic. One cannot hope to identify the best manuscript of an author until one has considered the readings of all the significant manuscripts at all the points where they diverge; significant manuscripts are those extant or reconstructed books which the stemmatic method, in so far as it is applicable, proves to be of use for constituting the text.

When this has been done it is possible to draw up lists of passages in which the various manuscripts individually offer the reading which is best for literary, linguistic, historical or other reasons, and the manuscript which has the largest tally of such readings to its credit has a right to be termed the best manuscript. The utility of the term is often limited, particularly if there are one or more other manuscripts which have an almost equal number of good readings. In textual traditions where the term may reasonably be employed its use is confined to passages where there is a variety of readings among the manuscripts and there are no grounds for preferring one of these readings to another. Since the best manuscript is that which gives the greatest number of correct readings in passages where there are rational grounds for decision, it is more likely than the others to give the correct reading in passages where no such grounds exist. It is this argument from probability which justifies the appeal to the best manuscript in the circumstances indicated.

Here it is necessary to mention a variation of the faulty argument referred to above. This consists of an appeal to the authority of the oldest manuscript, usually implying that the antiquity of a manuscript guarantees its merit; conversely manuscripts of the Renaissance are dismissed as unimportant merely because of their date. There is of course no doubt that in general a certain relation exists between the age of a manuscript and the quality of the text

that it offers, since it is a reasonable supposition that a late manuscript is separated from the original text by a larger number of intervening transcripts, each of which is to be presumed more corrupt than its predecessors. In many textual traditions investigation will show that the oldest manuscript is the best. But there are some exceptions which serve to show that the generalization must not be carelessly applied. A general argument may be drawn from the evidence of the papyri; though these are many centuries earlier than the medieval manuscripts, they do not as a whole offer markedly superior texts, and one of the most famous and important, containing Menander's *Dyscolus* (P. Bodmer 4), is astonishingly corrupt. Medieval manuscripts yield a number of instructive examples. Several manuscripts of Greek authors which date from the Palaeologan Renaissance (see p. 68) are of much the same value to editors as the more famous manuscripts of the same texts that are as much as three centuries earlier (e.g. Vienna supp. gr. 39 of Plato, Paris gr. 1734 of Thucydides, Laur. 32.16 and Wolfenbüttel Aug. 2996 of Apollonius Rhodius). A more extreme example is the sixteenth-century Vienna manuscript of the minor works of Xenophon (phil. gr. 37), which is clearly at least equal in importance to the other witnesses, being the unique source of many correct readings. The same phenomenon can be observed among Latin texts. Here one outstanding example is the Renaissance copy of Lucretius 1 31 (Laur. 35.31), the unique source of many correct readings, all apparently the work of a clever humanist. A slightly different case is the notorious Leiden Tacitus (B.P.L. 16 B) which offers a few good and many specious readings. As a result of the discovery of these late manuscripts that are of interest to the editor and textual critic a principle has been established, which is usually expressed by the formula *recentiores, non deteriores*. Printed editions too can have a similar importance; indeed some of the letters of Cicero and Pliny are preserved only in print.

These late manuscripts pose a problem for the editor; what is the source of their good readings? In some cases it is clear beyond any reasonable doubt that they represent a branch of tradition that cannot otherwise be traced; the good readings are such that they could not possibly have been invented by a scholar of the Middle Ages or Renaissance. The copy of Xenophon mentioned above is a

case in point: it supplies words missing from the text, in some places where the gap had not even been demonstrated beforehand. But often it is not so easy to come to a conclusion; Renaissance scholars were capable of acute conjectures, at least in Latin texts, and it is often impossible to say with any certainty whether or not a particular conjecture would have been within their powers. The same considerations apply to Byzantine scholars, but recent investigations have tended to suggest that their ability in conjectural restoration of a text was rather more limited than has sometimes been assumed in the past.

VI. INDIRECT TRADITION

Apart from ancient and medieval books (and occasionally translations into other languages) the editor and critic sometimes has another source of help in the secondary or indirect tradition. This is the term applied to quotations of one author by another, who may on occasion preserve the correct reading when all the ordinary manuscripts of the author quoted are in error. There are one or two famous examples of this phenomenon. In Vergil's fourth *Eclogue* (62-3) the manuscripts give

cui non risere parentes,
nec deus hunc mensa, dea nec dignata cubili est.

