The Dating of P.Oxy. 1411

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When B.P. Grenfell and A.S. Hunt were considering the dating of P.Oxy. 1411, published in Oxyrhynchus Papyri, Vol. XII, 1916, they were influenced by the fact that it was issued by the identical strategos mentioned in P.Oxy. 1555 which, although the portion which was presumably dated is lost, contains two declarations to the strategos Aurelius Ptolemaeus (also known as Nemesianus) sworn "by our Lords Macrianus and Quietus, Augusti".

Mention of these usurping emperors dates P.Oxy. 1555 broadly within their short reign of c. Sept. AD 260 to c. November 261; and so Grenfell and Hunt presumed to date P.Oxy. 1411 also to 260 to 261 and to proceed to amend the partially missing date ordinal in the Greek text to read "first", as follows:

line 20	... ἔτου[ς πρώ
line 21	τ̣ο̣[υ] Ἀθ ὑρ[[ι]] ὀγδόη κ[[ει]]αὶ εἰκάς.

This seemed to be quite a reasonable emendation at the time, since the available space would not accommodate the Greek word for "second" and, although "third" was theoretically acceptable as an alternative word in the text, there was, in fact, no third Egyptian regnal year for Macrianus and Quietus and one would then have to assume that the strategos dated the document by the third year of his own appointment. On this basis, therefore, P.Oxy. 1411 would be precisely dated 25 Nov. 260.

The more recent metallurgical evidence obtained from chemical analyses of closely dated antoniniani and tetradrachms issued around this date, however, shows that the situation revealed in the main text of P.Oxy. 1411 could not have arisen in late 260, but had occurred before the end of AD 262; and since, in T.S. Pattie's view, the ordinal could well be amended to read "tenth"(in the reign of the legitimate Emperor Gallienus) this would coincide with the regnal year 262/3 and lead to a revised precise date for the issue of P.Oxy. 1411, 24 Nov. AD 262. This corrected date is in complete harmony with the now accumulated metallurgical, numismatic, and papyrological evidences.

In retrospect we can examine Grenfell and Hunt's secondary arguments for dating P.Oxy. 1411 to the reign of Macrianus and Quietus, and see that these are also invalid. There is the suggestion, for example, that the size of the coins of Egypt was reduced as well as the metal debased; but R.A.G. Carson and the author find that, within the normal broad range of weight and die module, the tetradrachms of Macrianus and Quietus in the British Museum collection show no significant differences from those of Gallienus issued before, during and after their own issues.

More convincingly, Grenfell and Hunt suggested that "the dubious character of the claim of Macrianus and Quietus to the Imperial titles may well have been an additional cause of the reluctance in Egypt to accept their coinage". This is an interesting and not unreasonable speculation; but the fact is that the coinage of Macrianus and Quietus was of similar fineness, and so it could not have caused the situation which the papyrus records, whereas the lower grade imperial issues of two years later would certainly have done so.

The text of P.Oxy. 1411 concerns the illegal closing of the banks, because of the banker's reluctance to exchange current coins, and it compels them to be re-opened to accept the 'divine coin of the emperors'. The only contemporaneous coins capable of involvement were the imperial antoniniani of Gallienus and Salonina, and the various current and previously issued tetradrachms of Alexandria; but metallurgical analyses of closely dated issues of both coinages reveal the certainty that in November 260 no significant changes had taken place in the silver or weight standards of either the tetradrachms or the antoniniani which could have affected their exchange rate. In fairness to Grenfell and Hunt, however, it must be said that they did not have any assays to compare in 1916, and it is only since 1948 that assays of the antoniniani

have become available (P. Le Gentilhomme), and since early 1978 for the relevant tetradrachms (reported in this work).

E.R. Caley has shown that the early tetradrachms of Alexandria declined chronologically in fineness until, by the reign of Gordian III (AD 238-244), they were debased to about 6% silver. The author has obtained similar results for the tetradrachms from Gordian III onwards, and identified the fineness standard as one of 18 scrupula per libra, lasting until at least AD 264 in the sole reign of Gallienus. Further debasement did not occur until either late in AD 264 or early 265 - which is much too late for any association of change with Macrianus and Quietus.

