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THE ECOLOGY OF THE GREEK SANCTUARY

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The chorus in Sophocles' *Antigone* sings of human dominion over the earth and all its creatures, and of how humans have subjugated the earth to their needs.² Only amongst some philosophers was there an awareness that the earth and its biosphere was an organic whole, of which humans were merely one part, and that the world was not necessarily created merely for their benefit.³ That humans were thought of as masters of the environment rather than as existing in a symbiotic relationship with it is clear from Aristotle.⁴ The views of Empedokles and Pythagoras attest to a feeling of identification with the non-human world, in contrast to the anthropocentrism of the *Politics*. The Pythagoreans believed in re-incarnation: the soul might just as readily take up habitation in a tree as in an animal. To chop down a tree was akin to murder.⁵ Empedokles' belief in a cycle of existence including all animate life is attested by the statement, "For already I have been born as a boy and a girl and a bush and a bird and a dumb fish leaping out of the sea".⁶ These, however, were surely the views of a minority.

The intellectual elite was aware of environmental degradation. Plato notes that the hills of Attica stripped of their trees have become bare, bony rocks from which the soil has disappeared.⁷ Several

¹ The following abbreviations are used below: *Henrichs*: A. Henrichs, *Thou Shalt Not Kill a Tree*; Greek, Manichaeism and Indian Tales, *BASP* 16, 1979, 85–108; *Jordan & Perlin*: B. Jordan & J. Perlin, On the Protection of Sacred Groves, in K.J. Rigsby (ed.), *Studies Presented to Sterling Dow on his Eightieth Birthday*, *GRBS* Suppl. 10, 1984, 153–59; *LGS II*: L. Ziehen, *Leges Graecorum Sacrae* II, Leipzig 1906; *LSAM*: F. Sokolowski, *Lois sacrées de l'Asie Mineure*, Paris 1955; *LSCG*: F. Sokolowski, *Lois sacrées des cités grecques*, Paris 1969; *LSCG Suppl.*: F. Sokolowski, *Lois sacrées des cités grecques: Supplément*, Paris 1962; *Meiggs Trees*: R. Meiggs, *Trees and Timber in the Ancient Mediterranean World*, Oxford 1982; *OGIS*: W. Dittenberger, *Orientalis Graeci Inscriptiones Selectae* I–II, Leipzig 1903–05; *Parker Miasma*: R. Parker, *Miasma: Pollution and Purification in Early Greek Religion*, Oxford 1983; *Rodman*: J. Rodman, *The Other Side of Ecology in Ancient Greece: Comments on Hughes*, *Inquiry* 19, 1976, 108–12; *Sokolowski, Onchestus*: F. Sokolowski, On the Episode of Onchestus in the Homeric Hymn to Apollo, *TAPhA* 91, 1960, 376–80; *Whittaker Pastoral Economies*: C.R. Whittaker (ed.), *Pastoral Economies in Classical Antiquity*, Cambridge 1988.

² *Soph. Ant.* 332–352; C.J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the end of the Eighteenth Century*, Berkeley 1967, 119–20; S.C. Bakhuizen, *Social Ecology of the Ancient Greek World*, *AC* 44, 1975, 211–18; for the concept of human progress according to the Greeks, see G. Xanthakis-Karamanos, *Remarks on Moschion's Account of Progress*, *CQ* 31, 1981, 410–17.

³ For example, Plato *Ti.* 30d: the cosmos as a living creature containing living creatures which are akin to herself, and the earth as a sentient being; see further M. van Raalte, *The Idea of the Cosmos as an Organic Whole in Theophrastus' Metaphysics*, in W.W. Fortenbaugh & R.W. Sharples (eds.), *Theophrastean Studies III. On Natural Science, Physics and Metaphysics, Ethics, Religion, and Rhetoric*, New Brunswick 1988, 189–215; cf. J.D. Hughes, *Gaia: An Ancient View of our Planet*, *Ecologist* 13, 1983, 54–60.