But Quintilian (9.3.8; though his MSS. too are corrupt) evidently read *qui* at the beginning of the relative clause, which led to the necessary conjecture:

qui non risere parenti.

And it is not only ancient authors whose quotations hint at the right text. Some good manuscripts that are now lost survived until late in the Middle Ages and were consulted by scholars of that period. A striking case has already been mentioned in another connection: Eustathius quotes Sophocles *Antigone* 1165-8 complete, whereas all manuscripts of Sophocles omit 1167 (see p. 61). It is interesting to note that this same quotation of the passage occurs in the late ancient author Athenaeus (c. A.D. 200) (280c, 547c); Athenaeus was known to Eustathius and could have been his source for the quotation, but the manner in which he introduces

the lines rather suggests the opposite. Another medieval source of correct quotations is the *Suda* lexicon (see p. 58).

It should not be supposed, however, that secondary tradition is an unfailing source of correct readings. Ancient and medieval writers were even less inclined than their modern counterparts to follow the advice of Dr. Routh and verify their references. Quotations were usually made from memory and there were good reasons for this practice. Ancient books of the roll type did not facilitate quick reference, and when the codex form was adopted readers still could not count regularly on such aids as page numbering, chapter division, and line numbering, which are part of every modern text. These considerations must be borne in mind in cases where the manuscripts of an author offer one reading, and there is an acceptable but not absolutely certain alternative in the secondary tradition. Either reading may be what the author wrote. But in the majority of cases editors will probably be right to follow the primary tradition; the divergent reading of a quotation is likely to be right only if the purpose of the quotation was to emphasize or illustrate the divergent words or phrases, whereas if the divergence is incidental to the quotation it is probably due merely to lapse of memory.

The difficulty of enunciating firm principles may be shown by a few examples:

(a) Aristophanes, *Acharnians* 23: the MSS. have οὐδ' οἱ προτάνειν ἤκουν, ἀλλ' ἄωρίαν ἤκοντες κτλ. The *Suda* lexicon quotes the line with the reading ἄωρίᾳ, in the article which is devoted to this word. In principle there is some reason to hope that this might be an accurate quotation, but the dative is less idiomatic than the accusative in this type of adverb and for that reason is rejected by the editors.

(b) In the same play at 391-2 the MSS. offer:

εἴτ' ἐξάνοιγε μηχανὰς τὰς Τιμόφρον,
ὥς κῆψιν ἄγών οὗτος οὐκ εἰσδέξεται.

These lines are quoted in the *Suda* article on Sisypheus, but with two differences: in the first line εἴτα is replaced by ἀλλὰ, and in the second εἰσδέξεται by προσδέξεται. Since the quotation is not intended to illustrate either of these words, there is not much reason

to trust its accuracy. Yet on other grounds ἀλλὰ may well be right, and προσδέξεται is as likely to be right as the rather puzzling εἰσδέξεται.

(c) Lucretius 3.72 is given in the MSS. as:

crudeles gaudent in tristi funere fratres.

Macrobius quotes the line in a passage where he is comparing Lucretius and Vergil (6.2.15), and gives the variant *fratris*. This is clearly superior, but the quotation was not made to illustrate any single word in the line.

(d) In the same book at 676 the MSS. have:

non, ut opinor, id a leto iam longius errat.

The grammarian Charisius (p. 265, Barwick²) quotes the line with the variant *longiter*, and says that it was his purpose to exemplify the form by this quotation. For this reason editors usually, though not invariably, adopt the reading.

VII. SOME OTHER BASIC PRINCIPLES

The critic may find himself in a position where he has to choose between two readings that are equally acceptable in respect of the sense and the linguistic usage of his author, but feels that it is unsafe or impossible to argue from the merits of the manuscripts. In such situations there are two maxims that are frequently invoked, *utrum in alterum abiturum erat* and *difficilior lectio potior*. The first of these is a general principle, and the basis of it can be easily explained. Given the tendency of scribes to corrupt texts it is reasonable to suppose that careless copying or a desire to simplify a difficult passage encouraged certain types of alteration. The maxim *difficilior lectio potior* is strictly speaking no more than an application of this general principle. It embodies the notion that if one of the available readings is more difficult to understand, it is more likely to be the correct reading. The justification of this view is that scribes tended, sometimes consciously, sometimes inadvertently, to remove from the text the rare or archaic linguistic forms that were no longer readily understood, or to simplify a complex process of thought that they could not master. Alternative terms to describe these activities are interpolation and trivialization. Many

references to the maxim *difficilior lectio* will be found in commentaries, and there is no doubt of its value. But it has probably been overworked, for there is a temptation to use it as a defence of anomalous syntax or usage; in such cases the more difficult reading may be more difficult because it is wrong.