The metallurgical history of the antoniniani is rather different - but not so different that major changes in fineness standards would not upset intrinsic worths and exchange rates in times of crisis. P. Le Gentilhomme's assays show that the antoniniani appear to have fallen slightly in fineness from the beginning of the sole reign of Gallienus to the period of Macrianus and Quietus (from approx. 16% to approx. 14% silver) but not sufficient to stimulate any refusal by bankers or the general public at this stage. But by the Votis Decannalib year (AD 262-263) the antoniniani had dropped to only 6% silver (the same fineness standard as the tetradrachms), while the much heavier tetradrachms (1/36 libra, compared with 1/96 libra) remained at the fineness standard at which they had stood for more than 25 years. Their intrinsic worths suffered a dramatic step-change, therefore, by the 10th regnal year of Gallienus, Sept. 262 - Aug. 263, and probably between the months Jan. - Sept. 262, because a PM TRPX COS IIII Gallienic antoninianus, closely dateable to Dec. 261, is still at 12.8% silver.

This means that a later date than 260 is required for P.Oxy. 1411, but not one later than Aug. 263 when the VOTA coinages were coming to an end. We have a situation in which, certainly up to the end of AD 261, 3 tetradrachms would have had the silver-worth of 4 antoniniani, whereas in the early or middle months of 262 the ratio was such that 8 antoniniani were required to match the silver-worth of 3 tetradrachms. To maintain a balance of intrinsic worths the bankers would have wished to ask for twice as many antoniniani when changing tetradrachms in the autumn of 262 - otherwise they would have been effectively giving silver away.

If they were powerless to alter a rigidly decreed constant exchange rate, then their only defence against loss would have been to close shop - and this is what happened. Presumably they were forced to re-open and exchange at the old rate - since there is no hint of any change being countenanced in P.Oxy. 1411 - but further rebellion could only be prevented by improving the fineness of the antoninianus (or by further debasement of the tetradrachms). Chemical analyses by P. Le Gentilhomme and the author reveal that the antoninianus was, indeed, reformed c. AD 265, with the Gallienic issues having the Greek-officina markings. Apparently the lesson had been learned, for future debasements between AD 265 and 268 involved contemporaneous reductions in the fineness of both the Gallienic antoniniani and the tetradrachms. It is even possible that these were phased so that intrinsic worths and exchange rates could be maintained at constant values to prevent any repetition of the circumstances which led to the issue of P.Oxy. 1411.

In reconsidering the re-dating of P.Oxy. 1411 it was desirable to refer to papyri P.Oxy. 1411 and 1555 themselves. After discussions with T.S. Pattie, Department of Manuscripts, The British Library, he examined the photographs of these two papyri, at Oxford, and submitted his view that the text of P.Oxy. 1411 could well be restored as ἔτου[ς δεκά] τ̣ο̣[υ , consistent with its having been issued on 24 November AD 262, in the tenth regnal year of Gallienus, and with the strategos dating the document quite conventionally by the regnal year of the legitimate Emperor Gallienus whose debased antoniniani were being shunned - Macrianus and Quietus having died some twelve months earlier. The undated P.Oxy. 1555 is obviously an earlier document issued by the same man.

In the course of Mr. Pattie's enquiries Mr. Peter Parsons kindly drew his attention to an unpublished papyrus, of October 263, which names the successor to Aurelius Ptolemaeus

(Nemesianus), and to further useful information in Vol. XLVI of Oxyrhynchus Papyri, 1978, London, Egypt Exploration Society. In consequence Mr. Pattie shows that the limits of office of Aurelius Ptolemaeus can now be narrowed as follows:

AD 254 (26 Payni = 20 June)	Aur. Posidonius	P.Oxy. XII 1187
258/9 (month lost)	Aur. Sarapion	P.Oxy. XLVI 3289
260/61 (reign of Macrianus and Quietus)	Aur. Ptolemaeus, alias Nemesianus	P.Oxy. XII 1555
262 (28 Hathyr = 24 Nov.)	"	P.Oxy. XII 1411
-- (Date lost)	"	P.Oxy. XII 1502
[262-265]	Aur. Pa….[	P.Oxy. XLVI 3293
263 (Phaophi = Oct.)	Aur. Heraclides	Unpublished
265 (14 Phaophi = 11 Oct.)	Aur. Heraclius - Asterius	P. Giss. 34

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