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IV

JANET DELAINE

“DE AQUIS SUIS”?: THE “COMMENTARIUS” OF FRONTINUS

In the preface to the *de aquae ductu urbis Romae* (hereafter *de aquis*) Frontinus defines his work as a *commentarius* in which he has gathered previously dispersed facts to provide a *formula administrationis*, hopefully of use to his successors, yet initially for his own instruction and guidance in his role as *curator aquarum* (*aq.* 2). It is as a *commentarius*, and under the heading of “traités de type administratif” that the *de aquis* finds its place in the *Entretiens*, an interpretation very much in keeping with a growing trend to see the hydraulics of the *de aquis* as merely the subject matter of a type of literature which has been called “the administrative handbook” or “the administrative manual”¹. I am thus going to say very little indeed about the technicalities of water supply, or about how much of it Frontinus did or did not understand; this is an area already well covered by experts in the field of ancient

¹ This is the basic assumption of the two most recent monographs on Frontinus, Ch. BRUUN, *The Water Supply of Ancient Rome. A study of Roman Imperial Administration* (Helsinki 1991) and H.B. EVANS, *Water Distribution in Ancient Rome. The Evidence of Frontinus* (Ann Arbor 1994), and cf. for example, R.H. RODGERS, “An administrator’s hydraulics: Frontinus *Aq.* 35-36.2”, in A.T. HODGE, *Future Currents in Aqueduct Studies* (Leeds 1991), 15-20. There are, of course, still those who insist on a straightforward interpretation; an extreme example is F.R.D. GOODYEAR, “Technical Writing”, in *The Cambridge History of Classical Literature*, II. *Latin Literature*, ed. by E.J. KENNEY and W.V. CLAUSEN (Cambridge 1983), 672, who states firmly that “The *De aquis* is exactly what it claims to be, a systematic account of the water-supply of Rome”.

technology². Rather, what I intend to do in this paper is to try to identify the extent to which the term "*commentarius*" really describes the *de aquis*, in part by identifying what else the *de aquis* is.

What is a *commentarius*? The general consensus seems to be that it is a set of instructions or the text accompanying a thing to be used: that is, in essence, a written aid to those engaged in practical occupations, whether magistrates or architects³, so that "administrative handbook" is a reasonable translation for any *commentarius* which serves a public office or concerns a public facility. In that case, there is no question but that the parts of the *de aquis* describing the individual lines, at least, read like a technical *commentarius* on the maps Frontinus tells us he prepared (*aq.* 17), modelled on the *commentarii* of Agrippa (*aq.* 99), as Evans has pointed out⁴. Much of the rest, particularly the legal codes plus commentary which occupy *aq.* 124-130, read like an administrative *commentarius* or handbook. Indeed, for Bruun the *de aquis* is predominantly an administrative *commentarius* but of a rather different kind, a "how to be a Roman administrator" rather than "how to be a *curator aquarum*", in the sense that Varro is a manual on "how to be a gentleman farmer".

In this sense he finds the *de aquis* lacking in completeness — for him, it does not work as a manual which would answer all the questions concerning the administration of Rome's water supply, and it leaves many aspects of the task of a *curator aquarum* unclear⁵. Although Eck has previously explained

² See especially A.T. HODGE, *Roman Aqueducts and Water Supply* (London 1992), and bibliography.

³ For a full discussion see F. BÖMER, "Der *commentarius*", in *Hermes* 81 (1953), 210-50. GOODYEAR 1983 (see note 1 above), 672 briefly discusses the term as applied to Frontinus, but is largely concerned with literary technique (or lack of it). Cl. NICOLET, *Space, Geography, and Politics in the Early Roman Empire* (Ann Arbor 1991), 101 provides a succinct treatment in the context of Agrippa's map.

⁴ EVANS 1994 (note 1 above), 56-63. Indeed Evans argues that Frontinus took Agrippa as a model in other aspects of his curatorship as well.

⁵ BRUUN 1991 (note 1 above), 16-18. But note that when assessing the *de aquis* as a technical handbook, Bruun (p. 15) is attune to the possibility that ancient handbooks may have worked differently to modern equivalents.

away its failings in this respect by suggesting that Frontinus was pioneering the genre "administrative handbook"⁶, Bruun compares it to works like the *Gnomon of the Idios Logos*, which he thinks of a "real" administrative handbook, probably part of a tradition going back to Augustus, and concludes that Frontinus must have known and used such "real" administrative handbooks and thus had, as it were, no excuse for not getting it right. Now, to my mind it is unreasonable to expect ancient technical or administrative manuals to meet our exacting and thoroughly 19th or 20th century specifications for such works, and indeed our sense of discomfort at the failings of the *de aquis* might be rather less if we realised how far even *real* modern examples of technical handbooks fall below the standard we somehow expect of Frontinus and others; anyone who has tried to use a computer manual is only too well aware of this problem. Indeed, to return to the *Gnomon of the Idios Logos*, the preface specifically says that it is a synopsis of the relevant laws, and even then only of the main part of it, leaving the recipient "to supply from memory the missing parts of this version"⁷. Hardly a model of completeness! But we should remember also that the ancient world had a much more restricted access to information than we do, and thus perhaps a different view of the completeness which Frontinus claims in his introduction.

If, then, the lack of completeness which has troubled commentators can be dismissed as an anachronism, nevertheless a sense of discomfort remains about the *de aquis* as a straightforward work of any kind, even as a technical *commentarius* or an "administrative handbook". "There is", to quote Evans, "really no clear parallel to Frontinus' treatise in the body of extant Roman literature" — and that is true even if we include texts like the *Gnomon*⁸. Attempts to explain the difficulties have been

⁶ W. ECK, "Die Gestalt Frontins in ihrer politischen und sozialen Umwelt", in Frontinus-Gesellschaft (ed.), *Wasserversorgung im antiken Rom* (München 1982), 56-57.

⁷ S. RICCOBONO, *Il Gnomon dell'Idios Logos* (Palermo 1950).

⁸ EVANS 1994 (note 1 above), 53.

many. Grimal's explicit discussion of the *de aquis* as a political work in praise of the emperor Trajan, in the introduction to the Budé edition of 1944, led scholars to look increasingly for the hidden political agenda which might explain the perceived failings of the *de aquis* on a technical level⁹. To this has more recently been added a view of the *de aquis* as a piece of self-glorification on Frontinus' part¹⁰. Bruun has also suggested that it functioned as a kind of "*Scientific American*" style introduction to a technically difficult subject for the general educated reader, in the manner of Pliny's *Natural History* — an encyclopedia entry under the heading: Rome, city, aqueducts¹¹.