VIII. CORRUPTIONS

In order to extract the truth from the manuscript evidence the scholar needs to have some acquaintance with the various types of corruption that occur. The primary cause of these was the inability of scribes to make an accurate copy of the text that lay before them. The majority of errors were involuntary, but at the end of this section we refer to an important category of which this is not true. Although it seems surprising at first sight that the concentration of the scribes should have failed so often, anyone may soon verify for himself by experiment how difficult it is to make an entirely accurate copy of even a short text. If due allowance is made for the length of time during which copying by hand was the only means of transmission, it is perhaps remarkable that more ancient texts were not reduced to an unintelligible condition. Many different pitfalls lay in the path of the scribe if he once allowed his attention to wander. Some of the possibilities are indicated in the list below. They are to be regarded as a small selection divided into rough and ready categories. It must be emphasized that scribal errors have never been made the subject of a statistical study, and so it is not possible to establish with any degree of precision the relative frequency of the various types. Another important warning is that the assignment of an error to a class is not always as easy as it might appear. Cases arise in which it is possible to attribute a mistake to one of several causes or to a combination of them. A third consideration to be borne in mind is that not all causes of error were active at all times. A case in point is that the use of some abbreviations which were liable to cause difficulty to scribes can be set within chronological or geographical limits.

A. Mistakes induced by any feature of ancient or medieval handwriting may be taken as a first class of error. It might be supposed that this class is much more numerous than any other,

but the careful study of an apparatus criticus casts doubt on this view. Typical causes of error within this class are (i) the lack of division between words in many manuscripts, (ii) a close similarity of certain letters in a script which results in their being confused, (iii) the misreading of an abbreviation; apart from ordinary signs representing syllables or common short words there was a special method of abbreviation for certain key terms of Christian theology; these are known as *nomina sacra*, and are frequent in both Greek and Latin texts. In both languages abbreviations are so numerous and complex that the study of them forms a subject in itself (Plate V). (iv) Since numerals were represented by letters in both languages they were often incorrectly transmitted, a fact which is a serious hindrance to students of economic and military history. Perhaps one may add here (v) the confusion of two words of similar shape or spelling even when there is no immediate cause of confusion in the forms of the individual letters.

(i) 1. Petronius, *Cena* 43.

Quid habet quod queratur? *abbas secrevit*.

ab asse crevit Scheffer. (Cf. also G (i).)

2. Aeschylus, *Eumenides* 224.

δίκακ δ' ἐπ' ἄλλας τῶνδ' ἐποπτεύσει θεά.

δὲ Παλλὰς Sophianus.

(ii) The following letters are commonly confused in Latin scripts:

In capitals: ILT EF PT PF PC BR HN OQ COG and such combinations as M NI.

In uncials: ILT FPR CEOGU and such combinations as U CI. Characteristic of uncial, as opposed to capital, is the confusion of EU (now rounded in form) with the group COG.

In minuscule: *au oe cl d nu sf ct* and various letters or combinations of letters made of one or more downstrokes (minims), e.g. the letters in *minimum*. The confusion of *pr rn ns* is characteristic of insular script; in Visigothic the peculiar *t*, and in Beneventan both the *t* and the *a* cause difficulty (see Plate XIV).

1. Seneca, *Epist.* 81.25.

Manifestum etiam *contuenti* discrimen est.
coniventi codd. recc.

2. Lucretius ii.497.

quare non est ut credere possis
esse infinitis distantia *femina* formis.
semina O^c

Groups of letters liable to be confused with each other in Greek script are:

In uncials: ΑΑΛ ΕΘΟC ΙCΚ ΙΤ.

In minuscule: βκμ μν α εν.

1. Aristotle, *Poetics* 1462 b 3.

λέγω δ' οἷον εἴ τις τὸν Οἰδίπουν θείη τὸν Σοφοκλέους ἐν
ἔπεσιν ὅσοις ἢ ἰδίας.

ἢ ἰδίας MSS.: ἢ Ἰλιάς a humanist corrector (confusion of Δ and Α).

2. Julian, *Epist.* 23.

δός μοι τι κατὰ τοὺς μελικτὰς εἰπεῖν ῥήτορας.

