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## Chronological Reckoning in Byzantine Egypt

*Roger S. Bagnall and K. A. Worp*

THE SYSTEMS by means of which ancient societies reckoned years were generally well-enough suited to the purpose of distinguishing the current year from last year or a few years ago.<sup>1</sup> The methods of designating years which we find in documents were matters of official proclamation and thus were adapted to the needs and nature of the state. The use of eponymous magistrates, the normal means of identifying years in Greek cities and at Rome, worked well in relatively small states where the dissemination of the name or names in question would be virtually instantaneous, but it had self-evident drawbacks in a large territorial state, where difficulties of communication were considerable and would amplify any political turmoil which might delay the announcement of names. It was natural enough, therefore, that in the Seleucid kingdom a fixed era (based on the satrapal/regnal count of Seleucus I) was introduced,<sup>2</sup>

<sup>1</sup> This article is based on our books and articles dealing with Byzantine chronology and many technical problems related to it. We cite in particular in abbreviated form *Chronological Systems of Byzantine Egypt* (*Stud. Amst.* 8, Zutphen 1978) (= *CSBE*); *Regnal Formulas in Byzantine Egypt* (*BASP* Suppl. 2, Missoula [Mont.] 1979) (= *RFBE*); and "Chronological Notes on Byzantine Documents," a series of articles in *BASP* 15 (1978) 233-46 and following volumes (= *CNBD*). As most of this series is still forthcoming at the time of writing, we cite them by installment number and item number (*e.g.* IV 51). For other bibliography, we refer the reader to the lists in *CSBE* xii and *RFBE* ix-x, and to the following articles (ours unless otherwise indicated): "P.Erl. 52B Recto: A Reedition," *ZPE* 28 (1978) 231-37; "Commodity Prices in P.Stras. 595," *ZPE* 27 (1977) 161-64; "Ten Consular Dates," *ZPE* 28 (1978) 221-30; "The Consuls of 411-412," *Mnemosyne* 31 (1978) 287-93; "Papyrus Documentation in Egypt from Justinian to Heraclius," *Bulletin of the Egyptological Seminar* [New York] (= *BES*) 1 (1979) 5-10; "Three Regnal Dates Assigned to 310/311," *BES* 1 (1979) 11-13; P. J. Sijpesteijn and K. A. Worp, "Chronological Notes," *ZPE* 26 (1977) 267-86; *idem*, "Dating with Regnal Years of Three Rulers," *ZPE* 28 (1978) 239-43; *idem*, "The Date of P.Flor. III 311 Reconsidered," *ZPE* 36 (1979) 105-06; P. J. Sijpesteijn, "Some Remarks on Roman Dates in Greek Papyri," *ZPE* 33 (1979) 220-40. Addenda and corrigenda to *CSBE* are given in *RFBE* 74-79.

<sup>2</sup> Cf. A. E. Samuel, *Greek and Roman Chronology* (*HdA* I.7, Munich 1972) 245-46.

and that the Ptolemies reckoned by count of regnal years.<sup>3</sup> Everyone could keep track of such continuous counts with not too much difficulty, at least until the king changed. When Augustus acquired Egypt in 30 B.C., he retained the Ptolemaic system of regnal dating, and for over three centuries Roman emperors followed his example.<sup>4</sup>

For the historian, the effect of a system of reckoning used in the documents may be very different from the effect for a contemporary. The ancients found this already, for in the fifth century B.C. the Athenians found that it was necessary to reconstruct and to publish a systematic list of archons to avoid confusion,<sup>5</sup> and it is only for a few Greek cities that either the ancients or we have had any idea at all of the sequence of eponymous magistrates, while even the Athenian list is a subject of scholarly debate to the present day. Our confusion is not ours only, but in part that of our ancient predecessors.

It is scarcely surprising that modern scholars have found grave difficulties with the methods of dating documents used in the papyri from Byzantine Egypt.<sup>6</sup> We find in these texts six distinct systems of referring to years: regnal years, which change as emperors do; *epigraphai* and indictions, both in cycles of fixed length which thus cause the same year number to recur at set intervals; consulates, announced annually; and the eras of Diocletian and Oxyrhynchos, which owe their existence to regnal counts prolonged beyond the death of the emperors in question and which constitute permanent continuous counts. We have dealt elsewhere (*cf. supra* n.1) with all of these in detail; in the present article we examine their interrelationship, the problems involved in their concurrent use, some aspects of regional variation in their employment, and a few historical conclusions to which our work has led us.

## I. The Systems and their Interrelation

Although the chaotic conditions of the fifty years before Diocletian's accession in 284/5 must have made regnal dating rather

<sup>3</sup> See A. E. Samuel, *Ptolemaic Chronology* (*Münch.Beitr.* 43, Munich 1962); T. C. Skeat, *Reigns of the Ptolemies* (*Münch.Beitr.* 39, Munich 1954); P. W. Pestman, *Chronologie égyptienne d'après les textes démotiques* (*Pap.Lugd.Bat.* 15, Leiden 1967).

