## THE COMPUTER AND THE HISTORIA AUGUSTA: A NOTE ON MARRIOTT

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In 1889 Hermann Dessau published a revolutionary article in which he suggested that the six authors to whom the various biographies of the *Historia Augusta* are ascribed were merely masks behind which lurked a single author who lived at the very end of the fourth century.<sup>1</sup> Ninety years later, an attempt was made to prove Dessau's hypothesis of single authorship on objective grounds. Ian Marriott's article, 'The Authorship of the Historia Augusta: Two Computer Studies',<sup>2</sup> presents the results of two statistical tests conducted on the text of the HA which appear to show conclusively that the work was composed by one author rather than six. Marriott's findings have been hailed by a number of scholars as settling once and for all the question of the authorship of the HA.3 While I agree with Marriott's conclusion, and I share the consensus view that this curious work is indeed the product of a single mind, I should like to raise some questions concerning the validity of the procedure adopted by Marriott and to suggest that the tests conducted by him are in fact not conclusive.

Marriott's first study is concerned with 'the distributions of sentence lengths exhibited by the "authors" of the Historia Augusta' (p. 66). The results are displayed in his fig. I, which plots the arithmetic mean against the standard deviation for sentence lengths in the HA and in three control texts of the fourth century, 'the anonymous De Rebus Bellicis, a large selection from the Codex Theodosianus and six books, chosen at random, from Ammianus Marcellinus'. The graph is dramatic and unambiguous. It seems amply to justify Marriott's inference (pp. 67-8): 'The six "authors" show no significant difference among themselves, while they are totally distinct from any of the control texts'. The second test arrives at similar results. It is concerned with 'the grammatical types of word used in initial and final positions in a sentence', and fig. 5, which is based on that test, also shows remarkable uniformity among the six 'authors' of the HA and striking divergence from the two control texts, Aurelius Victor and Book 28 of Ammianus. But, as Marriott himself notes (p. 71), like the first study, 'the second study carried out also concentrates on the sentence', and herein lies a variable that Marriott failed to take into account and that could be regarded as having influenced his results. For any statistical study carried out on an ancient text that is based upon the sentence runs the risk of examining, not the style of the author, but the practice of the editor. Such studies have been shown to be reliable indicators of authorship when they have been conducted on modern works,<sup>4</sup> that is to say, works created in the age of printing, when the author can be taken to be responsible for the punctuation of the text used in the study.<sup>5</sup> But it is unscientific to assume that one can rely on the punctuation in a modern text of a classical author to provide evidence for the stylistic characteristics of that author.

In order to demonstrate the degree of variation among modern editors, it will be convenient to examine a few brief passages from the first twelve lives of the  $HA.^{6}$ Here, for example, is 'Spart.', Hadr. 19.6:

fabulas omnis generis more antiquo in theatro dedit, histriones aulicos publicavit.

<sup>1</sup> 'Über Zeit und Persönlichkeit der Scriptores Historiae Augustae', Hermes 24 (1889), 337-92.

<sup>2</sup> JRS 69 (1979), 65-77. <sup>3</sup> R. Syme, 'Controversy Abating and Credulity Curbed?', London Review of Books 2.17 (4-17 Sept. 1980), 15 (= Historia Augusta Papers (1983), 212); D. den Hengst, The Prefaces in the Historia Augusta (1981), 6; P. Soverini, Problemi di critica testuale nella Historia Augusta (1981), 13 n. 6; idem (Ed.), Scrittori della Storia Augusta 1 (1983), 55; idem, 'Historiae Augustae Scriptores' in F. della Corte (Ed.), Dizionario degli scrittori greci e latini 11 (1987), 1143; K.-P. Johne,

'Zum Geschichtsbild in der Historia Augusta', Klio 66 Augustae', JRS 77 (1987), 156 n. 8. <sup>4</sup> See most recently A. Q. Morton, 'Authorship: The Nature of the Habit', *TLS* (17–23 Feb. 1989), 164,

 $^{174.}_{\phantom{1}8}$  See, however, M. W. A. Smith, 'Statistics and Authorship', TLS (17–23 Mar. 1989), 278, with further bibliography.