μελικτὰς Aldine edition: μελητὰς VL: μελίτους N: βελτίτους Jackson. β and μ are very similar in minuscule; here the corruption is aided by the uncial confusion of IC and K.

- (iii) 1. Curtius Rufus, vi.11.30.

Intellego non prodesse mihi quod praesentis sceleris *expressum*.
expers sum codd. recc.

The symbols for *per pro prae* (usually p p p̄) are one example of the many *notae* which are open to misinterpretation.

2. Seneca, *epist.* 76.7.

Quare *autem* unum sit bonum quod honestum dicam.

autem] h V: hoc M: om. P: in b. The manuscript V has preserved the insular abbreviation for *autem* which has been the undoing of MPb.

3. Scholium on Aristophanes, *Knights* 505.

τοῦτο πρῶτον τὸ δράμα δι' αὐτοῦ καθήκε, τὰ δ' ἄλλα δι' ἐτέρων ἄπων.

ἄπων V: προσώπων ΕΓΘΜ. In V's exemplar there were two compendia, α (= προ) and ~ (= ω).

4. Aeschylus, *Eumenides* 567-8.

†ἦ τ' οὖν διάτορο† Τυρρηνική
κάλυγξ βορροτείου πνεύματος πληρουμένη.

οὖν seems to conceal the *nomen sacrum* οὐρανόν (οὐνον), which has been further corrupted.

- (iv) 1. Cicero, *Att.* i.13.6.

Messalla consul Autronianam domum emit HS CXXXIII.

Other MSS. offer CXXXVII or CXXXIII or XXXIII. HS 13,400,000 is an astronomical price for a house. A plausible emendation is |XXXIII| = 3,300,000 (Constans), but certainty is in the circumstances unattainable.

2. Thucydides, iii.50.1.

τοὺς δ' ἄλλους ἄνδρας οὗς ὁ Πάχης ἀπέπεμψεν ὡς αἰτιωτάτους
ὄντας τῆς ἀποστάσεως Κλέωνος γνώμη διέφθειραν οἱ Ἀθηναῖοι
(ἦσαν δὲ ὀλίγοι πλείους χιλίων), καὶ Μυτιληναίων τεύχεα
καθεῖλον καὶ ναῦς παρέλαβον.

χιλίων MSS.; but this number seems too large for the ringleaders of a revolt in Mytilene, and *τριακόντα* has been suggested instead. *χιλίων* would be written Α (in uncials), *τριακόντα* Α' (cf. A (ii) above).

- (v) 1. Seneca, *Epist.* 102.22.

Tempus hic ubi inveni relinquam, ipse me diis reddam.
corpus Pincianus.

2. Pindar, *Pythians* 4.90.

καὶ μὰν Τιτυὸν βέλος Ἀρτέμιδος θήρευσε κραιπνόν.
κραιπνόν correctly most MSS.: τερπνόν C.

B. Other corruptions arose out of changes in spelling and pronunciation. For instance in late Latin the sounds *ae* and *e* became identical, while *b* came to be sounded as a fricative and was confused with *v*. In Greek several vowels and diphthongs were reduced to the single sound of iota, as in the modern language. Error resulting from this change is known as *iotacism*. Beta became fricative as in modern Greek, and so did *upsilon* in diphthongs.

The distinction between omicron and omega was lost. The diphthong alpha-iota became identical with epsilon. Orthographical errors are of extreme frequency, but the majority of them are of no consequence for the establishment of the text and are not recorded in the apparatus.

1. Quintilian 6.3.93 (quoting Domitius Afer).

Pane et aqua *bibo*.

vivo Haupt. (Most MSS. inevitably have *panem et aquam bibo*.)

2. Diogenes Laertius, *Vitae philosophorum* ix.10.

(ἔφη) ἡμέραν τε καὶ νύκτα γίνεσθαι καὶ μῆνας καὶ ὥρας αἰτίους καὶ ἐνιαυτοὺς ὑετούς τε καὶ πνεύματα καὶ τὰ τοῦτοις ὅμοια κατὰ τὰς διαφόρους ἀναθυμιάσεις.

αἰτίους BP: ἐτέλους F.

