

THE KOPROLOGOI AT ATHENS IN THE FIFTH AND FOURTH CENTURIES B.C.

The collection and disposal of rubbish and waste and the maintenance of a decent standard of hygiene was as much a problem for ancient city authorities as for modern town councils. The responsibility for the removal of waste would often be dependent upon the nature of the rubbish and the facilities which city authorities offered. Thus early in the fourth century B.C. the *agoranomic* law from Piraeus prohibited individuals from piling earth and other waste on the streets and compelled the offender to remove it.¹ The *astynomic* law from Pergamon, which probably dates originally to the Hellenistic period, similarly forbade the dumping or piling up of earth or the mixing of mortar on the streets of the city.² As one of Demosthenes' speeches indicates, the effect of dumping rubbish indiscriminately was to raise the level of the road surface, which consequently restricted access and endangered adjacent property.³ Excavation of a triangular hieron to the south west of the agora at Athens further illustrates the results of dumping.⁴ Here it was found that, between the construction of the hieron in the late fifth century B.C. and the beginning of the fourth century B.C., the road surface on its northern side rose more than half a metre and covered the lower part of the wall of the hieron and its boundary marker.⁵ The accumulated fill included a deep layer of marble chips, which had been dumped in the area by marble workers. The laws from Piraeus and Pergamon were thus designed to keep streets passable, protect adjacent buildings, and safeguard pedestrians.

Waste from cesspits and latrines, and animal dung from the streets, presented a different health hazard. Indeed, as sanitation was rudimentary and towns often lacked adequate sewerage systems, the disposal of sewage was especially important.⁶ Unfortunately, there is little evidence of the practical measures which were taken to remove such offending matter. In connection with this problem, however, a study has recently been made of the ways in which the towns of Athens, Pergamon and Thasos arranged for the collection and removal of sewage and the cleaning of the streets.⁷ The *astynomic* law reveals that at Pergamon the removal of rubbish from the streets was the responsibility of individual property owners and was privately organised under the guidance of the *amphodarchoi* and their superiors, the *astynomoi*. Householders were responsible for the cleanliness of the streets outside their property and up to a certain distance either side. Statutory dumps were also established, into which the householders were required to deposit their sewage.⁸ The removal of the waste from

¹ Dittenberger, *SIG*³ 313. 25–8 = *IG* II² 380. 25–8.

² Dittenberger, *OGIS* 483. 38–40, 60–5; for discussion of the date, see G. Klaffenbach, 'Die Astynomeninschrift von Pergamon', *ADAW* (1954), 19–25.

³ Demosthenes, 55. 22.

⁴ See G. V. Lalonde, 'A triangular hieron south west of the Athenian Agora', *Hesperia* 37 (1968), 123–33.

⁵ Lalonde, pp. 132–3.

⁶ See Strabo's comments on the new town of Smyrna, in which he expressed surprise that when the town was rebuilt an underground sewer system was not constructed, with disastrous results for the streets, 646 (14. 1. 7). See also Strabo's comparison of Greek and Roman towns, 235 (5. 3. 8).

⁷ C. Vatin, 'Jardins et services de voirie', *BCH* 100 (1976), 555–64.

⁸ Vatin, pp. 558–9, quoting Dittenberger, *OGIS* 483. 79–84.

the dumps was also the responsibility of the property owners, who were grouped together in associations and had to contribute to a common fund to employ a contractor periodically to empty the dumps. The duties of the *amphodarchoi* and the *astynomoi* were to ensure that citizens complied with the law, to impose fines and even to seize possessions as security. An inscription relating to the Garden of Herakles at Thasos indicates that the individual who leased the land was responsible for the removal of sewage.⁹

In contrast to the arrangements at Pergamon and Thasos, the conclusion is reached that at Athens in the fifth and fourth centuries B.C. there existed a well-organised municipal service for the collection and disposal of sewage and waste. Citizens were forbidden to foul the streets and were obliged to empty waste and sewage into statutory dumps, which were periodically cleaned by the *koprologoi*. Furthermore, the suggestion has been made that the *koprologoi* were a body of public slaves, who acted as public sweepers and were under the direct supervision of the *astynomoi*.¹⁰ Failure to comply with the laws resulted in the imposition of a fine.¹¹ Such an interpretation needs further consideration as it brings into question the nature of the hygiene regulations at Athens, the character of sanitary facilities in houses and the status of the *koprologoi* themselves.