<sup>4</sup> See the bibliography in E. Van 't Dack, "La papyrologie et l'histoire du Haut-Empire," *Aufstieg und Niedergang der römischen Welt II, Das Prinzipat I* (Berlin 1974) 858–88, esp. 863–68.

<sup>5</sup> *Cf. Samuel, op.cit.* (*supra* n.2) 195–98.

<sup>6</sup> According to papyrological parlance, we refer by this term to the period from 284–641.

confusing for scribes and certainly cause difficulties for scholars now,<sup>7</sup> Diocletian continued the old system where his second regnal year began on the Thoth 1 (29.viii) next after his accession (on 20.xi.284, *cf. P.Panop.Beatty* 2.162–64 n.1), and when Maximianus was associated with him during that year, a double numbering of 2–1 (= 285/6; the earliest example of the association is *O.Mich.* II 777, of 9 or 19.i.286) was adopted. Such a practice was a novelty for the Roman emperors in Egypt, for before only the most senior emperor's years were used when more than one ruler was on the throne.<sup>8</sup> When the tetrarchy was established (1.iii.293), a numeral was added for the new Caesars, and the year became 9–8–1 (= 292/3; first example of three numbers is *O.Mich.* I 441, of 28.v.293). From then on, the habit of giving numbers for each emperor or imperial count became regular, leading at times to strings of five numbers.<sup>9</sup>

In May/June 287 the government introduced into Egypt a new system of reckoning for fiscal purposes, the *epigraphé*, which was apparently the equivalent of the Latin *delegatio*.<sup>10</sup> Properly speaking, the *epigraphai* referred only to tax-assessments, the first being in 287, the second in 288, and so forth. We find in the documents clear evidence of three five-year cycles of *epigraphai* (287–292, 292–297, 297–302), after which the term completely passes out of use in the papyri. The *epigraphai* bore on the crop just harvested at this time; that is, *epigraphé* 1 fell on the crop of regnal year 3–2 (286/7), harvested in late spring 287. The use of a five-year cycle shows clear intention of introducing a means of fiscal reckoning which was not exactly coterminous with regnal years. The *epigraphai* appear only in connection with tax payments and never independently to designate years, but the cyclic and annual pattern must nonetheless have given them some independent existence.

In 302 the last of these numbered tax declarations was issued.<sup>11</sup> For the next five years we have no evidence of any particular use of

<sup>7</sup> See Van 't Dack, *op.cit.* (*supra* n.4) 868; *ZPE* 24 (1977) 167ff; *ZPE* 26 (1977) 72.

<sup>8</sup> The case of Vaballathus is exceptional; see P. Bureth, *Les titulatures impériales (Pap. Brux. 2, Brussels 1964)* 122.

<sup>9</sup> The scribes were remarkably faithful in observing the multiplicity of regnal years, as an examination of *RFBE* 1–41 shows. *Cf. CNBD* II 12 in particular for the conclusion that the practice of omitting a second or third numeral is far rarer (and later) than editors have sometimes imagined.

<sup>10</sup> We find also *διατύπωσις*, *ἰνδικτίων* and perhaps *δηληγατίων* at various times in place of *ἐπιγραφή*. The remarks here on the *epigraphé* cycles are based on *CSBE* 1–5 and J. D. Thomas, "Epigraphai and Indictions in the Reign of Diocletian," *BASP* 15 (1978) 133–45.

<sup>11</sup> This is clearly demonstrated by Thomas, *op.cit.* (*supra* n.10) 139.

numbered tax schedules, but in 308/9 we find reference to the indiction of a regnal year or, rather, to an indiction numbered the same as the regnal year (*e.g.* the 17th indiction in 308/9 = Galerius' regnal year 17); usually only the highest-numbered regnal year is given, but at other times the full sequence is found.<sup>12</sup> There is still no sign of true chronological reckoning by such indictions, but a direct connection with regnal years in this manner (and, unlike the regnal years, often using only the highest numeral) certainly tended to give the indiction some status as a unit, at least in loose speech.

The second innovation of Diocletian's reign in chronological matters is the use of Roman consuls for dating Egyptian documents. In the period before Diocletian, consular dates appear only in documents written in Latin or between Roman citizen parties and drafted according to Roman law.<sup>13</sup> Up to 293, only one Egyptian document of Diocletian's reign is dated by the consuls, and it is a *manumissio inter amicos*.<sup>14</sup> But beginning in 293 (*P.Lips.* 4 and 5 are the earliest examples, on 10.ix) we commonly find consular dates in ordinary Greek documents, and the practice becomes more standard as time goes on.<sup>15</sup>

It is difficult to avoid the conclusion that the introduction of consular dating is in some way connected to the creation of the first tetrarchy in March 293; it seems likely, furthermore, that the use of consuls was one more part of Diocletian's policy of making more widespread the use of Latin vocabulary and institutions in the East, as well as that of integrating Egypt more closely into normal patterns of imperial administration.

The use of regnal dating in the papyri and ostraka remains relatively constant up to 312/3, even while consular dating gains in

<sup>12</sup> The full evidence is in *CSBE* 2–4 with discussion. One might add the *διατύπωσις* of the 16th and 4th years (=307/8) found in *SB* VI 9131 as corrected by H. C. Youtie, *Scriptiunculae* II (Amsterdam 1973) 953–54.