Still, none of these interpretations entirely account for the many intrinsic peculiarities of the text as we have it, for example the difficulty in places of deciding which emperor — Nerva or Trajan — Frontinus is talking about at any given point¹². One possible explanation is that discrepancies could have arisen if Frontinus revised his original *commentarius* for wider circulation, a point made long since by Grimal but taken up again more recently¹³. By considering this as a work in two stages, we can accept that some at least of the technical and factual content was, as Frontinus says, gathered together to help him understand his new office, both from existing written

⁹ P. GRIMAL (ed.), *Frontin. Les aqueducs de la ville de Rome* (Paris 1944), xv-xvi. The idea had, however, already been suggested by T. ASHBY, *The Aqueducts of Ancient Rome* (Oxford 1935), 26-27.

¹⁰ BRUUN 1991 (note 1 above), 178-79, 186-87, 370; EVANS 1994 (note 1 above), 63.

¹¹ BRUUN 1991 (note 1 above), 18-19.

¹² I am not concerned here with textual problems, but with the content as we understand it. At *aq.* 93, 4 the emperor is clearly Trajan, and at 102, 17 Nerva, which means that *aq.* 1, 1 is Nerva also; *aq.* 102, 4 and 118, 3 refer to Divus Nerva. *Aq.* 88, 1 ought to be Trajan because this starts the lists of reforms that end with 93, 4, but it is also possible that these started under Nerva; *aq.* 64, 1 and 87, 1 could be either. Not all scholars are in agreement; HODGE 1992 (above note 2), 16-17 appears to think that Trajan is meant except where Nerva is referred to as Divus.

¹³ GRIMAL 1944 (note 9 above), ix; R.H. RODGERS, "Copia aquarum: Frontinus' measurements and the perspective of capacity", in *TAPhA* 116 (1986), 353; EVANS 1994 (note 1 above), 56.

sources — the *commentarii* of Agrippa, the other imperial *commentarii* mentioned frequently in *aq.* 64-74, the legal enactments which occupy much of *aq.* 96-130 — and from his own investigations in the field. This still, however, brings us to the crux of the matter: explaining the nature and context of the text as we have it, and the degree and way it differed from a straightforward *commentarius*. In this sense it is the political context which has received most attention; but before I turn to a re-evaluation of this aspect, I want to look at that element of the text which surely must have distinguished the notes of Frontinus' *commentarius* from the extant version of the *de aquis*: its style.

Even to mention "style" and "Frontinus" together in the same breath, unless in the strongest negatives, is, it seems, to take a radical, if not revolutionary, stance. Goodyear is perhaps typical of those who discuss Frontinus as a writer at all; he describes it as "in general unaffected, though one finds occasional embellishments", precisely in the plain or unpolished style of the *commentarius*¹⁴. Hodge is more directly scathing: the "*De aquaeductu* (he says) must qualify as one of the driest [sc. manuals] ever written, and is wholly devoid of literary pretensions or elegance whatever"¹⁵. Only Grimal notes "le ton solennel" of the introduction, without going into further analysis¹⁶. While I have no intention of enrolling Frontinus among the great Latin authors, I could not disagree more with this denial of any stylistic sophistication in the *de aquis*. For what were Frontinus' audience, indeed what are we, to make of a work which, after a short preface itself divided into a rhetorical *exordium* and *partitio*, begins "*Ab urbe condita...*"?

The first 16 chapters, the potted histories of the aqueducts themselves, are usually accepted as somehow having a natural place in the work as a whole, if often confused and insufficient

¹⁴ GOODYEAR 1983 (note 1 above), 672.

¹⁵ HODGE 1992 (note 2 above), 16.

¹⁶ GRIMAL 1944 (note 9 above), XVI.

in factual content; Grimal assumed that Frontinus had to turn to annalistic historians to fill the gaps in the official records¹⁷. Each chapter gives the date of the aqueduct, names the person or persons responsible for it, comments on the attendant circumstances, and then briefly describes its source, the nature and length of the construction, and its course. Thus we have for each aqueduct a history and a physical description of the monument, and both of these parts belong to quite recognisable literary genres.

The histories are in fact composed, although not very well, in the highest tradition of prose literature, annalistic history. The means of dating alone give the tone. Frontinus uses the era dates — from the founding of the city — seven times in 10 chapters¹⁸. Despite “*ab urbe condita*” being so familiar to us as the title of Livy’s great work, Livy himself usually dates by consuls, the normal Roman way of dating an event, and as far as we know uses AUC dates only at the beginning of sets of books — e.g. Book 6, the start of the first decade — where they identify the significant event of the period to be covered, and for events of particular importance: the foundation of the Roman Republic, the start of the First and the Third Punic Wars¹⁹. The portentous tone of “*ab urbe condita*” dates is clear in later historians, too; Tacitus, for example, uses it only at the very beginning of the *Histories* (*hist.* 1, 1)²⁰. Indeed, there are very

¹⁷ GRIMAL 1944 (note 9 above), X-XI. EVANS 1994 (note 1 above), 56, dismisses the histories as “sketchy and statistical”.

¹⁸ The era dates were a later practice and one on which there was no consensus until, probably, the Augustan Fasti where each tenth consular year has a date AUC appended. See A.E. SAMUEL, *Greek and Roman Chronology. Calendars and Years in Classical Antiquity* (München 1972), 249-52.

¹⁹ The only surviving examples of actual dates AUC are Livy 1, 60, 3; 6, 1, 1; 31, 5, 1; 47, 1, 20; 49, 1, 2 and 1, 19. Otherwise Livy uses “*ab urbe condita*” or “*post urbem conditam*” as a general indication of time, e.g. 7, 32, 8 (used as a very large number); 8, 25, 2 (5th *lectisternium* since the city was founded).

²⁰ Velleius Paterculus uses it only three times, for the eruption of civil war, for Octavian’s first consulship, and for the adoption of Tiberius (VELL. 2, 49, 1; 65, 2; 103, 3); Florus only at the end of his *Epitome* when Augustus closes the gates of Janus for only the third time in 700 years (*epit.* 2, 34).

few other places in extant Latin literature which use AUC for specific dates²¹.