⁴ *Aristot. Polit.* 1254b18–19, 1256b15–26; Rodman 110–11 notes that the anthropocentric view in the *Politics* is also found in the *Ethics*, but that the species-specific orientation of these is less apparent in Aristotle's other works on natural history.

⁵ *Aristotle De Plantis* 815a–b; *Plut. Mor.* 960d–e; *Diogenes Laertius* 8.19, 12, 23; *Iamblichus De Vita Pythagorica* 99, 186; *Porphry De Abst.* 1.6: "Why should the slaughter of an ox or sheep be a greater wrong than the felling of a fir or oak, seeing that the soul is implanted in trees also?"

⁶ *Emp. fr.* 117: ἤδη γάρ ποτ' ἐγὼ γενόμεν κοῦρός τε κόρη τε | θάμνος τ' οἰωνός τε καὶ ἕξαλος ἔλλοπος ἰχθύς (H. Diehls, *Die Fragmente der Vorsokratiker*, Berlin 1934, ed. 5, 359); Rodman 111 (also noting fr. 8, Diehls, p. 312); the translation is from M.P.J. Dillon & L. Garland, *Ancient Greece: Historical and Social Documents From Archaic Times to the Death of Socrates*, London & New York 1994, 356. The views of Mani also protested against anthropocentricity: see Henrichs 92–103, 104–08; J.D. Hughes, *Early Greek and Roman Environmentalists*, in L.J. Bilsky (ed.), *Historical Ecology: Essays on Environment and Social Change*, New York 1980, 45–59.

⁷ *Plato Kritias* 111b–c; cf. Glacken 120–21, esp. 120 n.5; J.D. Hughes, *Ecology in Ancient Greece*, *Inquiry* 18, 1975, 121; cf. J.D. Hughes, *How the Ancients Viewed Deforestation*, *JFA* 10, 1983, 437–45; T.A. Wertime, *The Furnace versus the Goat: the Pyrotechnologic Industries and Mediterranean Deforestation in Antiquity*, *JFA* 10, 1983, 445–52; Rodman 109; see also F.M. Heichelheim, *Effects of Classical Antiquity on the Land*, in W.L. Thomas (ed.), *Man's Role in Changing the Face of the Earth*, Chicago 1956, 165–82.

sources of water had already dried up, Plato states, because deforestation had affected water catchment areas. He was clearly aware of the results of deforestation on the ecology of the mountains and hillsides, and the comment on water catchment indicates an understanding of the role which trees play in binding the topsoil of hills and allowing for the absorption of rain. But there was a general absence of any sort of environmental concern, and the Greeks lacked a conceptual framework concerning their environment and ecology.

Theophrastos commented that a tree which is not cut down will grow to a remarkable height and thickness, as in Cyprus, where the kings did not cut down the trees on the island but cared for them and managed them (preventing deforestation); but Theophrastos also adds that this was also because of the difficulty of transporting the timber. Later in Cyprus, however, clearing of the forests for agricultural and pastoral purposes was encouraged, and this appears to have been part of a deliberate policy to strengthen these two activities, with the cleared land being tax-exempt. But even in the fourth century AD the island was still reasonably wooded enough to provide ship-building materials (though the intervening centuries may have allowed a degree of natural reforestation).⁸ Theophrastos also identifies climactic change in the micro-environment of a particular locality caused by drainage projects.⁹ Philip II of Macedon cut down the forest on the extensive flatland near Drama and drained it, thus opening it up to agriculture.¹⁰ At Cyrene, there were regulations about maximum harvests of the plant silphium, which grew wild and was exported, and this presents a rare example of legislation protecting the future of a resource.¹¹ Exceptions, however, prove the rule: in general the environment was not sympathetically managed but rather exploited.¹²