<sup>13</sup> A list may be found in A. Calderini, "Papiri Consolari," *Aegyptus* 24 (1944) 184–95; *WB* Suppl. 351–54 gives a supplement, but a new list is needed.

<sup>14</sup> *P.Oxy.* IX 1205 = *C.P.Jud.* III 473 (A.D. 291). The other documents listed in *CSBE* 104 are all dated after 293 and refer back to the years in question. The apparent exception in *P.Sakaon* 37.22 is eliminated on p.263 of that volume; *cf.* Bagnall's review of *P.Sakaon* in *BASP* 17 (1980).

<sup>15</sup> Similarly the use of Roman months comes in at about this time; see P. J. Sijpesteijn, *ZPE* 33 (1979) 232 n.16. For *P.Lips.* 4 and 5 *cf.* *P.Stras.* 594, a copy of the same transaction without a consular date.

frequency.<sup>16</sup> But after 313/4, regnal dating declines drastically,<sup>17</sup> and in fact the use of actual formulas of regnal titlature is extinct after 316; even citation of regnal years is by 316 extremely rare except in the Oxyrhynchite Nome. There are in all only five examples of regnal titlature after Constantine came to power in Egypt at the death of Maximinus Daia in 313.<sup>18</sup> This decline is perhaps partly a reflection of the weariness of scribes in dealing with the excessively complicated and mutable regnal dates of the decade before, but it is difficult to avoid the conclusion that it was the system of numbered indictions which dealt the *coup de grace* to the use of reference to years by regnal numbers.

The indiction cycle of fifteen years was based on a year 1 = 312/3 (we do not know if Constantine introduced the system elsewhere before he took control of Egypt). But its use in Egypt goes back only to late 313 or early 314, and it was apparently introduced retroactively, *i.e.* so that 312/3 was referred to as the first indiction in accounts concerning back taxes.<sup>19</sup> The last document of Maximinus in Egypt is *P.Princ.Roll* iv.10 (7.viii.313), the first of Constantine as senior emperor, *P.Cair.Isid.* 103.11 (13.ix.313). It took only a few months after the new regime was in power for regnal dating to start to disappear and indictions to come into use, although two or three years elapsed before scribal habits changed in some places. It seems that Upper Egypt was quicker to change than Lower, as only one instance of regnal dating after Constantine's acquisition of Egypt is known from Upper Egypt (*O.Stras.* 289, of 314/5). The Arsinoite Nome took about two years to change over completely, while the Oxyrhynchite apparently resisted and held onto regnal dating to a large degree right up to Constantine's death and even beyond.

The indiction did not, generally speaking, replace regnal dating for the main date of legal documents but only for *reference to* a year and, as it appears, for dating in private receipts and orders and the

<sup>16</sup> In *RFBE*, the references for 284/5 to 305/6 occupy 29 pages, those for 306/7 to 312/3, 7 pages. If one allows for the enormous quantity of references in the earlier period to the Michigan Karanis ostraka which center on Diocletian's reign, the ratio of references to years is not much different.

<sup>17</sup> By comparison to the figures in n.16 *supra*, the years 313/4 to 336/7 occupy only three pages in *RFBE*.

<sup>18</sup> See *RFBE* 37–38.

<sup>19</sup> See *CSBE* 6–7 for the first fifteen-year cycle.

like.<sup>20</sup> In the dating clauses of legal instruments and official business, it is instead the consulate which appears from henceforth.<sup>21</sup> The coming of Constantine to power in Egypt is thus a watershed, in which two Diocletianic innovations reach a full development and virtually completely oust a system of dating in use for some 350 years or, if one counts Ptolemaic regnal reckoning, for nearly 650.<sup>22</sup>

This pair, indictions and consulates, with their rather different spheres of usage, dominate chronological reckoning for the next two centuries, until 537. Two era-type systems, however, come into use for specialized areas. An era reckoned by the accession of Diocletian appears in Philae graffiti (both Greek and Demotic) in the fourth and fifth centuries and, also from the fourth and fifth centuries, in reckoning birthdates for purposes of casting horoscopes.<sup>23</sup> It is used exclusively for these purposes until the late fifth century, when it begins to be used also on gravestones (the earliest certain instance is *SB* III 6250, 491/2 or 492/3). The eras of Oxyrhynchos, on the other hand, grow out of the Oxyrhynchite predilection for continued regnal dating and represent in their final form a continuation of the regnal years of Constantius II and Julian.<sup>24</sup> These Oxyrhynchite era-years are used much as the indiction is elsewhere, for reference to years and for dating short texts (*viz.* receipts and orders for payment). The era-year ran from Thoth 1 to Epagomenai 5 (6), the traditional Egyptian civil year; the indiction was reckoned differently

<sup>20</sup> As we point out (*CSBE* 21–22), it is not until the 350's that the indiction is even mentioned in a dating clause of a legal instrument. But the Hermopolite texts (private orders) published by H. Harrauer in *CPR* VI, fasc. 1, show the use of the indiction for dating short texts already in the first cycle (*e.g.* *CPR* VI 36–38), and the Aurelia Charite archive (to be reedited by Worp) includes other examples. See also the little archive published in *ZPE* 32 (1978) 243–58 by P. J. Sijpesteijn and K. A. Worp, especially no. 1 (p. 245), also Hermopolite and of this period.