Not that Frontinus uses AUC dates alone to give an annalistic feel to his work. For the Aqua Appia and the Anio Novus he relates the construction to important events in Rome's history — the beginning of the Samnite War (*aq.* 5, 1), and the war with Pyrrhus (*aq.* 6, 1) respectively²². The section on the Aqua Marcia cites a relatively obscure source — the antiquarian and annalistic historian Fenestella — for the cost of construction (*aq.* 7, 4), and tells the story of how water was brought to the Capitol despite the injunctions of the *Sybilline books*, even giving an alternative reading — the waters of the Anio rather than the Marcia — based on the most common tradition²³. There is even an etymological aside, on the origin of the name of the Aqua Virgo (*aq.* 10, 3), yet another technique used in historical writing.

As is fitting in a work of annalistic history, nearly all of the histories of the individual aqueducts dwell on the invariably great and famous men, holding the highest offices of the state, who were responsible for, or had their names associated with, the building of the various aqueducts; and that this reflects a concern in assigning *gloria* (Frontinus uses this precise word) is

²¹ Two are in Pliny's *Naturalis historia* (18, 107, 2; 35, 22, 5), and these are the only ones that seem at all parallel to Frontinus' use in terms of context; the first is similar to *aq.* 4, giving the length of time before there were professional bakers in the city, while the second dates an event of great significance in Pliny's history of painting, the first painting to be publicly displayed at Rome, celebrating a major Republican victory. The other occurrences of *ab urbe condita* or more often *post urbem conditam* all are equivalent of "extremely old" or "in all our history". Thus, for example, CIC. *dom.* 50, 11; SALL. *Catil.* 18, 8, 3; PLIN. *nat.* 1, 16a, 142; TAC. *hist.* 3, 72, 1.

²² For the difficulties of reconciling Frontinus' AUC and consular dates, and possible reasons for this, see GRIMAL 1944 (note 9 above), 66-67, note 4.

²³ See R.H. RODGERS, "What the Sibyl said: Frontinus *Aq.* 7.5", in *CQ N.S.* 32 (1982), 174-77, for the most recent discussion of this passage, and the possibility that Livy was at least one source of the alternative reading. GRIMAL 1944 (note 9 above), x and xi note 4, identifies the annalistic basis and Frontinus' attempts at source criticism, but does not recognise this as a deliberate stylistic choice on the part of Frontinus.

made explicit in the case of the Anio Vetus (*aq.* 6, 4). The building of the aqueducts is treated like a war of conquest, a point which *aq.* 18, 4-5 tends to reinforce; the underground channels of the older aqueducts reflecting the frequent state of war in Republican Italy are replaced with arches above ground, so that the development of the aqueducts parallels Roman territorial expansion in Italy.

The second part — the physical description of the individual lines — also contributes to this identification of the aqueducts as the empire. The concept of the physical entity of Rome as the greatest wonder in the world took hold in the Augustan age, and appears in various forms among several writers of the period and beyond. One recurrent version, found first in Dionysius of Halicarnassus (3, 67, 5) and Strabo (5, 3, 8), is particularly germane to my argument here, and I quote from Dionysius:

“Indeed in my opinion the three most magnificent works of Rome, in which the greatness of the empire is best seen, are the aqueducts, the paved roads and the construction of sewers”.

The whole historical section of the *de aquis*, of course, ends with perhaps its most famous passage:

Tot aquarum tam multis necessariis molibus pyramidas uidelicet otiosas compares aut cetera inertia sed fama celebrata opera Graecorum.

“So many aqueducts on so many necessary and massive constructions! Take the pyramids — clearly idle — in comparison, or those other things, lifeless but — in common opinion — celebrated, the works of the Greeks.”

I have translated this rather more literally than is normal and with an eye to the Latin word order, in order to bring out the rhetorical nature of the passage and its supercilious tone. The passage is worth a closer examination than it usually receives. Comparison with the pyramids is perhaps natural, as they were, after all, the archetype of wondrously large structures, indeed one of the canonical seven wonders of the world. But I think

we can be more specific than that. Frontinus had clearly been reading Book 36 of Pliny's *Natural History*, where the pyramids are not just a superfluous display of wealth but are specifically *otiosa* (*nat.* 36, 16, 75), and where much is said about the reputation (*fama* is the recurrent word) of Greek sculptors in marble (*nat.* 36, 4, 9-43).

More important, it is Pliny who gives the most developed expression to the idea that the monuments of the city of Rome are the greatest wonders of the world, even greater than the other things described in that Book, wonders through which the world has been conquered (*nat.* 36, 24, 101); and the culmination of his account, the true miracles, are the aqueducts *nil magis mirandum fuisse in toto orbe terrarum*, "nothing more remarkable than which has ever existed in the whole world" (*nat.* 36, 24, 123). Many of the elements in Pliny's brief description reappear in Frontinus: the historical setting and the famous men (Quintus Marcius Rex, Agrippa and Claudius), the sources of water and the cost of bringing it to the city, the amount of water and the physical achievement of conquering nature (*nat.* 36, 24, 121-122). So that in the rhetorical flourish with which Frontinus closes this introduction to the aqueducts, he underlines their exalted position in the discourse on Rome itself, both as empire and as capital of empire. Placed in this context, Frontinus' next statement, on the importance of the *curator aquarum* in maintaining the aqueducts (*aq.* 17) anticipates the explicit affirmation of *aq.* 119; the maintenance of the aqueducts is *rem enixiore cura dignam, cum magnitudinis Romani imperii uel praecipuum sit indicium*, "worthy of more special care, as it gives the best testimony to the greatness of the Roman empire".

Frontinus explains how he went about this particular duty, by detailed examination and having plans made, *ut rem statim ueluti in conspectu habere possimus et deliberare tamquam adsistentes*, "in order to have the thing immediately before one's eyes, as it were, and think about it as if standing in front of them" (*aq.* 17). Here, following the history and the panegyric of the

empire, is the geography. It is a geography of Rome, first tracing the lines of the aqueducts within the city and its proximate *suburbium*, and locating them with respect to topographical features whose names are redolent of Rome's history — Porta Capena, via Latina, Spes Vetus, Horti Luculli, etc. (*aq.* 18-22). While Evans has linked this to the mapmaking of Agrippa, Agrippa's most famous map was a map of the world, not of Rome. That there was an Agrippan map of the aqueduct system can be deduced from Frontinus' own evidence, but it may be possible to put Frontinus' geography of the aqueducts also in the context of another public map, the *Forma Urbis* of the Flavian period.