C. Omissions constitute a third large class of error. Here again subdivision is possible. Sometimes we find (i) omission of not more than a few letters; if this occurs in a passage where the scribe has written a sequence of letters only once when they should be repeated, the term haplography is used. This mistake arises if the scribe is moving ahead too quickly with his task, and an extended form of the same mistake is sometimes referred to as (ii) *saut du même au même*. Here the scribe, finding the same word twice within a short space, copies the text as far as its first occurrence; then looking back at the exemplar to see what he must copy next he inadvertently fixes his eye on the second occurrence of the word and proceeds from that point. As a result the intervening words are omitted from his copy. Mistakes are also caused if two words in close proximity have the same beginning or ending; the technical terms for these are homoearcton and homoeoteleuton. The same fault of eyesight was responsible for similar errors which it is convenient to list as a slightly different category, (iii) the omission of a whole line of text. This error is often found in the manuscripts of the poets, and its informative value to scholars trying to establish a stemma is obvious. Examples can be found in prose texts also. It should be added, however, that a large number of omissions occur for no apparent reason except the carelessness of the scribe; this is particularly common with small words.

(i) 1. Lucretius, iii.135.

Quidquid <id> est, habeant; tu cetera percipe dicta.

id suppl. l 31.

2. Aristophanes, *Acharnians* 221-2.

μη γὰρ ἐγγάνοι ποτέ
μηδέ περ γέροντας ὄντας ἐκφυγὼν Ἀχαρνέας.

ὄντας is omitted by most MSS., but is clearly necessary.

(ii) 1. Cicero, *Att.* vii.9.4.

Præterit tempus non legis sed libidinis tuæ, fac tamen legis; ut succedatur decernitur; impedis et ais 'habe meam rationem'. sed . . . legis C: om. Ω.

2. Aristophanes, *Acharnians* 692-5.

ταῦτα πῶς εἰκότα, γέροντ' ἀπο (λέ-
σαι πολὺν ἄνδρα περὶ κλεψύδραν,
πολλὰ δὴ ξυμπονήσαντα καὶ θερμὸν ἀπο-)
μορξάμενον ἀνδρικὸν ἰδρῶτα δὴ καὶ πολύν.

The MS. A omitted the section enclosed in parentheses.

(iii) 1. Seneca, *de ira* 3.7.1.

tenerique iam visa cum ipso cadunt ita fit ut frequenter inrita sit eius voluntas

These words form one line of the Ambrosianus: they are omitted by a number of the later manuscripts, which in this way reveal their derivation from A.

2. The omission of Sophocles *Antigone* 1167 in all the manuscripts has been mentioned already in connection with Eustathius and the importance of the secondary tradition. A stemma of the Sophocles manuscripts is facilitated by the omission of *Oedipus Tyrannus* 800 from the famous Medicean MS. (Laur. 32.9) and its twin brother, the Leiden palimpsest (Leiden, B.P.G. 60 A).

D. A fourth group may be termed errors of addition. The simplest of these are no more than the repetition of a few letters or syllables, which is referred to as (i) dittography. More substantial is the addition to the text of explanatory or illustrative material. The most frequent type in this category is (ii) the addition of a gloss. Most Greek manuscripts have a number of brief interlinear

notes explaining rare or difficult words. These glosses were easily added to the text in the course of transcription. In poetry a simple addition of this kind may be immediately obvious because of the violence it does to the metre; but sometimes the word used as a gloss had the same metrical value as the word in the text and replaced it without impairing the metre, and examples of this process are not easy to detect. The detection of (iii) glosses in a prose text is often of the greatest difficulty. Many passages contain explanatory phrases which are not strictly required for the sense but offer no offence to grammar or syntax. These phrases present problems which may remain insoluble. Two texts which scholars have recently discussed in detail in the light of these questions are Petronius' *Satyricon* and Cicero's *Tusculan Disputations*. (iv) A rare but interesting corruption is the addition to a text of a parallel passage originally written in the margin of a book by a learned reader. This may happen in verse or prose. Cases are known from Greek tragedy, and Galen (17(1).634) noticed that it had happened in one of the Hippocratic treatises.

- (i) 1. Seneca, *Epist.* 78.14.

Quod acerbum fuit ferre, *retulisse* iucundum est.
tulissee Bartsch.

2. Song quoted by Athenaeus 694d.

γελάσειας, ὦ Πᾶν, ἐπ' ἐμαῖς
εὐφροσύνας ταῖς δ' αἰδοῖς, αἰδέ, κεχαρημένος.
εὐφροσύνας A: εὐφροσι Wilamowitz
αἰδοῖς αἰδέ A: αἰδοῖς Hermann

- (ii) 1. Aeschylus, *Agamemnon* 549.