It is difficult to assess whether or not the ancients had an appreciation of natural beauty. It is not enough to state that they did on the basis of the grand settings of many of their sacred sites. Apollo's temple at Delphi, and also at Bassai, have dramatic settings to our eyes, but did the ancients choose these spots because of an appreciation of their beauty? Burkert cites two passages from Euripides as describing the beauty of Delphi, but neither passage need bear such an interpretation.¹³ What the ancient Greeks do seem to have appreciated was the cultivated garden.¹⁴ In Sophocles' *Oedipus at Kolonos* (668-706), there is a description of the natural beauty of Kolonos which mentions ivy, narcissi, the crocus, and an uncultivated olive tree. Even more impressive is a description of a pleasant grove of apple trees in Sappho: cold water heard through the branches, roses, flowers of spring, and gently blowing breezes form part of the picture.¹⁵ Pits were sometimes cut into the rock around temples and trees planted in these, indicating a concern for beautifying the temple's surroundings with foliage.¹⁶

⁸ Theoph. *HP* 5.8.1; Strabo 14.6.5 (684); Amm. Mar. 14.8.14; J.D. Hughes, Theophrastus as Ecologist, in W.W. Fortenbaugh & R.W. Sharples, *Theophrastean Studies III. On Natural Science, Physics and Metaphysics, Ethics, Religion, and Rhetoric*, New Brunswick 1988, 73; Glacken 128–29; Meiggs *Trees* 379–381.

⁹ Theoph. *CP* 5.14.2–3, with Glacken 130 n.35; Hughes, Theophrastus as Ecologist 72–73, misinterpreting Theoph. *Winds* 13.

¹⁰ Theoph. *CP* 5.14.6; cf. E.N. Borza, Some Observations on Malaria and the Ecology of Central Macedonia in Antiquity, *AJAH* 4, 1979, 114, 120 n.33; cf. Meiggs *Trees* 373 for the Romans.

¹¹ Theoph. *HP* 6.3.3; Dillon & Garland *Ancient Greece* 21; Hughes, Theophrastus as Ecologist 73. Eventually, however, silphium became extinct.

¹² T.H. van Andel, C.N. Runnels & K.V. Pope, Five Thousand Years of Land Use and Abuse in the Southern Argolid, Greece, *Hesperia* 55, 1986, 103–28, esp. 117–18, argue that sound land management was practised in Mycenaean times in the Argolid (such as allowing fields to remain fallow, the construction of terraces, and the use of dams to prevent erosion) but that in the Argolid the advent of the classical period saw the land overexploited leading to an eventual economic decline.

¹³ W. Burkert, *Greek Religion: Archaic and Classical* (tr. J. Raffan), Oxford 1985, 85 with 380–81 nn.3–5; Eur. *Ion* 714–15, *Phoen.* 226–28.

¹⁴ See esp. M. Carroll-Spillecke, *KHΠOΣ: Der antike griechische Garten*, Munich 1989.

¹⁵ Sappho fr. 2; D. Page, *Sappho and Alcaeus*, Oxford 1955, 34–44; note also Hom. *Od.* 7.112–32. G. Soutar, *Nature in Greek Poetry*, St. Andrews 1939, collects many passages relevant to Greek attitudes towards nature.

¹⁶ As at the Hephaestion in the Athenian Agora: see J.M. Camp, *The Athenian Agora*, London 1986, 86–87, with fig. 64; Carroll-Spillecke *KHΠOΣ* 31, with fig. 11.

At least some temple authorities had an awareness of the factors which could damage and threaten the ‘environment’ of the sanctuary. This can be seen in legislation which was passed in order to protect what was a particularly important environment, that of the religious sanctuary, which also constituted a valuable piece of property which had to be protected on behalf of the gods. Regulations dealt with protecting the property of the shrines, particularly the trees,¹⁷ and also with anything which had the potential to harm the sanctuary: sacrificial beasts, vehicles, the grazing of animals, camping and the sowing of crops. While such regulations show a concern on the part of the authorities for the protection of the sanctuary they also imply that, since such regulations were necessary, both the body of worshippers which made use of the shrine, and the local community, had to be discouraged from carrying out activities which were detrimental to the grounds of the sanctuary.