After the history and geography, the next 44 chapters mark a change. They are the most technical — in the sense of technological — of all, and probably the ones which have received most comment by the hydraulicists; they deal, of course, with the sizes of pipes and the measurement of water. Rather than look at this technical content, I want again to look at how this section is written. Here we enter the world of mathematics, or at least that part of it which can be applied in everyday life and therefore useful for the practical man to understand if not actually use himself. The tone is didactic, and the exegesis starts from first principles, defining inches and digits (*aq.* 24), explaining the origin and nature of the *quinaria* and the measures derived from it. For good measure, there is a patently philosophical statement on the immutability of measurement²⁴.

The closest parallel to this section comes from Columella, where at the start of Book 5 he inserts an explanation of simple land measurement techniques, starting with the definition of his units of measurement (5, 1, 4-13), but under protest that this is really the field of the specialist geometrician or surveyor, not of country farmers (*rustici*) (5, 1, 1-3). On a more general

²⁴ *Aq.* 34, 3: *Omnia autem quae mensura continentur, certa et immobilia congruere sibi debent; ita enim uniuersitati ratio constabit.*

level, Frontinus' mathematics are like those of Vitruvius — who after all contributed to the system of water measurement and is cited by Frontinus — that is they are practically orientated; any more specific and detailed interest is for the mathematician²⁵. And Frontinus makes it clear that he only includes even this much mathematics because it serves a specific purpose, to explain the detection of fraud, a leitmotif of the *de aquis* (23, 2, cf. 32-34). This is strengthened in the next section where is a comparable use of figures to identify discrepancies between the capacity of the individual aqueducts according to the imperial records and according to Frontinus' findings (*aq.* 64-76); here too the value of applying mathematics — doing the sums — is in real situations.

Nor does the concern with numbers stop here, but flows on into the next 10 chapters. These are, however, statistics rather than calculations, those ordered lists which constitute the "potent statistics" that Purcell believes contribute to a "conceptual geography", and the ones indeed which take us back to Pliny's account of the aqueducts — the amount of water distributed from each aqueduct to the different regions of the city and the different types of functions and buildings²⁶. The abstruseness of this type of material, which to borrow another phrase from Purcell constitutes a "rhetoric of obscure information", is indeed recognised by Frontinus himself (*aq.* 77) at the start of the list; "I know very well that such an enumeration will appear not only dry but also complicated; but I will make it as short as possible...those who are happy just to know the totals can skip the details".

While the numbers in both these sections have been mined by commentators looking for useful factual information, the implications for the reader of the text have not, to my knowledge, ever been taken into consideration. Under normal conditions

²⁵ See P. GROS, "Vitruve: l'architecture et sa théorie", in *Aufstieg und Niedergang der römischen Welt* II 30, 1 (Berlin 1982), 671.

²⁶ N. PURCELL, "Maps, lists, money, order and power", in *JRS* 80 (1990), 180.

of reading, these numbers were heard rather than just seen. The list of fistula sizes has a particularly somnolent effect when read out loud, but more importantly, how comprehensible were the figures? Were the Romans any better than we are at understanding multiple fractions or of retaining more than two or three complex numbers out of a series? In a real administrative handbook the numbers would have had force (even if some of the sizes were according to Frontinus no longer in use), but in a literary composition for any wider audience they can only have had one aim, to impress the reader with the author's learning, and to manufacture an air of mystery around the subject; a rhetorical device, in fact. Rhetorical too is the short (8 chapters) panegyric on the care of the emperor for the city, the theme of which is purification, of the water and thus of the whole city itself (*aq.* 87-93, especially 88-89); it concludes with the solemn recital of the emperor's titles (*aq.* 93).

History, geography, philosophy, obscure and encyclopedic knowledge, rhetoric — all components of the complete Roman education, the kind of education outlined by Vitruvius for his ideal architect, or by Cicero for his complete man²⁷. Only law is missing, and it is to law that the *de aquis* turns in its last 36 chapters. This is the section most treasured by those who see the *de aquis* as an administrative treatise. Its legalistic flavour is indeed very strong, as is its obvious dependence on earlier written accounts of the water administration, especially those made by Agrippa which Frontinus refers to specifically (*aq.* 99). Here the legal interests of Frontinus himself can be detected; after all, one of Pliny the Younger's anecdotes shows Frontinus as a respected legal expert (*epist.* 5, 1,1-6), and the *de controuersiis* shows this legal ability applied in the area of land surveying. His spell of duty as proconsul of Asia must also have added to his legal standing²⁸. If Frontinus' intent was in part to show off his legal knowledge, the citing of these rulings *uerbatim* and the

²⁷ VITR. 1, 1; CIC. *de orat.* 3, 32-33, 126-136.

²⁸ See ECK 1982 (see note 6 above), 55 for this aspect of Frontinus' career.

inclusion of the apparently out-dated *senatus consultum* at *aq.* 104 would gain some point.

I have tried in this analysis to take the text very much in the order it would have been read, in order to emphasise the cumulative impression made on the reader, rather than dipping into it as the seekers of technical information are particularly inclined to do. As the *de aquis* progresses, then, it reveals a Frontinus familiar with rhetoric, history, geography, philosophy, oratory, law and administration, a man of encyclopedic learning but also of practical experience, in fact the complete Roman senator of the austere school, plain in speech but well-educated, a later Cato or Agrippa. In the Preface to the *de aquis* Frontinus sets himself firmly in the long line of eminent men, the *principes uiri*, the leaders of the state, who had in the past been his predecessors in the post, and these men are finally identified towards the end of the work (*aq.* 102). They include the jurists Ateius Capito and Cocceius Nerva (the emperor's grandfather), and orators such as Messala Corvinus and Domitius Afer, and of course Agrippa himself. By presenting the aqueducts as one of the wonders of Rome, indeed as one of the wonders of the world, Frontinus shows that the post of *curator aquarum* is one of paramount importance, and that in maintaining Rome's water supply not only is the city of Rome, the "queen and mistress of the world", restored to health (*aq.* 88), but by implication, so is the empire itself, as we have seen Frontinus himself makes explicit (*aq.* 119). Some of the glory goes, of course, to the emperor, but the overall effect of the *de aquis* is to show that most of it goes to the *curator*. Frontinus could not make his contribution to the empire by building his own aqueduct, as Agrippa and the Republican magistrates had, but having the care of them is represented as equally, if not more, important.