In what follows, I shall refer to the following four editions: H. Jordan and F. Eyssenhardt, 1 (1864); H. Peter (1865); D. Magie, I (1921); E. Hohl, I (1927).

Is this one sentence or two? Peter, Magie and Hohl all punctuate as above. But Jordan, with equal justification, puts a full stop after 'dedit'. Another example is 'Capitol.', *Verus* 10.4–5:

tanta sane familiaritas inter Lucium et Fabiam sororem fuit, uti hoc quoque usurpaverit rumor quod inierint consilium ad Marcum e vita tollendum, idque cum esset per Agaclytum libertum proditum Marco, anteventum Lucium a Faustina, ne praeveniret.

Again, is this to be regarded as one sentence or two? Jordan and Magie punctuate it as a single sentence, while Peter and Hohl divide it into two by placing a full stop after 'tollendum'. Lest it be thought that these two passages are unrepresentative and have been selected from different parts of the HA to make our point, let us look at what immediately precedes the passage last quoted (*Verus* 10.1-3):

et dicitur Faustinae socrus dolo aspersis ostreis veneno exstinctus esse, idcirco quod consuetudinem quam cum matre habuerat filiae prodidisset. quamvis et illa fabula quae in Marci vita posita est abhorrens a talis viri vita sit exorta, cum multi etiam uxori eius flagitium mortis adsignent, et idcirco quod Fabiae nimium indulserat Verus, cuius potentiam uxor Lucilla ferre non posset.

Peter, Magie and Hohl agree in making two sentences of this, with a full stop after 'prodidisset'. But Jordan punctuates differently, putting dashes before and after the words 'quamvis . . . exorta'. What are we to make of this? Or, more importantly, what would the statistician make of Jordan's text if he were counting the number of sentences and the number of words per sentence?

We get no guidance from Marriott who, although he does include a brief methodological statement, says nothing about dashes. Here is what Marriott does say (p. 66): 'For the purposes of the analysis, a sentence was defined as a sequence of words terminated by a full-stop, colon or interrogation mark. The colon was included because W. C. Wake has demonstrated that, if a sentence is defined as a group of words ended by a full-stop or interrogation mark, then, although there was a good deal of agreement between the editors of texts, there could be a significant difference between them; if the colon is included, the differences between editors cease to have any such significance.' But the study by Wake that Marriott refers to is a study concerned with Greek texts.7 And the colon that Wake refers to (p. 334) is the Greek colon: 'The modern editor of a Greek text relies on three punctuation marks to indicate the end of periods. They are the full stop (.), the Greek colon placed above the line  $(\cdot)$ , and the interrogation mark  $(\cdot)$ . But the situation is not so simple in the case of Latin texts. Apart from the matter of dashes (which, of course, are also used by some editors of Greek, as well as of Latin, texts), there are two marks of punctuation in common use in editing Latin texts, either of which can be regarded as corresponding to the Greek colon. They are the colon (:) and the semicolon (;). It is not clear, then, how Marriott treats these marks of punctuation in compiling his statistics.<sup>8</sup> That it makes a difference will be clear from the examination of a few more examples. Here is Hohl's text of 'Lampr.', Com. 13.5-6:

victi sunt sub eo tamen, cum ille sic viveret, per legatos Mauri, victi Daci, Pannoniae quoque conpositae et Brittannia, in Germania et in Dacia imperium eius recusantibus provincialibus; quae omnia ista per duces sedata sunt.

Does the statistician count this as one sentence or two? If the semicolon marks the end of a sentence, then there is no significant difference between Hohl and the three other

direct quotations, whereas Jordan prefers to omit punctuation entirely (!) in such cases. Inasmuch as there are nearly 500 direct quotations in the text of HA, it is clear that one's statistics for sentence-length *and* for the grammatical category of word in initial and final position are going to be biased depending upon the editor whose text one has chosen to use.