Plato adopted a protective attitude towards sanctuaries in the ideal community described in the *Laws*. The agoranomoi were to be given the power to guard the shrines and springs from harm, and to punish offenders.¹⁸ While at sacred sites, the mundane activities of the secular world had naturally to some extent to continue: the worshipper had to eat, sleep, and even bathe, and the use of wood for cooking, warmth and washing by worshippers led to concern for the trees of the sacred site.¹⁹ At the mysteries held at Andania, in the Peloponnese, those who made money by providing bathing facilities at the mysteries were to provide their own firewood for this purpose; the trees of the sanctuary were not to be touched.²⁰ The Andanian inscription has a section headed, “Concerning those chopping (wood) in the sacred area”, which begins, “no-one is to chop wood in the sacred place”.²¹ That cutting firewood from the trees at this sacred place was considered to be a particularly heinous offence is made apparent by the provision for encouraging informing about this act, the informant being awarded half the fine which was inflicted on the person chopping wood in the sacred area.²² No other regulation in the Andanian cult rules provides for the reward of informants. At Paros, as early as the late fifth century, the trees of one shrine were protected, but could be used for buildings within the sanctuary.²³ The person who informed against anyone damaging the trees received half of the fine, and the neokoros (guardian) in charge of the sanctuary swore an oath to report any infractions to the theoroi who made up the commission governing the shrine.²⁴

Trees in sanctuaries were protected from chopping, hacking and defoliation.²⁵ The broken boughs of olive and other trees from within the sanctuary were not to be collected for human use but were to remain where they fell, and were to be sacred to Hymetho.²⁶ At the shrine of Apollo Erithaseos at

¹⁷ See esp. Meiggs *Trees* 378; Sokolowski, *Onchestus* 378–80; Hughes, *How the Ancients Viewed Deforestation* 442–43, Hughes *Ecologist* 12, 1982, 204–05, Hughes *Inquiry* 18, 1975, 118–19 (for which cf. Rodman 109); Hughes, *Pan’s Travail*, Baltimore 1994, 169–80; Hughes presents the same body of literary evidence in different guises in several articles, and relying on Loeb translations does not make use of the extensive epigraphic evidence; cf. the comments of O. Rackham, *Ancient Landscapes*, in O. Murray & S. Price (eds.), *The Greek City: From Homer to Alexander*, Oxford 1990, 97 on the fallacy of Hughes’ premise in: *How the Ancients Viewed Deforestation*.

¹⁸ Plato *Laws* 764b.

¹⁹ Note esp. the regulations for bathing in the Andanian inscription, *LSCG* 65.106–11.

²⁰ *LSCG* 65.108–09 (92 BC); wood for anointing and bathing was to be provided by contractors (106–11).

²¹ *LSCG* 65.78.

²² *LSCG* 65.79–80. A slave is to be scourged, a free man fined. Other provisions involving informers include: *LSCG* 111.4–10; 84.14–16; *LSCG Suppl.* 53.19–20; cf. *LSCG* 37.

²³ *LSCG* 111.2–4 (end of the fifth century BC).

²⁴ *LSCG* 111.4–10; cf. Jordan & Perlin 154.

²⁵ The relevant regulations concerning trees are: *LSCG* 36, 37, 47, 57, 65, 84, 91, 111, 148, 150a–b; *LSCG Suppl.* 36, 81, 115a; *IG XIV.645.I.128–38*; *BCH* 1920 p. 78, no. 11; *SIG*³ 685. (Note the list at *LSCG* 37 p. 72; cf. an earlier list in *LSCG Suppl.* 81, p. 143.) Some of these are briefly discussed by Sokolowski *Onchestus* 376–80; Jordan & Perlin 153–59; Parker *Miasma* 164–65. *CIL* 1² 366 & 2872 provide evidence from the Latin world; note also Cato *Agr.* 139–40; see R.F. Thomas, *Tree Violation and Ambivalence in Virgil*, *TAPhA* 118, 1988, 261–73, esp. 262–63.

²⁶ Paus. 2.28.7.