In his role as *curator aquarum*, Frontinus is, then, in a way, acting for, if not as, the emperor himself. This is made explicit in the opening sentence of the whole work, not just by the statement that the post itself was a charge from Nerva, but by

Frontinus' choice of language; he is roused *non ad diligentiam modo uerum ad amorem* when entrusted with a task, while the Nerva in the next line is described as *nescio diligentiore an amantiore rei publicae imperatore* — in other words having the same virtues and attitudes as Frontinus, only more so. Now, Frontinus has a reputation among modern commentators as a modest man, a sentiment derived largely from his own words as reported by Pliny: *Impensa monumenti superuacua est; memoria nostri durabit, si uita meruimus* — "There is no need to spend money on a large tomb; my memory will endure, if my life has deserved it" (*epist.* 9, 19, 6). Pliny, we should not forget, did not think this modest at all, on the grounds that Frontinus published this saying throughout the world — one would love to know where Pliny had heard it. It is not in the *de aquis*, but the whole of this work conveys the same message, the *diligentia* of Frontinus never being long absent from the narrative. Indeed, if we want a motive for the transformation of Frontinus' *commentarius* into our text, for its greatly elaborated form and its wider dissemination, then this display of the value of his life may give it to us. As has been noted by others, but generally without extensive argument, the *de aquis* is — part at least — of Frontinus' *monumentum*²⁹. The natural corollary to this is that the technical details in the *de aquis* have little importance **for themselves**.

It would be harder to argue this point were it not for our knowledge of the rest of Frontinus' oeuvre, the works of surveying preserved in the *Corpus Agrimensorum Romanorum* and the military writings, the *Strategemata* and the major work on the art of war used by Vegetius. These were clearly still current in an abridged (or even extended) form in late antiquity and cited as sources by later authors³⁰. The *de aquis* is different from these, as it is different from most of the surviving literary

²⁹ See note 10 above.

³⁰ The lost work on military science was noted by Aelian (*De instruendis aciebus, Praef.*) and cited as one of his main sources by Vegetius (*mil.* 1,8).

works with which it has been compared, in that there are virtually no references to it in later Latin and Greek literature, either directly or indirectly. While there is always a problem arguing *ex silentio*, contrast the other of Frontinus' works and Vitruvius, whose work forms the basis of the two later building manuals, Faventinus and Palladius³¹. Nor is there much sign of Frontinus being used as a source of information on the aqueducts of Rome, unless the mention of Claudius bringing water *Simbruinis collibus* in Tacitus (*ann.* 11, 13) was inspired by *aq.* 15 on the Anio Novus. The one possible exception, where something of the content and the flavour of the *de aquis* seem to be reflected however briefly, is in the *Formula Comitiae Formarum Urbis* of Cassiodorus (*uar.* 7, 6), but close verbal echoes are insufficient to make a clear case.

This lack of later reference together with the style of the *de aquis* suggests to me that the value in antiquity of the work we have was tied closely to the specific circumstances under which it was created. But what were these circumstances? Grimal placed the publication of the *de aquis* in March of AD 98, or at the latest before the summer of that year, on the grounds that Frontinus would not have continued to act as *curator aquarum* while holding his consulship³². It was certainly after the death of Nerva, but not long after, as the confusion over which emperor Frontinus is referring to on occasions reveals. Let us consider the crucial period for a moment. Domitian had been assassinated in September of 96 and Nerva had taken over the reigns of the state immediately at the express wish of the senate. Change was in the air, change which seemed to give the senate renewed powers. Two of Nerva's early reforms affected Frontinus directly: the setting up of an economy commission

³¹ See H. PLOMMER, *Vitruvius and Later Building Manuals* (Cambridge 1973).

³² GRIMAL 1944 (note 9 above), IX, as had already been suggested by R. SYME, "Imperial Finances under Domitian, Nerva and Trajan", in *JRS* 20 (1930), 57. For a more cautious dare, see BRUUN 1991 (note 1 above), 10 (around AD 100).

of which Frontinus was a member, probably in late 96³³; and a resuscitation of the senatorial post of *curator aquarum* in 97, which Bruun thinks may possibly have been in desuetude in the later years under Domitian³⁴. By mid 97 or a little later, the praetorians were in revolt and Nerva had been forced to accept the execution of the Domitian's assassins; his response was formally to adopt Trajan in October 97, ending the vain hope that control of the empire really had returned to the senate. Trajan was consul for the second time on 1 January with Nerva, but before the end of the month Nerva was dead. Trajan, although consul, was out of Rome, so that for the rest of the year the senate was ruled by the suffect consuls, all older men, the contemporaries and supporters of Nerva, including, of course, Frontinus himself³⁵. Trajan returned to Rome in AD 99, but held the consulship for the third time only the next year, when Frontinus was *ordinarius* with him and also consul for the third time — a very rare honour indeed, as several scholars have noted³⁶. Frontinus had thus gone in very quick succession from *curator aquarum* to cos II to cos III, both consulships with Trajan as colleague and when Trajan was holding the consulship for the same number of times, long unheard of for someone outside the imperial family. What wonder, in a period in which a senator has been elected emperor and the senate seemed to be regaining its lost powers, that Frontinus might just portray himself as the emperor's equal?

This I think brings us closer to the specific circumstances, and to the real context of the *de aquis*. The two occasions when Frontinus really was the virtual equal of the emperor were his

³³ PLIN. *paneg.* 62.

³⁴ BRUUN 1991 (see note 5 above), 179.

³⁵ See F. ZEVI, "Un frammento dei *fasti Ostienses* e i consolati dei primi anni di Traiano", in *La Parola del Passato* 34 (1979), 185 note 20 and 189-91.