<sup>21</sup> *CSBE* App. D lists the examples of consulates in Byzantine papyri; addenda and corrigenda in *RFBE* 75–79.

<sup>22</sup> *Cf.* Sijpesteijn, *op.cit.* (*supra* n. 15) 231 n. 13, for the practical end of the use of Roman months by private persons *ca* 316.

<sup>23</sup> We treat the Era of Diocletian in detail in *CSBE* 43–49. The earliest year referred to as of Diocletian's era for a horoscope is 21 (304/5) in *ProcPhilSoc* 108.2 (1964) 68, but we do not know when it or most of the other horoscopes were written, *cf.* *CSBE* 43. On the change in the start of era-years, see *CSBE* 43–49.

<sup>24</sup> See *CSBE* 36–42, with a full list of documents (addenda and corrigenda, *RFBE* 74). This era was the successor to a previous continuation of Constantine I's regnal years; and even while the era was in use, a few instances of regnal dating from the later fourth century are found in the Oxyrhynchite and two in the neighboring Herakleopolite (see *RFBE* 42–44 and P. J. Sijpesteijn and K. A. Worp, *ZPE* 28 [1978] 239–43).

in various areas (*cf. infra*, §III). The era-years did not oust the indiction for fiscal reckoning, but the indiction never achieved in Oxyrhynchos the position it did elsewhere of being the *dominant* and best-known chronological index in use.

So the situation remained until Justinian's *Novella 47* in A.D. 537. In the meantime, however, a variety of factors caused consuls to be announced in Egypt very late in a large share of the years of the fifth and early sixth centuries, reducing seriously the usefulness and eventually the accuracy of the consulate, for confusion gradually became more widespread. It is even conceivable that the scribes became so used to postconsular reckoning as to suppose at times that any newly announced consuls must be already out of office.<sup>25</sup>

Justinian ordered that all legal instruments bear the regnal year of the emperor, the names of the consuls and the indiction number, all three of them. Regnal years were to be computed not in the old Egyptian manner (perhaps now long-forgotten), but from the day of accession to the throne (whether to the status of Caesar or of Augustus) to its anniversary. The Egyptian documents do not reflect prompt and uniform compliance, for many still have only the consulate (or consulate and indiction) while others have all three, and the first attestation of regnal dating comes only in 540.<sup>26</sup> For the next century, one finds various combinations in the documents of various nomes. The use of dating by consuls generally declined as the consulate was no longer held by private persons after 541, and even emperors normally held it only once, on accession (Justinus II held it twice, exceptionally). Consular dating, therefore, was postconsular dating, until 566 by Fl. Basilius (*cos.* 541), afterward by the reigning emperor. As time went on, consular dating lost its independence from regnal years, therefore, and under Phocas and Heraclius the consulate is only exceptionally mentioned.<sup>27</sup>

In the early seventh century, thus, regnal dating was once again the standard means of giving dates to legal instruments, with the indiction still the standard dating method for shorter texts and for reference to fiscal years; in Oxyrhynchos, the era-years continued in

<sup>25</sup> See §II, *infra*, and *CNBD* VI 63 for a first attempt to consider the problem of the dissemination of consuls' names.

<sup>26</sup> See *RFBE* 47–48 on this point.

<sup>27</sup> For this process see E. Stein, "Post-consulat et Autokratoreia," *Mélanges Bidez* (Brussels 1934) 869–94.

use, but we lack documents between 617/8 and the last document in 644/5.<sup>28</sup> During the decade of Persian occupation the indiction cycle was continued undisturbed, but of course reference to Byzantine emperors was not used.<sup>29</sup> When the restored Byzantine rule was swept aside in 641 by the Arabs, once again the indiction continued, but the regnal and consular dates naturally disappeared, and the Oxyrhynchite era similarly vanishes after a last appearance in 644/5 (*SB* VI 8987.1). The Greeks and Copts, however, still felt the need of some means of reckoning which was more permanent than the indiction cycle, and we can hardly doubt that the Saracene era (years of the Hegira) was unpalatable to the conquered population.<sup>30</sup> It is at this time (*BGU* I 312 i, of 657 or 658, is the first secure example)<sup>31</sup> that the Era of Diocletian is first used in papyrus documents. Its Christian character is emphasized by the later change of its name to the Era 'of the Martyrs', and with it we are, at the end of Byzantine dating in Egypt, once again referred back to its beginning with the accession of Diocletian.