Athens it was forbidden for wood to be cut in the shrine of Apollo, or to carry wood or branches, with or without leaves (this seems to be a reference to dead wood lying around on the ground), out of the sanctuary. The prohibition on removing branches which had been cut off the trees was clearly intended to ensure that no-one would benefit if anyone did succeed in cutting off branches and was apprehended.²⁷ The punishment for removal of wood, whether chopped off or having fallen naturally, was fifty lashes for a slave and a fine of fifty drachmas for a free man. The priest was to hand the slave over to the basileus archon, along with the name of the master (indicating that the master might be held responsible for the slave's actions).

At Gortyn in Crete, however, while it was forbidden to use the wood at one sanctuary for the purpose of building ships, collection of brushwood and dry sticks at this sanctuary was permissible.²⁸ Clearly at Gortyn the main fear was the activities of shipbuilders. For this collection to be allowed at Gortyn, there must have been strong community need for the wood or plenty of it, but the provision specifies dead wood, indicating that no chopping of living trees was allowed, and this might have been a religious scruple. When the wood was dead, it was no longer sacred, unlike at the grove of Hymetho.

Many regulations deal with trees in sanctuaries and state simply that they were not to be cut down. One Euboean sanctuary regulation provided for a fine of 100 drachmas for chopping or carrying wood out of the sanctuary.²⁹ At the Peiraieus, there were various regulations governing the Thesmophorion. The relevant inscription states that if anyone chopped down the trees of the shrine, they would be subject to the laws which dealt with this. The laws, and presumably penalties, were obviously the subject of another piece of legislation, and are referred to in this way in the inscription in order that they need not be repeated. What is interesting is that although there was legislation governing the trees of the sanctuary, the later decree also refers to the trees, as a reminder and further deterrent to anyone who might consider cutting them down.³⁰ A small inscription from Akraiphia forbids gathering wood and chopping the laurels in the grove. Sokolowski states that the grove is around a funerary monument, which is probably that of a hero, since sacrifices are to take place in the area (a ram and goat are mentioned), though sacrifices could be made to the ordinary dead.³¹ Heroes, as well as the gods, apparently protected the trees of their shrines.

The gods, through the agency of their mortal authorities, might lease land out to an individual.³² In a ten year lease from Athens of an area owned by a sanctuary, comprising both land and houses, the lessee is instructed to take care of the trees growing in the shrine. If any of the trees die, the lessee is to plant replacements; there was a further provision that when the lease expired the sanctuary had to have the same number of trees as when the lease commenced.³³ If the lessee had to hand over the land with the same number of trees, this assumes that there was a written list of the number of trees, or that an inspection of the land after the lease expired would have revealed the extent to which the trees had been

²⁷ *LSCG* 37, probably dating to the end of the fourth century BC. Cf. *IG* II² 2494, a fragmentary inscription concerning a shrine of Apollo Lykeios in which the trees were protected.

²⁸ *LSCG* 148 (third century BC); but cf. Sokolowski's note, p. 249.

²⁹ *LSCG* 91.9–11 (fourth century BC).

³⁰ *LSCG* 36.17–21 (fourth century BC).

³¹ *LSCG Suppl.* 36 (fifth century BC), with Sokolowski's note, p. 75.

³² Note Xen. *Poroi* 4.19; [Arist.] *Ath. Pol.* 47.4.

³³ *LSCG* 47.14–18 (*IG* II² 2499; 307/6 BC; the shrine, of the hero Egretes, is the property of an association of orgeones); see R.E. Wycherley, Neleion, *ABSA* 55, 1960, 62; W.S. Ferguson, The Attic Orgeones, *HTR* 37, 1944, 80. Leases of temple property from Delos record the number of trees and vines, e.g.: *IG* 11.2.287a.143–74; for the leasing of temple properties on Delos, see esp. J.H. Kent, The Temple Estates of Delos, Rheneia and Mykonos, *Hesperia* 17, 1948, 243–338. For another lease by orgeones, this time of a garden, see H.W. Pleket, *Epigraphica* I, Leiden 1964, no. 43 (= *REG* 63, 1950, 148–149, no. 72a). *IG* II² 2501, a lease of a temenos and hieron belonging to orgeones, may well also have been of a similar kind: a garden property with trees (Ferguson 81–82).

damaged.³⁴ The trees clearly represented property: they were one of the reasons why the orgeones could actually lease the shrine for profit, and the trees were an asset of the shrine increasing its value and the rent which could be asked from the lessee.