³⁶ W. ECK, "Beförderungskriterien innerhalb der senatorischen Laufbahn, dargestellt an der Zeit von 69 bis 138 n. Chr.", in *Aufstieg und Niedergang der römischen Welt* II 1 (Berlin 1974), 222-23; ZEVI 1979, 191-92; ECK 1982 (note 6 above), 60.

two consulships, either of which might have formed a suitable occasion for a piece of self-praise that was itself a praise of Rome and a recognition of the new importance of a senate which needed recalling to its duty by example. I would like to be greedy and have both, since I think a case can be made for there having been three versions of the *de aquis*, not two. Between the original *commentarius* and the work as we have it was, I suggest, a speech to the senate either just before or during his second consulship, perhaps indeed to present the results of his curatorship, but certainly in Trajan's absence to judge from the second place played by the emperor and the mildness of the panegyric it does contain — we only have to look at Pliny's speech on taking up his consulship to see what a real panegyric looked like³⁷.

Much of the *de aquis* in fact reads like a speech, with frequent use of the first person and rhetorical flourishes; even the length is not inappropriate³⁸. This could, of course, merely be due to the rhetorical nature of most Latin literature and the practice of public recitation of works before circulation of the written text, but taking the text as a speech solves some problems. One is the omission of all reference to Domitian (except once in a pejorative context, *aq.* 118) and any *curatores* or events of his reign, which would have been uncomfortable to mention in front of the Senate given the very recent difficulties between Nerva and the praetorians. There is also the curious passage in which, after listing the distribution of water in the city, Frontinus points to the work recently initiated by the

³⁷ I cannot agree with GRIMAL 1944 (note 9 above), XV, that the *de aquis* is an official manifesto in which Frontinus is acting as the emperor's mouthpiece, and that it is thus in the same class as Pliny's *Panegyricus*. The fact that it is sometimes not clear which emperor is intended (see p. 120 n. 12 above) seems proof enough of this, particularly given the relatively small role played by the emperor. In addition to the *Panegyricus*, Vitruvius' prefaces with their direct address to Augustus provide a contrast.

³⁸ The length is similar to some of Cicero's forensic speeches, e.g. the *pro Roscio Amerino*, and to the second *de lege agraria*. Notably, it is little more than half the length of the near contemporary *Panegyricus* of Pliny the Younger.

emperor to improve this, and adds "I know I should give the details of the new arrangement, but I will add this when ready; you must realise that no account should be made until they are finished" (*aq.* 88) — more reasonable if Frontinus intended giving a further account to the Senate at a later date than adding an appendix to a text already put into public circulation.

It makes particular sense also of the end of the *de aquis* (*aq.* 130), in which Frontinus explains — rather condescendingly — that he has tried to let those who have transgressed the law protecting the aqueducts go unidentified, and that those who sought the emperor's pardon ought to thank Frontinus for his indulgence; he then finishes with a warning that, although he hopes in future no action will be needed under the law, it will be taken if necessary. This suggests a specific audience, present there before him, in which were a number of guilty parties, presumably known to some but studiously ignored by all. Given what we know of the owners of both private water pipes and the land on which the aqueducts ran, the specific audience is most likely to be the Senate. After all, the model Frontinus himself cites for the treatment of other aspects of water fraud was itself a speech, given by Cicero's friend Caelius Rufus as aedile and entitled "*de aquis*" (*aq.* 76). Finally, I wonder if Frontinus' quip about those who are satisfied with knowing just the totals of water distributed being allowed to skip the details indicates the place at which, in the speech, those in the back row of the senate started to nod off to sleep!

I have dwelled rather at length on the aspects of the *de aquis* which do **not** act like technical literature partly to show the difficulties created by assigning works modern labels, but also to allow us to characterise the technical elements and to try to identify their function in the *de aquis* as we have it. The first point I want to make depends to some extent on accepting that there was both a *commentarius* and a speech. The *commentarius* of Frontinus, as I have said, was based in part on earlier *commentarii*, and in part corrects them; that is, in civil service

peak, one of Frontinus' activities as *curator aquarum* was "updating the records". This is clearest in the long list of the supposed capacity of each aqueduct and what Frontinus found they actually provided (*aq.* 64-73). I am not interested here in how Frontinus tries to explain the discrepancies, but in the act of renewing statistics. This activity of updating records is also understood in *aq.* 88, where Frontinus says he should give the new figures for the distribution of water in the city, but will wait until the work is finished.

Frontinus was clearly not the first to have updated the records since the original *commentarii* of Agrippa, since he has figures for the Aqua Claudia and Anio Novus. When Frontinus (*aq.* 97) cites Ateius Capito for an anomalous regulation giving the aediles and censors control over the watering of the Circus Maximus even after the introduction of *curatores aquarum*, he is perhaps giving evidence of similar activity, but this on the legal rather than statistical side. Capito was of course *curator aquarum* under Tiberius, and a notable jurist (*aq.* 97), as were other *curatores* like Cocceius Nerva, and I do not think that this was accidental. Legal matters occupy most of the last 30 chapters of the *de aquis*, and were clearly a major factor in the administration of the aqueducts. It strikes me as important that most of the laws Frontinus cites were established in 11 BC, after the death of Agrippa and at the time the *curatores aquarum* were created, and that they seem to have been formulated at least in part by Augustus on the basis of Agrippa's *commentarii* — at least that is how I interpret *aq.* 99-100. One function of administrative *commentarii* would then be to provide the data which informed the legislative process; and Frontinus has chosen to make his *commentarius* more palatable by putting it in a literary form, leavened with a dose of political rhetoric and seasoned to the right degree of political correctness, in this case a return to senatorial power and to the good old days, with Frontinus playing Agrippa to Trajan's Augustus. Sadly, without a later Frontinus for comparison, we have no way of knowing whether the intention was simply to strengthen and

reiterate the existing legislation in the light of the recent changes to the water system, or to pave the way for entirely new legislation.

Why then was our *de aquis* composed, and what was its audience? That it was actually written as a guide to Frontinus' successor(s) as *curator aquarum* is highly unlikely given the literary and rhetorical flourishes; that document would surely have been the *commentarius* proper. One possibility is that the putative speech was revised, or the work itself created, specifically as a *monumentum* to Frontinus' extraordinary political achievement of a third consulship. Since a work to celebrate a third consulship held with Trajan would have, perforce, to have concentrated more on the emperor than on Frontinus himself in the manner of Pliny's panegyric, a "*de aquis suis*", concentrating as we have seen on the importance of the *curator aquarum* in maintaining one of the wonders of Rome and her empire and on the tradition of service to the state by her great men, seems more logical than a Ciceronian "*de consulato*".