Pollution in Athens must always have been a serious problem,¹² and it can be assumed that the Athenian government introduced legislation to deal with it. Unfortunately, evidence of general regulations is lacking; and the arguments which have been presented to show that general legislation against fouling the streets existed are dubious. First, the fragmentary text of the *agoranomic* law has been supplemented so that instead of prohibiting the digging of cesspits in the streets and the agora of Piraeus, it prohibits defecating in the streets and in the agora. The original restoration of lines 38–40:

... ἄλλ[ο μὴδὲν μὴτε] κοπρῶ | [να 4 ἐ]ν τῇ
ἀγορᾷ [μὴτ' ἐν τα][ς ὁ]δοῖς
[μηδαμοῦ].¹³

has been changed to read:

... ἄλλ[ο μὴδὲν μὴτε] κοπρῶ | [σαι μὴτ' ἐ]ν τῇ
ἀγορᾷ [μὴτ' ἐν τα][ς ὁ]δοῖς
[μηδαμοῦ]. (see above note 11)

Although the evidence is not conclusive, the observation can be made that the agora was sacred and therefore could not be defiled. Consequently it seems unlikely that such an obvious transgression against the sanctity of the agora as the digging of a cesspit would have been attempted. On the other hand, it is likely that despite the sacred nature of the market place individuals might, whenever necessary, defecate within its boundaries. However, whether the law was concerned generally with the standard of hygiene in the streets of Piraeus is uncertain. The law records the duties of the *agoranomoi* and specifically states their duties regarding the route of the procession in honour of Zeus Soter and Dionysos.¹⁴ Therefore it is possible that the regulations of the *agoranomic* law were not concerned with the general cleanliness of the streets

⁹ Vatin, pp. 560–4, quoting *IG* XII 8 265.

¹⁰ Vatin, p. 558, quoting Caillemer, *Dictionnaire des Antiquités* s.v. 'astynomoi'. This is the accepted view of arrangements at Athens; see R. Martin, *L'urbanisme dans la Grèce antique*² (Paris, 1974), p. 63.

¹¹ Vatin, p. 557.

¹² Strabo, 397 (9. 1. 19) notes a comment of Callimachus on the pollution of the Eridanos stream in the third century B.C.

¹³ Dittenberger, *SIG*³ 313. 38–40 = *IG*² II 380. 38–40.

¹⁴ Dittenberger, *SIG*³ 313. 20–2, 30–3.

in Piraeus but dealt only with the route of the procession. Thus *μηδαμοῦ* in line 40 could be altered to *ταύταις*.

Secondly, the story of Blepyros in the *Ecclesiazousai*, who only with trepidation defecated outside at night,¹⁵ has been taken to indicate that his actions were unusual and his reservations were due to the fact that he risked a fine if he was caught.¹⁶ The story, however, does not specifically mention that Blepyros was risking a fine, and the reason for his fear seems to stem from the fact that he had had to dress in his wife's clothes in order to go outside.¹⁷ Even when he was observed, the scene revolves round his clothing and its colour, not the prospect of a fine.¹⁸ Indeed neither his neighbour nor a passer-by seems to show undue surprise at what he was doing.¹⁹ Moreover, evidence from Aristophanes, Theophrastus and even Herodotus indicates that, whenever necessary, citizens went 'outside'²⁰ or even defecated in the streets.²¹

In contrast to the lack of evidence for general hygiene regulations at Athens, there is evidence for laws which dealt specifically with pollution of districts of Athens and public buildings. Thus in 485/4 B.C. a law was introduced to prevent the dumping of animal dung in the Hecatompedon on the Acropolis.²² Another law dealt with the pollution of the Ilissos stream by tanners.²³ Similar laws relating to the fouling of temples and shrines have similarly come to light in other cities, for example Delos,²⁴ Epidauros,²⁵ and on Paros.²⁶ A law from Gortyn on Crete forbade the location of ovens and dung heaps within a certain distance of the house walls.²⁷ Such laws indicate that Athens and the other cities had problems with individuals, who indiscriminately dumped waste, and so legislated against such actions. But the regulations also imply that the individuals, not the city authorities, were responsible for the removal of sewage, and suggest that the arrangements at Athens were not as well organised as has been argued.

Evidence of sanitary facilities at Athens is scant. Although there are several words which can be translated as latrine, cesspit, privy or dung heap, none of the words illustrates the character of the installation.²⁸ Nevertheless, it has been argued that the *kopron* of a house in Aristophanes' *Thesmophoriazousae*, to which a woman descends at night, probably consisted of a soil tub situated in a discreet part of the house; and on the basis of the story of Blepyros, this was the accepted arrangement in the majority of houses.²⁹ That the *kopron* might have been more rudimentary is discounted as being too crude. Clearly in this passage access to the *kopron* was from inside the house; thus the woman had to stop the hinges of the door squeaking when she went outside to

¹⁵ Aristophanes, *Eccles.* 320–2.

