

I doubt), it refers back to *aliquid imbecilli*, and we should interpret *alter alterius imbecilli onera*: 'We have all come before you bearing the burden of some weakness, one of one sort, one of another'. This goes very well with the following tricolon, where, I think, three different 'weaknesses' are mentioned – but who would be able to understand this *alterius*? It is almost bound to be misunderstood in some way. The consequence of this is that something has probably dropped out after *alterius*, and rather than accept the awkward brevity of the MSS I would read *alter alterius <infirmittatis> onera detulimus*.

Now to the corrupt tricolon. H. J. Müller's⁴ apparatus quotes some older and rather violent suggestions, the discussion of which would be pointless here. I will only consider Müller's own conjecture(s), put into the text by himself and by Bornecque (Winterbottom obelizes the last words of the sentence): *accusatur pater in ultimis annis, nepos in primis <adoptatur, in mediis> abdicatur filius*. These changes are obviously meant to create a tricolon, the silliness of which lies in the fact that *in mediis (annis)* does not represent a weakness; on the contrary. Of course, this text is possible, but we get, in my opinion, a rather unattractive sentence at a high price: the present tense is unnatural for the disinherited son, who was by that time not only *abdicatus* but departed, and not much better for the grandson, who had been adopted (in good time) before his grandfather was accused of *dementia*. Further, the three verbs in Müller's version, differently placed as they are within their respective clauses, blur the form of the tricolon.

We can get an *exemplum vitandae ineptiae* in a much easier way: *Accusatur pater in ultimis annis, nepos in primis, abdicatus in nullis* – because he is dead, a silly manner of expression forced by the parallelism of the tricolon and inspired by such much more normal phrases as e.g. Cic. *Tusc.* 1. 87 *de mortuis loquor, qui nulli sunt* (cp. Sen. *epist.* 92. 34), or Pliny *HN* 36. 203 *in rebus damnatis quoque ac iam nullis*.

To say that the grandson and the dead brother are accused as well does not seem more peculiar than to imagine, as the father does, that they are, in a way, present at court; neither thought is meant literally.

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⁴ L. Annaei Senecae *Oratorum et rhetorum sententiae divisiones colores* (Vienna 1887, Hildesheim, 1963).

WHEAT IN THE ROMAN WORLD: AN ADDENDUM

J. K. Evans' well-documented article, 'Wheat production and its social consequences in the Roman world', correctly makes the point that 'the evidence with regard to wheat yields is at once meagre and plainly contradictory'.¹ The difficulty in assessing yields arises, of course, from the character of the available source material; namely, literary sources. The information comes from the hands of men such as Cicero and Varro who were concerned with matters other than specific data on the cultivation and production of grains, and who probably never sowed or reaped a *modius* of wheat. What was lacking until recently was a bona-fide document from the hands of a farmer or a community intimately concerned with the growing of wheat. We now have one such document, P. Colt 82 of the seventh century A.D., that fills a gap in the evidence for yields for both wheat and barley.

Ironically enough, P. Colt 82 comes from an arid region of the Roman empire, from

¹ *CQ* n.s. 31 (1981), 429. See also K. D. White, 'Wheat farming in Roman times', *Antiquity* 37 (1963), 207.

a town in *Palaestina Tertia*, in a region known today as the Negev of Israel, where the average annual rainfall is 100 mm and less. The document, written on papyrus, records the exact amounts of wheat, barley, and *aracus* sown and reaped at six sites in and around a place that is still called Birein. Along with other documents relating to agriculture, it was uncovered at the site of Auja Hafir in Southern Palestine by archaeologist H. D. Colt. Written during the sixth and seventh centuries, the documents revealed that the name of the ancient Byzantine town was Nessana. The site is now called Nitsana, and the Birein referred to in P. Colt 82 is but a short distance to the south of Nitsana. An analysis of the agricultural evidence contained in these documents has been published by this writer in the archaeological report, *Excavations at Nessana*, and in a separate monograph.²

It will be sufficient for the purpose of this note to provide a translation of P. Colt 82 in the form of a summary.³

Place	Modii sown	Modii reaped	(Yield – fold)
Ragorion to Kat	40 wheat	270	6·7
Malalkani	40 wheat	288	7·2
Alphag	180 wheat	1225	6·8
Alphag	50 barley	402	8·0
Birein	40 barley	350	8·7
Birein	30 <i>aracus</i>	97	3·2
Seram	100 wheat	Unrecorded	
Malzemarche	90 wheat	Unrecorded	

An analysis of the agricultural regime of Nessana and its environs (i.e. topography, soils, rainfall, water resources, land organizations, floodwater installations, crops) can readily be found in the publications cited above. I would like, however, to caution against making sweeping generalizations based on the evidence from Nessana. The yields, for example, have no relevance to areas some 30 or 40 miles away to the north or west where, although rainfall may be greater, topographical conditions do not permit the accumulation of winter floods, and the fertilizing silt carried by their waters, to ensure or produce similar yields. At Nessana and its environs we are essentially dealing with patch-cultivation – the only arable soil lay in wadi-bottoms – and to think of these patches as fields of wheat stretching to the horizon would be misleading.

The evidence provided by the Nessana papyri also shows that the inhabitants of this Byzantine town in the desert had decided preference for wheat over barley – only two documents of the entire collection mention barley – and contradicts the point of view of such scholars as Jasny and Jardé that barley was the major grain crop in classical antiquity.⁴

In sum, P. Colt 82 and other Nessana papyri provide us with precise evidence for

² P. Mayerson, 'The ancient agricultural regime of Nessana and the central Negev', in H. D. Colt (ed.), *Excavations at Nessana I* (London, 1962), pp. 211–69 (*The Ancient Agricultural Regime of Nessana and the Central Negev*, British School of Archaeology and the Colt Archaeological Institute [London, 1961], pp. 1–57). For the documents themselves see C. J. Kraemer, Jr. (ed.), *Excavations at Nessana: The Non-Literary Papyri*, III (Princeton, 1958).

³ *ibid.* pp. 227–8, 261 (pp. 17–18, 51).

⁴ *ibid.* p. 227 (p. 17).

grain yields and for the preference for the cultivation of wheat over barley. Taken together with archaeological sightings, the documents also reveal how the ancient inhabitants integrated the local peculiarities of land and water into a productive agricultural system. It must be borne in mind, however, that the evidence applies to one corner of the empire, to Nessana and its environs, or to other marginal regions of the empire possessing similar characteristics of topography and climate.

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