Such a work, proclaiming the glory still obtainable through service to the state, must have been highly attractive to a senate returned, or so it seemed, to its former power, under an emperor who was no longer *dominus* but *princeps*. If Frontinus was to be a model for his successors, it was perhaps not in his role of *curator aquarum* but as *princeps senatus*, a replacement for Verginius Rufus, *consul ordinarius* for the third time with Nerva in 97 and dead in the same year, the archetypal self-effacing senator of the old school, who might have been emperor, but put country before personal ambition. That the *de aquis* also makes a nice parable about the state of the *res publica* and the role of the *princeps* and the senate in it, is perhaps no surprise.

It is surely no surprise either that the majority of references to Frontinus himself in other literature belongs, as far as we can tell, precisely to the years 98-104 AD or just after, when his personal impact could still be felt: the poems in Book 10 of Martial's *Epigrams*, the second version of which dates to AD

98³⁹; Tacitus' *Agricola*, in which he gives a very flattering vignette of Frontinus — *uir magnus* he calls him — as governor of Britain, again published in AD 98⁴⁰; and almost certainly the equally flattering reference in Aelian's *Tactics*⁴¹. The three references in Pliny's *Letters* are particularly revealing, as we see his adulation start to wane a little as Frontinus' influence passes after his death in 103 or 104. The first must date to just that time, as Pliny is granted the position of augur vacated by Frontinus' recent death; Frontinus is *princeps uir*, and Pliny succeeding him is represented as a reason for congratulation in itself (*epist.* 4, 8). This is followed (perhaps soon after) by the story of Curianus, part of which relates an inheritance case conducted by Pliny, seated between Corellius and Frontinus, *duos quos tunc ciuitas nostra spectatissimos habuit* — "the two most respected citizens of the time", but clearly, we are left to complete, not of the present (*epist.* 5, 1, 1-6). Finally, there is the discussion of the relative merits of Verginius Rufus and Frontinus, and their attitudes to *monumenta*, in which, as we have seen, although not actually denigrated, Frontinus clearly comes off the worse in Pliny's eyes (*epist.* 9, 19).

If the *de aquis* enjoyed wide circulation — and there is no indication that it did other than the very fact of its survival — it presumably did so because of the pre-eminent position of the author at that time, a must for the senatorial bookshelf, read selectively and much quoted in parts, but not really ever read in its entirety. Certainly it contained much useful information on the rights and wrongs of private water supply for those members of the elite who had to contract out their connection to the system, in the same way that Vitruvius provided useful information on construction for those dispensing with

³⁹ MART. 10, 48, 20 and 58, 1. For the date of the second edition see D.R. SHACKLETON BAILEY (ed.), *Martial. Epigrams* I (Cambridge, Mass. and London 1993), 3-4.

⁴⁰ TAC. *Agr.* 17, 3, 3.

⁴¹ K.K. MÜLLER, "Aelianus", in *RE* I 1 (1894), 482-86.

architects; it also gave a glowing account, replete with obscure detail, of one of the wonders of Rome and of the world, for general edification in the manner of Pliny's *Natural History*; there was also a certain amount of arcane history and law of interest to the governing class. But its disappearance from the record suggests that it may not have been popular for long, in contrast to other of Frontinus' works. The political importance of the man was forgotten, the operation of the water supply changed, the statistics were out-of-date, and the great imperial *thermae* superseded the aqueducts as the aquatic wonders of Rome.

Conclusions

I have dealt at some length in this paper with both the literary nature of the *de aquaeductu urbis Romae*, and on the political context of its author, in order to underline the difficulties of trying to categorise this particular example of ancient literature with a technical content as belonging to some recognised genre called "technical literature". The *de aquis* is unique, as the conditions under which it was created were unique. At the same time, the *de aquis* can provide some general suggestions about the reception of technical information in elite society and the different roles it played at different levels of presentation.

Firstly, the *de aquis* provides ample evidence for the existence of official public records concerning the water supply of Rome, which contained at the very least statistics on water distribution, standards for sizes of water pipes, maps of aqueduct routes, lists of water grants, and a compilation of relevant legislation; it also shows that these records were actively up-dated, at least in connection with major changes to the system if not more frequently, although probably not on a regular basis or as a matter of routine. If I read Frontinus' preface correctly, as a general rule the first stage of assimilation of this disparate raw

data was usually made by the permanent staff, perhaps here the *procuratores* we hear of under Claudius and later, in order to make it accessible for the *curatores*; and this can surely be called a *commentarius*. Frontinus presents himself as being unusual in having both the will and the capacity to look at the actual records and the physical plant himself and write his own *commentarius*; and there is no real reason to doubt him in this he clearly **was** an exceptional man.

At the next level, the *commentarius* formed the basis for action, whether formulating new rulings or practices, or checking abuses of the existing system. If the matter had to be brought before the Senate, an educated audience but one not necessarily interested in or familiar with the technicalities, the recalcitrant facts of the *commentarius* could be varnished with rhetoric or cloaked in learning. There seems to be no expectation that all the technical and numerical detail would be understood or absorbed, except perhaps when it came to citing and expounding the law, a field by necessity familiar to all this select group. Any general publication beyond this level — and this is the most likely context in which the *de aquis* was preserved — takes us even further from an expectation of technical understanding. The lists and statistics, which modern scholars glean for scraps of technical detail or administrative know-how, serve rather a different end, that of generating wonder and confirming power. In the particular case of the *de aquis*, the technical detail substantiates the claim of the aqueducts of Rome to be the empire's paramount marvel, and thereby the claim of Frontinus, their *curator*, to be one of the empire's paramount sons.

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DISCUSSION

Cl. Nicolet: Je remercie et félicite vivement J. Delaine, qui a présenté une interprétation vigoureuse et nouvelle du *De aquaeductu*, avec de jolies formules suggestives: le texte destiné à la publication (?), à la fin du processus qu'elle a décrit (et qui suppose un discours au Sénat), qui serait comme un *monumentum*, un livre sur des aqueducs qui en somme compenserait le fait de n'avoir pas pu en donner un à Rome et lui donner son nom. Le rapprochement avec le *Gnomon de l'Idiologue* m'a paru également ingénieux.