<sup>&</sup>lt;sup>7</sup> W. C. Wake, 'Sentence-Length Distributions of Greek Authors', *Journal of the Royal Statistical Society*, Series A, 120 (1957), 331-46. <sup>8</sup> In any case, even with regard to the use of the colon

<sup>&</sup>lt;sup>8</sup> In any case, even with regard to the use of the colon in Latin texts there is considerable variation among editors. Of our four editors of the HA, for example, Peter, Magie and Hohl regularly use the colon before

editors, who all punctuate with a full stop after 'provincialibus'. But if one counts, as Marriott claims to do, only the full stop, colon and mark of interrogation, then Hohl's punctuation makes a single sentence out of what the other editors count as two. We cannot, however, eliminate differences among editors simply by considering semicolons also as marking the ends of sentences. For the semicolon is used by some editors in places where others punctuate with a comma. Consider, for example, 'Spart.', *Hadr.* 17.10–11:

regibus multis plurimum detulit, a plerisque vero etiam pacem redemit, a nonnullis contemptus est; multis ingentia dedit munera, sed nulli maiora quam Hiberorum ...

If we consider the semicolon as marking the end of a sentence, then this passage consists of two sentences in the texts of Peter and Magie, but only one in the texts of Jordan and Hohl, both of whom print a comma after 'contemptus est'. Again, it is not necessary to range far and wide over the text of the HA in order to find passages illustrative of this diversity among editors. Shortly before the passage last quoted we find *Hadr.* 17.8:

fuit et plebis iactantissimus amator. peregrinationis ita cupidus, ut omnia, quae legerat de locis orbis terrarum, praesens vellet addiscere.

Here, Peter, Magie and Hohl agree in punctuating with a full stop after 'amator'. But in Jordan's text we find a comma. Clearly, the edition one uses in compiling one's statistics will have an effect on one's results.<sup>9</sup>

This should not, after all, be surprising. There is in Latin a number of words whose status is ambiguous. That is to say, in a given instance, editors will differ as to whether one of those words is to be regarded as introducing a new sentence. Such words are, for example, nam, verum (vero), certain concessive particles and the relative pronoun (or adverb) when used in cases in which English-speakers would use a demonstrative. The very fact that these are quite common words indicates that it is by no means easy to determine objectively what constitutes a sentence in Latin. And, it should be pointed out, this has implications for both of the tests on which Marriott's conclusions rely. For, not only does sentence-length (Marriott's first test) vary depending upon how one chooses to punctuate before *quamvis* or *quae*, so does the grammatical category of word appearing in initial and final position in the sentence (Marriott's second test). And how one chooses to punctuate depends upon editorial practice rather than upon the demonstrable characteristics of the author. Therefore, what Marriott may well have proven is not that the *Historia Augusta* was composed by a single individual, but (what we already knew) that the various biographies that comprise the *Historia Augusta* were all edited by the same man, and that that man was different from the various men who edited the Codex Theodosianus, Ammianus Marcellinus, De Rebus Bellicis and Aurelius Victor. Now, it is true (and regrettable) that Marriott does not indicate which editions of these authors he used in compiling his statistics. But it is the case that no single editor can be found who has edited all these texts.<sup>10</sup> I hasten to add, however, that even if one could find editions prepared by the same hand of both the HA and the control texts, it would still not be procedurally valid to employ them as the basis for studies of this nature. For there is no guarantee that the punctuation of even a single editor will adhere to consistent principles from the edition of one author to that of another. Punctuation, like every other aspect of a text, whether in printed or in manuscript form, inevitably becomes part of the textus receptus, and it requires a conscious effort of will (or the inadvertent

<sup>&</sup>lt;sup>9</sup> Here are some additional instances of significant discrepancy in the punctuation of the four editions of the HA that we have been using: 'Spart.', Hadr. 15.3-9; Ael. 5.8; 'Capitol.', Ant. Pius 6.7, 10.5; M. Ant. 3.2-4, 25.4-8, 28.4-8; 'Vulc.Gall.', Avid.Cass. 4.7-9, 13.5; 'Lampr.', Com. 18.3, 19.7-9; 'Capitol.', Pertin. 3.1-3, 5.2-6; 'Spart.', Sept. Sev. 8.12-15, 14.7-13;

<sup>&#</sup>x27;Capitol.', Clod. Alb. 6.1-2, 13.1-5.