## II. Problems with Multiple Systems of Reckoning

It will be clear from what is said above that the multiplicity of dating systems, while confusing to the historian and papyrologist, is mitigated somewhat by the chronological differentiation of their use. Even within a given period, not all of the known systems will be found simultaneously in most documents. From the earliest uses in 293 on, consular dating had a restricted range of use, being found almost exclusively in actual dating clauses; in a few cases there is a reference to a year in the past by means of the consulate. But its use is strictly chronological. Some documents of 293 to *ca* 315 have both consulate and regnal year. The use of regnal dating in the period

<sup>28</sup> Cf. *CSBE* 39 n.1 for the elimination of a supposed late example of the era.

<sup>29</sup> Cf. K. Chrysos, "The Date of Papyrus SB 4483 and the Persian Occupation," *ΔΩΔΩΝΗ* 4 (1975) 343–48.

<sup>30</sup> But note the following examples of the Saracene era in Egyptian papyri: *W.Chrest.* 256; *P.Grenf.* II 105–106 (reëdited by L. Casson, see *BL* III 72); *SB* I 5602, 5606, 5609; *SPP* VIII 1184 (cf. L. Casson, *TAPA* 69 [1938] 290); *SPP* VIII 1195 (cf. *BL* I 417). Cf. A. Grohmann, *Arabische Chronologie* (Leiden 1966) 14–16, 39–43 (by W. Till). It is one of the main points emphasized throughout by A. J. Butler in his *Arab Conquest of Egypt and the Last Thirty Years of the Roman Dominion*, 2nd ed. by P. M. Fraser (Oxford 1902/1978) that neither Greeks nor Copts had any sympathy for the Arab invaders nor reason for collusion.

<sup>31</sup> See *CSBE* 48.

from Justinian to Heraclius was also purely chronological, and this duplication of systems performing the same function in the later period contributed greatly, we may be sure, to the atrophy of consulates and the tendency of scribes to omit one of the two dates, to assimilate them, and finally to discard consulates altogether. The indiction system, by contrast, was originally used to refer to fiscal years and crops and to date minor documents; its use in later times for general dating did not cause it to lose its fiscal implication, and it never suffered any real duplication of function except to some degree in Oxyrhynchos with its era.

Nevertheless, we find a number of documents in which more than one of these systems is used at the same time; the number of such documents naturally increases sharply after 540, with the addition of another dating criterion, and so also do cases in which the various criteria for the date disagree.<sup>32</sup> The scribes were capable of errors, but most of them fall into a few identifiable groups. In a considerable number of cases, a scribe has written *ὑπατείας*, 'consulate', where *μετὰ τὴν ὑπατείαν*, 'after the consulate' should have been written.<sup>33</sup> The bulk of these fall early in the julian year and are most readily explicable in terms of simple slip of memory, in the absence of the proclamation of new consuls. In the middle and later sixth century, especially, when only the year number of a postconsular era changed, a slip was as natural as it is for us to write mistakenly the old year number in January in letters and checks. The problem must have been compounded by the fact that the Roman year was not the year by which the scribes really worked and lived; it was no doubt easy to forget that on Tybi 6 a new consular year began.

We also find comparatively numerous faults with regnal years in the sixth and seventh centuries. This too is natural, for the *dies imperii* varied from one emperor to the next and was in any case quite unconnected to anything in the Egyptians' calendar.

The Oxyrhynchite era-years, on the other hand, seem almost never to be demonstrably wrong;<sup>34</sup> they were evidently a source or reflection of local pride and were kept track of properly. The indiction is

<sup>32</sup> We treat these extensively in *CNBD* V 62; cf. provisionally the list in *CSBE* 64–66.

<sup>33</sup> See *CSBE* 50–54 and *CNBD* VI 63.

<sup>34</sup> There are slips in *P.Oxy.* VI 992 (89–48 for 89–58), *P.Oxy.* X 1334 (93–64 for 93–62 or 94–63?), and *P.Yale* I 71 (year referred to as present a day before it actually began; 133–101 for 133–102).

nearly as accurate, for it was the one system which ordinary people probably kept in mind as their taxes were connected to it, and only rarely does an indictional reference seem to be in error.<sup>35</sup>

### III. Regionalism

One further factor which has for a long time caused difficulties to scholars—because it went largely unrecognized—is the profound differences from one region of Egypt to another in the way in which certain chronological systems were applied. A few examples have already been mentioned: the predilection of the Oxyrhynchite Nome for regnal dating after it had been abandoned elsewhere in Egypt; the creation in the same nome of an idiosyncratic system of era-dating; the greater alacrity of Upper Egypt in adopting the indiction system compared to Lower Egypt. One other should be mentioned, the restriction of the use of the Era of Diocletian *in papyrus documents* to the Arsinoite and Herakleopolite Nomes, so far as our evidence shows, until a few eighth-century bilingual Arabic-Greek short texts from Thebes.<sup>36</sup> There are other quirks of this kind which are treated below in relation to formulaic peculiarities.