M. Crawford: J'aimerais souligner la difficulté d'accès aux livres pendant l'Antiquité: ce qui est plutôt remarquable, c'est ce que Frontin a pu rassembler, et non pas ce qu'il a omis.

J. Delaine: M. Crawford's suggestion — rather exaggerated — that there might only ever have been *one* copy of the *de aquis* is interesting, but I do not find it very likely. The elaboration of the text, the self-presentation of Frontinus himself, the instruction to those who do not want the detail to skip it, all suggest that a wider audience was intended. I imagine that the text was passed around and copied by a fairly small senatorial circle, but also perhaps that a copy was placed in the public libraries of Rome. I do not imagine it had much circulation after Frontinus' death, once his influence had waned. M. Crawford's other suggestion, that since the citation at length of *Senatus consulta* is unknown in other texts, including senatorial speeches, this is evidence for the *de aquis* being precisely what it says it is — a technical work — I cannot agree with either. The parallel is the citing at length of statistics on the water supply, where Frontinus, as I have said, draws attention to the difficulty of

such material for his audience or suggests that they might like to skip the detail.

Frontinus is clearly *not* a great writer (the *Strategemata* are sufficient evidence for this), and does tend to quote his sources at length as a substitute for original composition, but also, surely, in order to give authority to his work. Notice that in the Preface (*aq.* 3, 1) he makes a point of the completeness of the account he is going to present.

P. Brennan: How did *commentarius* pass through into the hands of Cassiodorus? Was it the extant version or the administrative *commentarius* imbedded within it?

J. Delaine: If Cassiodorus *uar.* 7, 6 really does reflect the *de aquis* it ought to be the form in which we have it, not the administrative *commentarius*. The points in common are partly the rhetorical ones — the context of the aqueducts being one of the architectural wonders of Rome noted for their usefulness; the emphasis on the feats of construction and the dominance over nature — but also partly those which reflect Frontinus' view of the role of the *curator aquarum* — the need for diligence, the necessity to avoid fraud in water distribution, the importance of the past. The other details which may reflect the *de aquis* are the mention of earth contaminating springs after rain, and the damage by trees. But it is also possible, and perhaps in the end more likely, that all the details of the nature of the *Comitiua Formarum Urbis* simply reflect the situation at the time of Cassiodorus, that is to say the same concerns about the water supply operated at the time of Frontinus and at the time of Cassiodorus, any similarity between the texts is a result of this. We cannot tell. Still, this is the only even slightly comparable document which we have.

P. Brennan: Frontinus hoped it would serve as a model (administrative rather than technical) for his successors just as he had used and updated earlier *commentarii*. Does this point

to a continuing process of updating manuals in an administrative office or is it just a literary artifact?

J. Delaine: This question was really already answered in the paper.

Cl. Nicolet: Quel rapport peut-il y avoir entre un texte tout de même "fonctionnel" comme celui de Frontin, et les traités du type *de officio praefectus praetorio*, etc., connus par le *Digeste* (avec pourtant, notons-le, d'éventuelles surprises épigraphiques, comme le *de officio proconsulis* révélé naguère par une inscription d'Afrique)?

Je voudrais revenir sur le terme *commentarius* (dont la polysémie, comme celle de ὑπομνήματα est de toute manière évidente). Il y a les "traités", "manuels", aide-mémoire privés, comme ceux dont le jeune *calculator Melior* était l'auteur (*ILS* 7755). Il y avait aussi, à époque ancienne, sous la République, des *commentarii* de certains collèges de magistrats (mentionnés par Varron ou Festus); il y aura, bien sûr, les *commentarii* des diverses administrations impériales à la tête desquelles sont le *a commentariis*. Tout cela, bien sûr, mériterait la qualification générique "d'aide-mémoire". Il serait peut-être utile de reprendre l'inventaire des mentions de tous ces types de documents ou de textes, en cherchant par exemple à distinguer ce qui était ou pouvait être document officiel, tralatice (entre les mains sans doute des scribes, ou les *praecones*), et documents apparemment dûs à une initiative individuelle, comme le texte de Frontin.

M. Crawford: Je doute que le *commentarius* ait vraiment été "publié" et crois plus volontiers à une évolution très restreinte.

J. Delaine: Frontinus clearly uses the term *commentarius* mainly for the actual statistical records of Agrippa (*aq.* 98, 3) and the imperial records in general which he cites for the quantity of water each aqueduct was expected to give. But this is not

to say that he was using the word in exactly the same way when he called his *de aqua a commentarius* (aq. 2, 2).

A. Chastagnol: Je crois me souvenir que Frontin lui-même a utilisé le terme de *commentarius* au début des *Stratagèmes*.

M. Crawford: C'est parfaitement vrai. Voici le texte: *ut solertia ducum facta, quae a Graecis una στρατηγημάτων appellatione comprehensa sunt, expeditis amplectar commentariis*.

Ph. Fleury: Vitruve emploie le mot *commentarius (ium)* principalement dans ses préfaces (huit fois sur douze). Il lui sert à désigner le travail écrit en général (1, 1, 4; 6, pr. 4; 7 pr. 1 et 2 par exemple), des travaux écrits dans tel ou tel domaine: architecture prise dans son ensemble, construction des murs, machines (2, 8, 8; 4, pr. 1; 7, pr. 17 par exemple), l'œuvre (ou les œuvres) de tel auteur: Pythéas (1, 1, 12), Agatharchos (7, pr. 11), Démocrite (9, pr. 14), Ctésibios le Mécanicien (10, 7, 5).

Cl. Nicolet: Les *commentarii* de César n'étaient sûrement pas une exception: tous les généraux, comme plus tard les Princes, en faisaient tenir pendant leurs campagnes, et s'en servaient pour les rapports (sous forme de lettres) qu'ils devaient envoyer au Sénat. Carnets, éphémérides, memorandum, résumés, toute une paperasserie existait à coup sûr, qui accompagnait le déroulement d'opérations militaires. Un exemple frappant en est offert par la lettre de Vérus à Fronton (*ad Frontonem* 2, 3, p. 131 Naber; II p. 195 Haines), où le Prince énumère précisément tous ces genres de documents (y compris des *picturae*, le texte de ses *allocutiones*, de ses *orationes* au Sénat — c'étaient des lettres — et les comptes rendus des "palabres" [*sermones*] avec les ennemis).