In another example from Athens, an inscription of 418/17 concerning the sanctuary of Kodros, Neleus and Basile, the hieron (sacred area) itself was to be enclosed, and the temenos was to be leased out for twenty years, and two-hundred olive-shoots (more if the lessee wished) planted by the lessee.³⁵ This meant the hieron would be surrounded by farmed olive-trees, but this temenos was leased for the god's benefit. The idea that trees were preserved not simply from religious scruples but because they were valuable is reinforced by a lease of some land by an Athenian phratry, in which the lessee had to cultivate the vines and trees on the leased land, while a further injunction, against chopping down the trees, was coupled with a prohibition on pulling down the house.³⁶

A well-known example of the use of land consecrated to a god but being utilised for agricultural purposes involves Xenophon. When he returned to Greece, he bought a piece of land for Ephesian Artemis, at Skillous near Olympia, building an altar and shrine, and he annually tithed the land, and sacrificed to the goddess; all of the citizens of Skillous, and the men and women of the area, took part in the festival, with the goddess providing a feast for them from the tithe. Xenophon erected an inscription to the effect that whoever held the land and enjoyed its produce had to offer the tithe (dekate) to the goddess every year in sacrifice, and from the rest of the produce keep the shrine in good repair: the goddess would punish anyone who neglected these things.³⁷

Parker has also pointed out that in the case of "certain minor shrines" agriculture would have extended right up to the shrine.³⁸ However, in the case of the shrine of Meilichios, 100 feet were to be left uncultivated around the shrine.³⁹ Agriculture and horticulture might therefore have extended right up to the hieron, but usually with restrictions, and regulations might specifically prohibit agriculture — such as at the shrine of Zeus Diktaios.⁴⁰ Sacred land which was unworked could be described as "let go" (ἄνετος, ἄφρετος), unworked and untilled; this is how the sacred land of Eleusis is described.⁴¹ The sacred plain at Eleusis, like the sacred Cirrhaean plain near Delphi, could not be cultivated. The

³⁴ Ferguson, Attic Orgeones 82 suggests that the orgeones leasing property would have kept records in their archives; see *IG* XII 8, 19: κατὰ τὸ γραμματεῖον τὸ [ὄργει]ωνικόν (the "orgeonic records"); cf. M.I. Finley, *Land and Credit in Ancient Athens*, New Brunswick 1951, 23, horos no. 108. For orgeones and property owned by them, see Finley 20, 23, 58, 97–98, 220 n.85. Attic tribes, demes and phratries also rented out sanctuary land and property: R. Osborne, *Leasing of Land and Property in Classical and Hellenistic Greece*, *Chiron* 18, 1988, 282–87.

³⁵ *LSCG* 14.33–34 (*IG* I³ 84); see Wycherley, *Neleion* 60–66, esp. 62; Parker *Miasma* 161.

³⁶ *IG* II² 1241 (Pleket, *Epigraphica* I, no. 44; 300/299 BC), cf. Pleket, no. 42.15–17 (*IG* II² 2492); P. Guiraud, *La Propriété foncière en Grèce*, Paris 1893, 421–22.

³⁷ Xen. *Anab.* 5.3.7–13 (cf. Paus. 5.6.5); the feasters were given a share of the sacrificial beasts from the sacred pasture: M.P.J. Dillon, *The House of the Thebans*, *ZPE* 83, 1990, 82–83; cf. Hodkinson, *Animal Husbandry* 48, challenged by Skydsgaard, *Transhumance in Ancient Greece* 85–86 n.27 (with Hodkinson's account to be preferred); Jameson, *Sacrifice and Animal Husbandry in Classical Greece* 104 (the last three in Whittaker *Pastoral Economies*); S. Isager & J.E. Skydsgaard, *Ancient Greek Agriculture*, London 1992, 173–74. Compare *LSCG* 177.1–39 (c. 300 BC; Diomedon of Kos founded a cult and bequeathed a garden to it).