The most striking area of regional individualism is that of the working of the indiction cycle. From our studies<sup>37</sup> it seems that one can distinguish in the period after 326/7 (in the first cycle the Egyptian civil year was used) several practices, which we will only summarize briefly here. (1) In the Thebaid (the Hermopolite and all to its south), an indiction year beginning on Pachon 1 or 1 May (its closest 'equivalent' in the Roman calendar)<sup>38</sup> was in use. This date corresponds to the *praedelegatio*, the preliminary tax schedule for the year, issued at this time in order to allow tax payments at an accurate rate (*Cod. Theod.* 11.5.3). (2) In the Arsinoite Nome, a year beginning on Epeiph 1 or 1 July, the date of the *delegatio* (final tax schedule, *cf. Cod. Theod.* 11.5.4 = *Cod. Just.* 10.17.2) was used, in all matters of actual chronological reckoning. For crops and taxes, however, the designation was based on the 1 May preliminary schedule. (3) In the Oxyrhynchite and Herakleopolite Nomes, an indiction beginning on

<sup>35</sup> See *CNBD* V 62.

<sup>36</sup> *CSBE* 48–49 lists the evidence.

<sup>37</sup> See especially *CSBE* 17–29 and *cf. CNBD* III 32–34.

<sup>38</sup> See P. J. Sijpesteijn, *ZPE* 33 (1979) 235–37, and *CSBE* 22.

Thoth 1 or 1 September was used for chronological reckoning, but the 1 May indiction was known for fiscal matters, and Oxyrhynchite scribes in many cases show an awareness of practices elsewhere which influence their formulations.<sup>39</sup> For other areas our information is very poor, but what evidence there is points to the use of 1 May in Alexandria and Memphis.<sup>40</sup>

The other noteworthy area of regional differences is that of the use of regnal formulas and titulature in the period of Justinian and later. For example, the Arsinoite Nome under Justinus II and Tiberius II seems to use only consular and postconsular dating, while the Herakleopolite apparently uses consular dating exclusively still under Mauricius.<sup>41</sup> Other nomes vary also, but we find that in general the nomes of the Thebaid agree in large part with one another.<sup>42</sup> These divergences go even to petty matters like the choice of epithet for the emperor or the inclusion or not of the phrase *μέγιστος εὐεργέτης*, 'greatest benefactor', which does not appear in the Arsinoite until Heraclius. It is also interesting that under Justinian, the epithet used for the consul Fl. Basilius, by whose postconsular years one normally dated, was in all cases *λαμπρότατος* in Arcadia but *ἐνδοξότατος* or *πανεύφημος* (the latter much less common) in Thebais.<sup>43</sup>

The peculiarities of Oxyrhynchite usage we are inclined to ascribe to local choices, given the uniqueness of the systems used. The Herakleopolite, largely dependent on the Oxyrhynchite, followed it to a great degree.<sup>44</sup> For the rest, it seems more likely that the division of the province of Egypt fostered variant usage (such as had always existed, if one compares the diversity of tax receipt formulas in Roman times, for example) by broader regions in addition to the traditional diversity of the nomes. Particularly in the sixth century it is difficult to suppose that local initiative by the citizenry was responsible for much of what we see. It should be remarked, finally, that this regional variation is—once recognized—a boon to

<sup>39</sup> See *CSBE* 26 for the details, especially for the use of the indiction starting on Epeiph 1.

<sup>40</sup> Alexandria: *CSBE* 25, 46; Memphis: *CNBD* III 33.

<sup>41</sup> *SB* I 4796 may be an exception, but see *RFBE* 50 and *CNBD* III n.4. Under Justinian, the Arsinoite and Herakleopolite used regnal and consular reckoning, see *RFBE* 46.

<sup>42</sup> See *RFBE* 45–73 for the formulas and references, and 80–87 for an index of formulas by reign, formula and provenance.

<sup>43</sup> See *CNBD* III 35.

<sup>44</sup> See *CNBD* III 32.

the scholar since it allows approximate or precise assignment of provenances to documents which are otherwise of unknown origin.<sup>45</sup>

#### IV. Some Historical Questions

The material we have collected provides an interesting means of checking assertions about various historical questions. One of the most obvious is the dates of recognition in Egypt of the various emperors, especially in the period from the abdication of Diocletian and Maximianus to the victory of Constantine and his gaining control of Egypt. The chart (TABLE 1, p.291) shows month-by-month during each year what sequences of numerals are found. The period has been treated in detail by A. Chastagnol,<sup>46</sup> and we note only a few supplementary points of interest or disagreement.

(1) The news of the addition of Severus and Maximinus to the ruling group (1.v.305) was known on 5.vii.305 when *O.Mich.* I 189 (Arsinoite) was written, but evidently the abdication of the Augusti (Diocletian and Maximianus) was not yet understood, as the numeral is 21-13-1; on 20.vii, however, the new arrangement was known in Oxyrhynchos, where 13-1 is found in *PSI VII* 780.

(2) The news of Constantine's accession had not yet reached the Arsinoite Nome on 17.xi.306 but was known in Oxyrhynchos on 30.xi.<sup>47</sup> The date of the arrival of this news is thus pinned down very closely.<sup>48</sup>

(3) From late 307 or early 308 until October 310, as Chastagnol notes,<sup>49</sup> dates in most documents are given by means of only a pair of numbers referring to the regnal counts of the two senior emperors, Galerius and Maximinus. Chastagnol attributes this situation to the poor relations prevailing between Galerius and Constantine but is naturally puzzled that Galerius' friend Licinius is also excluded. But Constantine and Licinius were the consuls of 309 and are

<sup>45</sup> See for an example, *CSBE* 25, and *cf.* *CSBE* 21 n.9.