¹⁶ See Vatin, p. 556.

¹⁷ Aristophanes, *Eccles.* 312–19.

¹⁸ *Eccles.* 329–35.

¹⁹ *Eccles.* 351–3, 372.

²⁰ Aristophanes, *Pax* 1265–6; *Nubes* 1384–5; Theophrastus, *Characters* 14. 5; Herodotus, 2. 35; A. B. Lloyd, *Herodotus Book II* (Leiden, 1976), p. 150.

²¹ Aristophanes, *Pax* 167–9.

²² *IG* I³ 4.

²³ See J. Travlos, *A pictorial dictionary of ancient Athens* (London, 1971), p. 341 fig. 442.

²⁴ F. Sokolowski, *Lois sacrées des cités grecques, supplément* (Paris, 1961), p. 107 no. 53.

²⁵ Sokolowski, p. 59 no. 24 = *IG* IV² I 45. ²⁶ *IG* XII 5 107.

²⁷ *Insc. Cret.* IV 73A. 7–10. Line 8 reads αἱ μὲ δέκα πο[... and suggests a minimum distance of ten feet. Although the commentary to the text notes laws regarding the sanitary arrangements of other cities, it is possible that this law is concerned with the damage which might be caused to neighbouring property by locating a *kopron* or an *ipnion* near a wall, rather than specifically with hygiene. For legislation on party walls at Pergamon, see Dittenberger, *OGIS* 483. 100–37.

²⁸ e.g. see Aristophanes, *Eccles.* 1059 (ἄφοδος); *Ach.* 81 (ἀπόπατος); *Plutus* 815 (ἵπνος); *Pax* 99, 158 (λαύρα); *Thesm.* 485 (κοπρών); see also *LSJ* ed. 9 (Oxford, 1940) s.v. βολέων.

²⁹ Aristophanes, *Thesm.* 483–5; see Vatin, *BCH* 100 (1976), 556.

meet her lover. But, as the archaeological evidence below indicates, a simple pit either inside the house or outside and connected by a drain would suffice. Besides fixed facilities portable vessels, of different types for men, women and children, were also in use and they would need emptying.³⁰

The archaeological evidence for the nature of domestic sanitary facilities in Athens in the fifth and fourth centuries B.C. is significant. During the excavation of a rectangular block of houses of the Classical period on the northern slopes of the Areopagus three pits came to light.³¹ The first pit, which had been dug in the road in front of the doorway of the house which occupied the south eastern corner of the block, was rectangular in shape and its walls were carefully lined with stones to the level of the street. As an open pit in the street would have been a hazard to pedestrians, and indeed its position meant that it was impossible to enter or leave the house, it can be assumed that the pit was covered. A second pit, which was also lined with stones, was found in the courtyard of the adjoining house on the northern side. A third, unlined pit was discovered in the surface of the street which ran along the eastern side of the block, against the wall of the neighbouring block of houses. Although exact identification of the pits is not possible, the excavators, noting dark discoloration on the floor of the first pit, suggested that they were cesspits.³² Further confirmation that the pit was used for sewage comes from the fact that a length of pipe which ran under the surface of the street emptied into the pit.³³ Similar stone-lined pits, which came to light in the fourth-century levels of houses in the valley to the west of the Areopagus, were probably also cesspits.³⁴ The location of these crude latrines agrees closely with the location of the *koprones* of Theban houses according to Euboulos, who states that every house had a *kopron* at the door in order to save the embarrassment of walking a long way in public.³⁵ Pits have also been found outside the fifth-century palace at Larissa-on-the-Hermos, which were linked to the building by short lengths of drain.³⁶ The pits would have to be emptied periodically and it would have been the owners' responsibility to ensure that this task was done, presumably by summoning the *koprologoi*. The object of the installations was to keep the houses relatively free from filth but not necessarily the streets. A similar objective can be seen in the latrine facilities of the houses at Olynthus, although the actual facilities differed. At Olynthus bowls attached to the walls of the houses were used and, by means of a pipe which ran through the wall, emptied the contents on to the streets or the alleys.³⁷

Koprologoi themselves are mentioned only twice in ancient literature. Two of Trygaeus' servants call upon the *koprologoi* to help remove the malodorous dung with

³⁰ e.g. ἄμυς for men and σκάφιον for women; see Aristophanes, *Thesm.* 633, and generally J. Henderson, *The Maculate Muse* (London, 1975), p. 191; for an example of an ἄμυς see B. A. Sparkes and L. Talcott, 'Pots and pans of Classical Athens', *Athenian Agora Excavations, Picture Book 1* (Princeton, 1958), fig. 22; for child's commode see D. B. Thompson, 'The Athenian Agora', *Athenian Agora Excavations, Picture Book 12* (Princeton, 1971), figs. 39, 40.