³⁸ Parker *Miasma* 161 with n.97. Note too the encroachment into sacred areas in Athens during the early stage of the Peloponnesian war by those forced to come into the city from the countryside: Thuc. 2.17.1; cf. *IG* I³ 78.54–57 with A.W. Gomme, *A Historical Commentary on Thucydides*, Oxford 1956, II.64–65. Soon after the construction in the second half of the fifth century of the walls of a small triangular shrine in the agora, the ground level around it rose dramatically, possibly indicating settlement right up to the walls of the shrine during the Peloponnesian War: H.A. Thompson & R.E. Wycherley, *The Athenian Agora: Agora XIV*, 120–121, plates 5, 11; a boundary stone was found in situ on the north wall (*IG* I³ 1075 (with bibliography): τὸ ἡερόδ); see the photo of the north wall (with boundary stone) and plan at Camp *The Athenian Agora* 78 fig. 54 and 142 fig. 120 respectively.

³⁹ Pleket *Epigraphica* I, no. 45.27 (= *BCH* 60, 1936, 182f; c. 230 BC, Thespian lease); Parker *Miasma* 161 n.97.

⁴⁰ *SIG*³ 685.82 (139 BC).

⁴¹ *LSCG* 32.30 (*IG* II² 204; 352/51 BC); for these disputes, see Parker *Miasma* 163–64.

profanity of cultivating such land was that of turning the gods' land into human land, growing crops for profane and certainly not divine consumption.

At Argos, the sanctuary was protected against horses, grazing, and the dumping of kopros (manure/excrement); the trees could not be lopped or the trunks chopped down. The inscription, as restored, contains the provision, however, that the trees could be used for a public project or for work to do with the shrine itself;⁴² at Paros, the trees could be used for buildings within the sanctuary.⁴³ Sacred wood could thus be used for public or sacred purposes. In another example, a cypress was cut from the sanctuary of Apollo on Karpathos and sent to Athens to be presented to Athena for her temple.⁴⁴

At Cyrene there seems to have been a different approach to sanctuary trees. In the long inscription dealing with cult purity, there is a clause stating that the wood growing in the sacred place could be used for "sacred, profane and unclean purposes" if the god was paid for the wood.⁴⁵ The fact that this is a "commercial approach"⁴⁶ can be noted, and the sanctuary must have had a plentiful supply of wood to allow for such an arrangement. The sanctuary profited from selling sanctuary wood.⁴⁷

In some cases the trees of the sanctuary were not solely the property of the gods but of the community as well. Some inscriptions record legislation that the trees of sanctuaries are to be preserved but there is an "escape clause" in case the local community felt that it had to make use of the wood in the shrine for a public project. Two inscriptions from Kos, dealing with the sanctuary of Apollo Kyparissios and Asklepios, dated to the fifth and fourth centuries respectively, enable the progress of environmental degradation to be traced. The first decree, of the fifth century, provides for a fine of 1000 drachmas for anyone cutting the cypress wood either in or outside of the temenos, or carrying it away from inside the temenos. Clearly the sanctuary had claims to the wood both inside and outside of the temenos, suggesting that the sanctuary owned land, and the timber on it, outside of the temenos area itself. But these are fines for misdemeanours committed by individuals. If the ekklesia decided, it could use the wood inside and outside of the temenos for public projects.⁴⁸ In the next century, a subsequent decree was passed, which forbade the cutting down of any of the trees. No-one is permitted even to propose that trees be cut down. The inscription as restored allows the ekklesia to decree that the trees could be used for sacral purposes.⁴⁹ This restoration, however, should be rejected, as the previous lines, with their all embracing nature, restrict this also, for the prostates (presiding official) is not allowed to bring forward the matter for debate or to allow any motion about the wood to be voted upon, and no individual is permitted to even voice an opinion about the cypress wood.