καὶ πῶς; ἀπόντων τυράνων ἔτρεψεν τινάς;
So F: Triclinius restored the metre by substituting *κοιράνων*
for *τυράνων*.

2. Plautus, *Truculentus* 278.

Cumque ea noctem in stramentis pernoctare perpetim [totam].
The Ambrosian palimpsest gives both the gloss (*totam*) and the word which has been glossed (*perpetim*); the Palatine family give the correct text.

- (iii) 1. Seneca, *Epist.* 42.4.

Eadem velle [subaudi si] cognosces: da posse quantum volunt.

The words *subaudi si* ('understand si'), corrupted to *subaudis* and worse in the MSS., were put in the margin to help the reader with the paratactic conditional sentence and then incorporated into the text.

2. Diogenes Laertius, *Vitae philosophorum* v.76.

λέγεται δ' ἀποβαλόντα αὐτὸν τὰς ὄψεις ἐν Ἀλεξανδρείᾳ
κομίσασθαι αὐθις παρὰ τοῦ Καράπιδος.

ἀποβαλόντα BP: τυφλωθέντα F, which is a gloss.

- (iv) 1. In the margin of the Medicean Aeschylus at *Persae* 253 the line Sophocles *Antigone* 277 has been written. In copies of M this line has been incorporated into the Aeschylean text.

2. Vergil, *Aen.* ii.76.

ille haec deposita tandem formidine fatur.

Sinon is about to explain himself. This line is omitted in P and added at the foot of the page in M by a later hand. It is a doublet of iii.612, where it is in place, and has been added here because of the similarity between this passage and that in book iii.

E. Errors of transposition are another well-known class. (i) Transposition of letters is common. (ii) In poetry verses are often copied in the wrong order. (iii) In all kinds of text word order is subject to fluctuation. The number of variants of this kind is large enough to suggest that inferences about the word order of Latin and Greek prose should be made with great care.

In Greek texts of both verse and prose there were special causes leading to corruption of word order during the middle ages. (iv) One of these affected the text of tragedy. A common metre in Byzantium was a twelve-syllable line rather like the classical iambic line but subject to different rules, the most important being that the penultimate syllable must carry an accent (at this date a stress accent). As a result some scribes altered, probably unconsciously, lines of tragedy in order to make them conform to this rule. The process is known as *vitium Byzantinum*. (v) In Byzantine prose there was a rule affecting the order of words; in general it

was necessary that the last two stressed syllables of a sentence should be separated by two or four unstressed syllables (in special cases by none or six). The effect of this is sometimes visible in manuscripts of classical prose writers.

- (i) 1. Lucretius, iii.170.
 Si minus offendit vitam vis horrida leti
 ossibus ac nervis disclusis intus adacta . . .
 teli Marullus.
2. Aeschylus, *Agamemnon* 1205.
 βαρύνεται γὰρ πᾶς τις εὖ πράσσων πλέον.
 So Triclinius' autograph; but F has the correct reading *ἀβρύνεται*.
- (ii) This extremely frequent error may be found exemplified in the text of any author.
- (iii) 1. Seneca, *Epist.* 117.24.
 Deos vitam et salutem roga.
 So Bθ. Other manuscripts read *vitam roga et salutem* or *salutem et vitam roga*. Manuscript authority and rhythm (double cretic) decide.
2. Pindar, *Nemean* 7.37.
 ἱκοντο δ' εἰς Ἐφύραν πλαγχθέντες.
 So the MSS.; Boeckh restored metrical responsion by reading *πλαγχθέντες δ' εἰς Ἐφύραν ἱκοντο*.
- (iv) Aeschylus, *Agamemnon* 1106.
 ἐκεῖνα δ' ἔγνω. πᾶσα γὰρ πόλις βοᾷ.
 So M, correctly, but F and Triclinius have *βοᾷ πόλις*.
- (v) Plutarch, *de curiositate* 13 (522).
 ὁμοίως οὐδ' Ἀλέξανδρος εἰς ὅσιν ἦλθε τῆς Δαρείου γυναικὸς ἐκπερεστώτης εἶναι λεγομένης.
 So most MSS.: the A-family alter to give a Byzantine clausula: *τῇ Δαρείου γυναικὶ εὐπερεστώτῃ λεγομένην τυγχάνειν*.
- F. In a sixth group one may include errors induced by the context. (i) The inflection of a word may be wrongly assimilated

to that of an adjacent word. (ii) The scribes allowed themselves to be influenced by words or phrases that they had recently copied or were just about to copy.