³¹ H. A. Thompson, 'Activities in the Athenian Agora', *Hesperia* 28 (1959), 98–105.

³² Thompson, pp. 101–2.

³³ Although the existence of the pipe is not mentioned in the text; see Thompson, *Hesperia* 28 (1959), pl. XXIa.

³⁴ Thompson, op. cit. 102 n. 26, quoting Young, *Hesperia* 20 (1951), 194, 201.

³⁵ Euboulos 53 = Athenaeus, 10. 417d.

³⁶ See Thompson, op. cit. 102 n. 26, quoting J. Boehlau and K. Schefold, *Larissa am Hermos I* (Berlin, 1940), p. 88 fig. 5.

³⁷ D. M. Robinson and J. W. Graham, *Excavations at Olynthus VIII* (Baltimore, 1938), 205–6; for examples of the so-called Olynthian bowls see also D. M. Robinson, *Excavations at Olynthus XII* (Baltimore, 1946), pp. 163, 178–80.

which they had been feeding his dung beetle.³⁸ Aristotle also mentions the *koprologoi* when he is discussing the responsibilities of the *astynomoi*, and states that it was the duty of the *astynomoi* to ensure that the *koprologoi* deposit the *kopros* at least ten stades from the city.³⁹ Careful study of both passages offers several indications that the *koprologoi* were not a body of public sweepers under the supervision of the *astynomoi*, but were private scavengers. First, it is clear from Aristotle that the duties of the *astynomoi* were only concerned with the disposal of waste after it had been collected by the *koprologoi*. Their role was supervisory and they were not directly responsible for the collection of the waste by the *koprologoi*. The supervisory capacity of the *astynomoi* is also emphasised in the building regulations from Pergamon and in Plato's *Laws*.⁴⁰ Furthermore, Aristotle implies that there was a contrast between the supervisory role of their other duties, including their jurisdiction over the *koprologoi*, and the direct responsibility they had for removing dead bodies from the street, for which they used a body of public slaves. The contrast in these two spheres of responsibility, and the fact that Aristotle does not mention that the *koprologoi* were public slaves, suggests a difference in status between the former and the latter. Moreover, it could be argued that the one body of public slaves could have performed both tasks under the *astynomoi*. Secondly, the text of Aristotle implies that the major concern was the removal of the offending matter from the vicinity of the city, which, to a certain extent, is opposed to the idea of a well-organised municipal collection service. Thirdly, the summoning of the *koprologoi* by the servants of Trygaeus suggests that they were private entrepreneurs, who were called whenever they were required, rather than public officials, who performed a regular service; and this suggestion ties in with the archaeological evidence for sanitary facilities which has been discussed above.

The importance of *kopros* as a fertiliser further supports the view that the *koprologoi* were private entrepreneurs rather than public employees.⁴¹ The collection and storage of *kopros* for use by farmers would be profitable and several mortgage *horoi* specifically mention the sale of *koprone*s together with houses.⁴² Although it is possible that the *koprone*s in the texts were merely the privies of the houses, this suggestion seems unlikely, especially when the rudimentary nature of the installations as discussed above is considered (see above p. 47). It is plausible, however, that the *koprone*s were a source of profit to their owners and, therefore, were sold or rented out together with other property.⁴³ Moreover, the fact that a *kopron* is mentioned to help locate a mortgaged property in Piraeus suggests that the *koprone*s in the inscriptions were more than private latrine facilities.⁴⁴ It is also in this context that the *epistates kopronon*, whom Demosthenes mentions, can be understood. Demosthenes disparaged certain Athenian generals by saying that they did not even deserve to be *epistatai kopronon*,

³⁸ Aristophanes, *Pax* 9.

³⁹ Aristotle, *Ath. Pol.* 50. 2.

⁴⁰ See Dittenberger, *OGIS* 483. 14–20, 54–5; Plato, *Leges* 6. 759A; for Piraeus, see Dittenberger, *SIG*³ 313. 19–21, 41–5.

⁴¹ Homer, *Od.* 17. 296–9; see also Xenophon, *Economicus* 16. 12, for the use of the word *kopros* as grass fertiliser.

⁴² e.g. M. I. Finley, *Studies in land and credit in ancient Athens* (New York, 1952), p. 142 no. 86 = *IG* II² 2742; Finley, op. cit. 186 no. 86A = J. V. A. Fine, *Horoi. Studies in mortgage, real security and land tenure in ancient Athens*, *Hesperia* Suppl. 9 (1951), no. 16.