<sup>46</sup> "Datation par années régnales égyptiennes sous Constantin," *Aion: Le temps chez les Romains* (Caesardunum X bis, publ. par R. Chevallier, Paris 1976) 221-38. His list of attestations (pp.233-38) is very lacunose, and we have used the lists in *RFBE* for our chart.

<sup>47</sup> See *RFBE* 30-31 with our note in *BES* 1 (1979) 11-13.

<sup>48</sup> Compare Chastagnol, *op.cit.* (*supra* n.46) 224; his note is somewhat confusing. On p.225 line 3 he mistakenly expects a sequence 16-4-1 and 17-5-2.

<sup>49</sup> Chastagnol, *op.cit.* (*supra* n.46) 225.

TABLE 1: REGNAL YEAR GRID, 305-317

JULIAN	Jan.	Feb.	Mar.	Apr.	May	June
305		21-13	21-13	21-13	21-13	21-13
306			14-2	14-2	14-2	14-2
307		15-3-1	15-3-1	15-3-1	15-3-1	15-3-1
308				16-4	16-4	16-4
309	17-5			17-5		17-5
310	18-6		18-6	18-6		
311		19-7-5-3		19-7-5-3-1		
312			8-6-4		8-6-4	8-6-4-2
313		9			9	
314		8-6				8-6 22=8
315	9-7		23			
316		10-8				
317						11-9-1
JULIAN	July	Aug.	Sept.*	Oct.	Nov.	Dec.
305	21-13-1 13-1	13-1				
306		14-2		15-3	15-3 15-3-1	15-3-1
307	15-3-1		16-4-2			
308	16-4	16-4	17-5		17-5	
309	17-5	17-5 17-5-3-1	18-6	18-6	18-6 18-6-4-2	18
310				19-7-5-3		
311		19-7-5-3 19-7-5	20-8			
312		8-6-4 8				9
313	9-7-5	9-7-5 21=9-7-5	8-6		8-6	
314	8-6 8-6=22	8-6 22=8-6				
315	9-7 23	9-7 23		10-8	10-8	
316		10-8		11-9		
317						

\* If one equates Thoth (begins 29/30.viii) with September, the new regnal year begins with September.

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recognized as such in Egyptian papyri as early as 16 January.<sup>50</sup> Their omission in regnal formulas, then, cannot be the product of non-recognition in Egypt because of imperial hostility. Into the period of two-numeral dating, furthermore, comes a peculiar period in which *both* dates only by Galerius and Maximinus *and* dates also including Constantine and Licinius are found, as follows:<sup>51</sup>

<i>Two emperors</i>	<i>Four emperors</i>
	1.viii.309 (17-5-3-1)
8, 14 and 22.viii.309 (17-5)	
26.viii.309 (17-5)	
4.ix.309 (18-6)	
3 and 6.x.309 (18-6)	
	15.x.309 (ref. to 17-5-3-1)
7.xi.309 (18-6)	
	10.xi.309 (18-6-4-2)

It is striking that all of these dates come from the Arsinoite Nome and, except for the text of 1.viii.309, *all from the village of Karanis*.

At all events, Constantine and Licinius again disappear from dating formulas until October 310.<sup>52</sup> After this we find dates with three,<sup>53</sup> four and five<sup>54</sup> numerals in the year 19-7-5-3 (310/311). The next two years show yet more variation in forms of reference.

It is clear, then, that while the accumulation of these dates, the critical investigation of oddities<sup>55</sup> and their tabulation can increasingly pin down certain shifts in dynastic politics, not all variations can be assigned to such political causes. From 309 to 313 the scribal practices became increasingly inconsistent in situations where we have no reason to suspect changes of official recognition as the cause. The reasons for such scribal vagaries are difficult to understand, and

<sup>50</sup> *CSBE* 106 *s.a.* 309.

<sup>51</sup> References are in *RFBE*; Chastagnol missed or could not know some of them and hence (p.225) presents a somewhat different picture. Only secure and precise dates are used.

<sup>52</sup> Some retrospective references to their years *are* found, *e.g.* *P.Cair.Isid.* 118.5 (i-viii. 310). The text from October is *P.Col.* VII 141, in which year 19-7-5-3 appears in lines 98 and 103, and year 18-6-4-2 is referred to in line 97 (all dated to 18.x).

<sup>53</sup> *P.Princ.Roll* i.5, in designation of crop.

<sup>54</sup> *P.Cair.Isid.* 51.7; *cf.* Chastagnol, *op.cit.* (*supra* n.46) 238, and our note in *BES* 1 (1979) 11-13. Chastagnol assigns the year to Candidianus.

<sup>55</sup> Three from this period, two of them much commented by Chastagnol, *op.cit.* (*supra* n.46) 238, disappear on examination by us in *BES* 1 (1979) 11-13.

more work may yet be rewarding; but a comprehensive revision of Chastagnol's remarks on the relationship of the papyri to the political history of this period must take into account the scribal—not political—origin of many of the changes.