- (i) 1. Catullus, xxxiv. 17.
 tu cursu dea *menstrua*/metiens iter annum
 rustica agricolae bonis/tecta frugibus explēs.
menstruo B. Guarinus.
2. Euripides, *Helen* 1243.
 κενοῖσι θάπτειν ἐν πέπλοις ὑφάεμασιν.
πέπλοις L: *πέπλων* Scaliger.
- (ii) 1. Seneca, *Epist.* 114.9.
 Ubi luxuriam late felicitas fudit, *luxus* primum corporum esse diligentior incipit.
cultus Muretus.
2. Euripides, *Rhesus* 776-7.
 ἦπνεα δ' αὐτοῖς μὴ πελάζεσθαι στρατῶ,
 κλωπας δοκήσας συμμάχων πλάθειν τινάς.
 At 776 V has *πλάθειν* for *πελάζεσθαι* by anticipation.
- G. Some mistakes betray the influence of Christian thought. As all readers in the Middle Ages were more or less devout Christians it would be very surprising if they had succeeded in copying thousands of manuscripts without committing mistakes of this kind.
1. Petronius, *Cena* 58.
 Sathana tibi irata sit curabo.
 Sathana H: Athana Heinsius. (Cf. also D (i). As the previous sentence ends with *habeas*, this could be a case of dittography.)
2. Aristophanes, *Knights* 1302-4.
 οὐδὲ πινθάνεσθε ταῦτ', ὦ παρθένοι, τὰν τῇ πόλει;
 φασὶν αἰτεῖσθαι τιν' ἡμῶν ἑκατὸν εἰς Καρχηδόνα,
 ἄνδρα μοχθηρὸν πολίτην, ὅξινην Ὑπέροβον.
Καρχηδόνα RVΦ: *Χαλκηδόνα* Γ² and a scholiast.

Carthage is more likely to be right than Chalcedon, a city of little importance in the Athenian empire but well known to every orthodox Greek in the Middle Ages because of the famous church council held there in A.D. 451.

H. There is also a class of mistakes that derives from the deliberate activity of the scribe. As has been seen above, ancient and medieval readers tried to emend passages that they found difficult or corrupt, and their attempts were sometimes misguided or ill-informed. A typical example is that Triclinius mutilated some Euripidean lyrics because he knew that metrical responsion ought to be restored, but was not well enough acquainted with the language of classical poetry to make the correct emendations. Such faulty corrections are often referred to as interpolations, though the term is not quite apt. Deliberate alteration on a larger scale can be seen in attempts to bowdlerize. This process was not as widespread, however, as might be expected. It seems that schoolmasters of late antiquity and the Middle Ages were not as anxious to suppress obscene or otherwise embarrassing passages as more recent editors have been. The excisions found in some modern school editions of Aristophanes do not seem to be anticipated in medieval manuscripts. But there are manuscripts of Herodotus which omit the account of sacred prostitution at 1.199, and there is a family of Martial manuscripts in which some of the blatant obscenities have been replaced by less offensive words. Another type of interpolation, for which scribes were not responsible, is that made by the actors in the texts of Greek tragedy (see pp. 14-15).

1. Juvenal, viii.148.

Ipse rotam adstringit sufflamine mulio consul.

In some manuscripts this has been, not unnaturally, corrupted to *sufflamine multo*. At this point deliberate interpolation steps in and restores the metre: other manuscripts read *multo sufflamine*.

2. Tacitus, *Annals* 13.39.1.

Et Corbulo, ne irritum bellum traheretur utque Armenios ad sua defendenda cogeret, excindere parat castella.

So M. In the Leiden Tacitus interpolation has run riot, producing specious nonsense:

Et Corbulone irritum bellum trahente ut Armenios ad sua defendenda cogeret exinde repetit castella.

3. Euripides, *Electra* 435-7.

*ἴν' ὁ φιλάδελφος ἔπαλλε δελ-
φικὸς πρόφραϊς κναεμβόλοι-
σιν εἰλιεσσόμενος.*

So the first hand in L; Triclinius used his knowledge of strophic responsion and the quotation of this passage at Aristophanes *Frogs* 1314ff. to make one good alteration (*φιλανυλος*), but then committed a bad error (*κναεμβόλοις εἰλιεσσόμενος*).