⁴³ Finley, p. 260 n. 116 suggests that the *koprone*s in these texts might have involved easement rather than outright ownership.

⁴⁴ *IG* II² 2496.

and it has been suggested that the *epistatai kopronon* were in fact merely *koprologoi*.⁴⁵ This suggestion, however, seems questionable. On the one hand, it is possible that Demosthenes was using the expression in a totally derogatory sense and in reality such officials did not exist. On the other hand, if the *epistatai kopronon* were officials at Athens, it is not necessary to equate them with the *koprologoi*. They could have been minor officials under the *astynomoi* who were charged to ensure the contents of the dung heaps referred to in the above inscriptions were in order;⁴⁶ or, like the *amphodarchos* at Pergamon⁴⁷ and *telearnchos* at Thebes,⁴⁸ they might have had other minor functions connected with the general sanitary regulations at Athens.

Additional evidence regarding the provisions for house drainage at Athens also strengthens the argument that in general sanitation was the responsibility of private householders, and this implies that the *koprologoi* performed a private service not a public duty. Unlike Rhodes, Athens did not have a comprehensive underground drainage system in which water from houses and other buildings was channelled.⁴⁹ As in the majority of the houses at Olynthus, water from houses was often emptied directly into the street.⁵⁰ Even when houses were connected to a public sewer, the variety in the construction of the drains indicates that the arrangements for draining houses were the responsibility of the private householder.⁵¹ Indeed, the individual was forbidden to construct open drains but was obliged to cover them.⁵² The private nature of drainage facilities at Athens is further emphasised by the construction of the southern branch of the Great Drain at the beginning of the fourth century B.C.⁵³ Where the southern extension of the drain passed through a residential district of Athens to the west of the Areopagus, the construction of its walls changed, corresponding to the house plots along which it ran. This change of construction suggests that, although the drain was a public project, it was the responsibility of individual property owners to carry out the work.⁵⁴

The evidence is not conclusive, but cumulatively it suggests that the *koprologoi* carried out a private service; they would collect the waste and then dump it beyond the permitted minimum distance from the city. The exact status of the *koprologoi*, however, is problematic. They might have been individuals of low status who privately scavenged the streets and houses for waste. But it is possibly significant that in literature nobody is accused of being a *koprologos* or the child of a *koprologos*. Alternatively it is possible that the Athenian government sold the contracts for collecting waste; and the individuals who bought the contract used their own slaves, who were called *koprologoi*.⁵⁵ In either case the *koprologoi* were involved in private

⁴⁵ Demosthenes, 25. 49; Vatin, *BCH* 100 (1976), 558.

⁴⁶ Compare Aristophanes, *Pax* 99–100, in which Trygaeus pleads that *koproneis* should be well secured with bricks.

⁴⁷ Dittenberger, *OGIS* 483. 36, 44.

⁴⁸ Plutarch, *Moralia* 811B. A position once held by Epaminondas.

⁴⁹ For Rhodes see I. D. Kondis, 'Zum antiken Stadtbauplan von Rhodos', *MDAI(A)* 73 (1958), 152–3.

⁵⁰ e.g. R. S. Young, 'An industrial district of ancient Athens', *Hesperia* 20 (1951), 205–6, 218; H. Lauter and H. Laute-Bufe, 'Wohnhäuser und Stadtviertel des klassischen Athen', *MDAI(A)* 86 (1971), 113; for Olynthus, see Robinson and Graham, *Olynthus* viii, 158–9.

⁵¹ e.g. Young, *Hesperia* 20 (1951), 174–5, 199, 201, 205, 206, 213, 240. Stone-built channels, inverted roof tiles and U-shaped porous blocks were used as drains.

⁵² See R. Martin, 'Sur deux expressions techniques de l'architecture grecque', *Revue Archéologique* 31 (1957), 66–9, quoting Aristotle, *Ath. Pol.* 50. 2.

⁵³ Young, *Hesperia* 20 (1951), 256.

⁵⁴ Young, *op. cit.* 257–62.

⁵⁵ Compare *IG* XI 287. 62–3, which records payment to a certain Nikias for removing pigeon droppings from roofs and *kopros* from the agora at Delos.

enterprise and the assumption that they were public employees is not correct. Like Pergamon, Thasos and other towns, Athens in the fifth and fourth centuries B.C. had a problem with waste and, like other cities, dealt with it in the same way, namely by means of legislation, the notion of personal responsibility, and the use of private enterprise.

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