<sup>&</sup>lt;sup>10</sup> In fact, as far as I am aware, no single scholar in the past two hundred years has edited more than one of the texts used in Marriott's studies, with the (qualified) exception of F. Eyssenhardt, who edited Ammianus (1871) and who collaborated with H. Jordan (op. cit., n. 6) in editing the HA.

commission of error) to depart from one's Vorlage in any given instance. It is, therefore, impossible to eliminate entirely from consideration the influence that previous editors have had on the punctuation (and other aspects) of the text of Ammianus or Aurelius Victor. Finally, there is one additional consideration that may possibly be relevant to the results of Marriott's first (but perhaps not his second) study, namely the question of genre. The HA is, or purports to be, biography, and the author (or at least one of the authors) explicitly takes as his model the biographical writings of Suetonius ('Vop.', Probus 2.7) and abjures the style of such writers as Sallust, Livy and Tacitus. In view of the fact that one characteristic of Suetonius' style is the cultivation of the short, declarative sentence, and in view of the fact that Ammianus, for example, models his style on that of Tacitus, one wonders if the significant difference in sentence-length between Ammianus and the HA cannot be accounted for on generic grounds. The only control text that Marriott uses that, like the HA, belongs to the biographical genre is Aurelius Victor, but he uses him not in his study of sentence-length but in his study of the grammatical category of words that begin and end sentences.

It is unfortunate, then, that Marriott's studies were conducted in a manner that took no account of these decisive considerations. It is still more unfortunate, in the light of these considerations, that Marriott's conclusions have been so widely and so uncritically accepted. Moreover, the unreliability of this sort of study had been pointed out even before the publication of Marriott's article. In an article published in 1964, Tore Janson makes a number of sensible criticisms of similar studies carried out on the philosophical works of Seneca.<sup>11</sup> Among the interesting comments that Janson makes (many of which anticipate the objections raised above), is the valuable observation (p. 29) that editors' preferences with regard to punctuation 'seem to be influenced not only by the particular idiosyncracies of the editor but also those of his generation and of his nation, the semicolon, for example, being more used . . . by German than by English and more by early than by modern scholars'. Clearly, therefore, it is not legitimate simply to take whatever editions are readily available and to use the punctuation that they exhibit as the basis for a statistical study of the authorship of the HA. We ought to welcome the application of computers and of statistical analysis to problems like that of the authorship of the HA, but we need to make sure that we are employing these aids in a manner that leads to valid results.

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<sup>11</sup> T. Janson, 'The Problems of Measuring Sentence-Length in Classical Texts', *Studia Linguistica* 18 (1964), 26–36. Compare also the cautious remarks in S. Ireland, 'Sentence Structure in Aeschylus and the Position of the Prometheus in the Corpus Aeschyleum', *Philologus* 121 (1977), 191-2.

## ADDENDUM

(R. R. R. Smith, 'Late Roman Philosopher Portraits from Aphrodisias', pp. 127–55 above).

It is now possible to report that in the 1990 season at Aphrodisias, the missing portrait of the Pythagoras medallion (No. 6, p. 141 above) was identified in a separate head stored in the museum depot. It had been found thirteen years before the medallion, in 1968, in the excavation of the surface levels of the theatre. The head joins the medallion perfectly. It has long hair bound by rolled fillet, a long beard, and a generic classical philosopher physiognomy. It is very close in technique and formal style to the Pindar (No. 1). Publication will follow in *Aphrodisias Papers* 111.