4. Plutarch, *de curiositate* 7 (518).

φέρει γὰρ Ἡρόφιλον ἢ Ἐρασίετρατον ἢ τὸν Ἀκκληπίδην αὐτόν, ὅτ' ἦν ἄνθρωπος, ἔχοντα τὰ φάρμακα καὶ τὰ ὄργανα, κατ' οἰκίαν παριστάμενον ἀνακρίνειν, μή τις ἔχει κύριγγα περὶ δακτύλιον ἢ γυνὴν κάρκινον ἐν ὕστερα.

The A-family here alter *δακτύλιον* to *δάκτυλον* and delete *ἐν ὕστερα*.

The diversity of the causes of error brings with it a consequence of great importance to the critic. He cannot approach his task in the belief that any one class of error is predominant. In practice many scholars appear to have assumed that errors arising from palaeographical causes are the commonest; certainly this is the conclusion to be drawn from the numerous and often elaborate palaeographical justifications that accompany proposed emendations. The only safe method is to follow the rule explicitly enunciated by Haupt, and reiterated by Housman: 'the prime requisite of a good emendation is that it should start from the thought; it is only afterwards that other considerations, such as those of metre, or possibilities, such as the interchange of letters, are taken into account. . . . If the sense requires it I am prepared to write *Constantinopolitanus* where the MSS. have the monosyllabic interjection *o*.' In order to drive home their lesson Haupt and Housman quoted an extreme example. In fact when a critic has decided on grounds of sense how a corrupt passage might be restored, he considers various possibilities in the light of the types of error

listed above, and is influenced by them in his choice between different restorations of the text. When really serious corruption has taken place it may well be necessary to print between obeli (††) the text of the archetype and indicate in the apparatus the best conjectures; in such passages certainty is unattainable even with the critic's sharpest weapons.

IX. CONCLUSION

In this account of the function and methodology of textual criticism we have described some of the principles and criteria which have been most commonly and most usefully employed by those who attempt to reverse the process of transmission and restore the words of the ancients as closely as possible to their original form. In order to reduce to the length of a chapter a subject which normally fills a book and even then is no more than a guide, we have confined our account to basic and well-tried techniques. This will inevitably give the impression that textual criticism is a tidier and more cut-and-dried process than it proves to be in practice. While general principles are undoubtedly of great use, specific problems have an unfortunate habit of being *sui generis*, and similarly it is rare to find two manuscript traditions which respond to exactly the same treatment.

One omission is obvious. While giving space to the limitations of the stemmatic theory, we have not explored the complicated and sometimes controversial methods which have been devised to deal with contaminated traditions. The more open a tradition is, the less fruitful the stemmatic approach is likely to be, and other methods must be tried. These range from empirical, common-sense approaches which accept the necessities of an imperfect world, to elaborate statistical techniques which aim at more objective results. In some cases it is possible to adopt a flexible modification of the genealogical method. The manuscripts are classified as far as is possible into broad groups and the editor chooses his readings eclectically, persuaded more by their intrinsic merit than by considerations of affiliation and authority and taking care to balance these factors to suit the nature of the tradition. But if contamination has gone so far that, in the words of Housman, 'the true line of division is between the variants themselves, not between the

manuscripts which offer them,' various approaches may be adopted which all tend to concentrate on the variants themselves rather than on the manuscripts which carry them. These may involve sophisticated mathematical techniques, which are particularly tempting at the present time, now that the development of computers and allied mechanical and electronic devices have made them more feasible. We have given no account of distributional and statistical methods, which would be a study in itself, nor of their automatization, which is at an experimental stage and already generating a body of literature not readily intelligible to most students of the humanities. It is not yet clear whether elaborate mechanized techniques, however valid as a theoretical study, will yield practical results which justify the labour and expense entailed or are markedly superior to those produced by traditional means and 'nature's own computer, located between the ears of the investigator.' In any case their future seems to lie more in the biblical and patristic fields and with vernacular languages than with classical texts, where the material is more easily controlled and not usually unmanageable by traditional methods accompanied by the limited use of scientific aids. Ultimately, the basic essential equipment is taste, judgement, common sense, and the capacity to distinguish what is right from what is wrong in a given context; and these remain the perquisite of human wit. But where the tradition is large and complex, computers can be usefully employed in building up a provisional picture of the interrelationship of texts. Outside the field of recension, machines can be used, if great caution is observed, in stylistic studies, and they have already proved their worth for information retrieval and in the making of concordances; and the fruits of these activities have a real bearing on the editing of texts.