The comparison of the standard consular fasti with our lists of attestations for consulates in the papyri is of considerable interest for a revision of the fasti (a much-needed work), as the contemporary evidence from documents in some cases gives a very different picture from that afforded by the official version as revised after the fact (a revision which to a large extent affected the legal sources). The case of 411–412 is treated at length elsewhere;<sup>56</sup> that of 508–509 is not less curious, for we find that *P.Oxy.* XVI 1980, dating by the post-consulate of 507 during 508, adds Venantius, who is lacking from the two papyri dating to the year 507 itself; and an otherwise unknown consulate of Fl. Anastasius IV and Fl. Venantius appears in *CPR* VI 8. When the problems of *BGU* XII 2181 (*p.c.* Fl. ? and Venantius) are added, the whole shows that the official fasti must cover a history rather different from the final edited version.<sup>57</sup> The papyri often present an order of names different from that registered in standard compilations; but on occasion (*e.g.* 480 and *cf.* 496) a western consul is named alone. Papyri also in several cases in the late fifth century indicate a kind of use of postconsular eras.<sup>58</sup>

Generally speaking, the curiously late dates for the diffusion of knowledge of consulates<sup>59</sup> and the often variant versions of consulates given by the papyri deserve full investigation, particularly in conjunction with the *Fasti Heracliani*.<sup>60</sup>

Another conclusion to be drawn from the assembled material is that despite the influence which historians tell us some empresses had, none ever appears in a regnal formula. Empresses *do* appear in oath formulas along with their consorts,<sup>61</sup> but there is no instance in which an empress is included in a preserved dating formula, and the three cases in which editors have restored their names (the wives of

<sup>56</sup> *Mnemosyne* 31 (1978) 287–93. A further note by Alan Cameron, providing western evidence and an explanation, will appear in *BASP* 16 (1979).

<sup>57</sup> The difficulties of *BGU* XII 2181 will be treated in *CNBD* VII 65.

<sup>58</sup> *CSBE* 50–52 on 464–465, 474–476, 479–481 and 482–484.

<sup>59</sup> For this question see *CNBD* VI 63.

<sup>60</sup> *Cf.* the article cited in n.56, *supra*.

<sup>61</sup> See E. Seidl, *Der Eid* II (*Münch.Beitr.* 24, Munich 1935) 10–11.

Justinus II, Tiberius II and Mauricius) are all to be rejected in favor of restorations which fit normal attested patterns.<sup>62</sup> No more than the emperors of the principate did those of the dominate allow their consorts to appear in these regnal dating formulas.<sup>63</sup>

Finally, it is noteworthy that our collection of data gives us for the period 284–641 a complete list of documents for which an exact date is provided by objective criteria; that is, excluding all documents which are dated only by inference from prosopography or institutions. Roger Rémondon published graphs for the period 360–540 in his article on papyrus documentation of fifth-century Egypt,<sup>64</sup> and we have produced an equivalent presentation of the data for the period 541–641. We hope to return to the earlier period on another occasion.<sup>65</sup> We see from these graphs that documentation declines from a rather high level in the late fourth century (especially from Hermopolite archives) to a relatively even but low level through most of the fifth century, until activity picks up again in the latter part of that century, rises in the early sixth and remains rather high, except for the decade of Persian rule, right up to the Arab conquest.

The fourth and sixth centuries are characterized by the presence of numerous archives of varying size. These archives create considerable peaks and valleys in the distribution of documents in the individual nomes and even overall; they also in their sources reveal the fundamental transformation of Egyptian societies. In the fourth century it is the moderately well-off village farmers and the bouletic class which produce most of the archives (this is especially true for Karanis, Theadelphia, Oxyrhynchos and Hermopolis). In the later period, by contrast, it is the large estates, the military, the high imperial administration, and the village of Aphrodito with its *autopragia* which produce the increased flow of paperwork.

The study of means of chronological reckoning is in itself a difficult and complex matter, prone to leave those who engage in it talking to one another in a technical vocabulary and those who watch only a

<sup>62</sup> See *CNBD* II 17, 26 and 28.

<sup>63</sup> The apparent examples in Bureth, *op.cit.* (*supra* n.8) 101, 104–05, referring to Julia Domna, do not come from dating clauses.

<sup>64</sup> “L’Egypte au 5e siècle de notre ère: les sources papyrologiques et leurs problèmes,” *Atti dell’ XI [1965] Congresso Internazionale di Papirologia* (Milan 1966) 135–48.

<sup>65</sup> For the period 541–641 see *BES* 1 (1979) 5–10; the treatment of the earlier period will appear in R. Pintaudi, (ed.), *Miscellanea Papyrologica* (in *Papyrologica Florentina*).

feeling of bewilderment at it all. We have aimed to show that an intensive study of the systems in use in one area in a given period can yield not only an improved capability of dating documents and events—in which it is fundamental to historical studies—but also a better appreciation of how scribes, administrators and societies worked, for that is what the dating of documents reveals in the final analysis.

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