At Koropos the situation had degenerated one step further than on Kos. Here the trees in the shrine of Apollo were in danger: "since the trees in the shrine of Apollo have been ruined, whatever action is necessary is to be undertaken..." for the remedy of the situation, so that "together with the temenos having been increased the grandeur of the place be more apparent".⁵⁰ The neokoros of the shrine was to publicise the decree of the boule and demos on the matter to those coming to the shrine, and none of the citizens, nor those "dwelling about", nor strangers staying in the area, were to lop the trees or to chop

⁴² *LSCG* 57.6–8.

⁴³ *LSCG* 111.2–4 (end of the fifth century BC).

⁴⁴ M.N. Tod, *Greek Historical Inscriptions*, Oxford 1946, II.110 (c. 393 BC), cf. Meiggs *Trees* 201 (suggesting that the cypress tree could have been used as a beam in the Parthenon), 378, 498 n.36.

⁴⁵ *LSCG Suppl.* 115.8–10 (end of the fourth century; the translation is that of Parker *Miasma* 335).

⁴⁶ Parker *Miasma* 335.

⁴⁷ Paus. 5.13.3 refers to a 'woodman', one of the 'servants of Zeus' at Olympia who sold wood from the white poplar for sacrifices (no other tree could be used for this purpose), but Pausanias does not make clear if this wood was from a sacred enclosure.

⁴⁸ *LSCG* 150a.

⁴⁹ *LSCG* 150b.8–15; compare the situation at *LSCG Suppl.* 81 (first century AD); cf. *LSCG* 57.7–8.

⁵⁰ *LSCG* 84.4–8 (c. 100 BC).

them down; clearly there seems previously to have been unrestricted access to the sanctuary and whoever had felt the need had helped themselves to the wood in the sanctuary. The trees of a sanctuary of Asklepios on the island of Kos were ransacked by one of Antony's generals for ship-building purposes. Perhaps this is the same sanctuary; if it is not at least it indicates that there was still a flourishing sacred grove existing in the first century BC. Octavian later had the general executed, in the sanctuary itself, as a punishment for his impiety.⁵¹ Earlier, Sulla cut down the sacred trees of the grove for siege machines.⁵²

The sanctity of trees in a sanctuary is a mythical topos. Erysichthon was one example of a mortal who was punished for attempting to chop down sacred trees. The fullest account of the episode is in Callimachos' *Hymn to Demeter*. Madness overcomes Erysichthon, and he decides to chop down the trees in a grove dedicated to Demeter. A tall poplar calls out in pain as it is struck by an axe. Demeter hears her tree in pain and rushes to its aid. Disguising herself as the priestess of the shrine, she gently remonstrates with the axeman, but he declares that the trees will be the roof of his hall, where he will feast his companions continuously. The goddess, angered, throws off her disguise and reveals her Olympian stature. As punishment for planning to banquet under a roof made of her sacred trees she curses him with terrible, ravishing hunger: he eats and eats and yet is never satiated. Twenty servants bring him food and drink around the clock, and he eats up all his father's wealth. Eventually he is forced to beg for food.⁵³

Other myths concerning sacred trees are along similar lines. Paraibios' father was asked by a hamadryad not to chop down a tree but did so, with the consequence that Paraibios had to endure poverty.⁵⁴ The myth of Erysichthon is contrasted with that of Rhoikos, a champion of trees: saving a tree which was about to fall over at Ninevah, by propping it up, he is rewarded by a nymph.⁵⁵ In a further example, when a tree was about to be swept away by a flood, Arkas saved it.⁵⁶

The *Homeric Hymn to Aphrodite* (lines 264-72) contains the best statement for the lives of nymphs and trees being co-terminous. At the birth of nymphs pines or high topped oaks are also brought into being; the tree is the growing home of the nymph. The trees are "holy places of the immortals", *temene*. When the fate (*moira*) of the nymphs approaches, the tree starts to die, and the nymph and the tree leave the light of the sun together. Because of this symbiotic existence, to fell such a tree is to destroy the life of a nymph.⁵⁷ Pausanias seems to regard the Homeric view as old-fashioned. He records that Tithorea in Boiotia was named after a nymph called Tithorea, "one of those who in ancient times, according to the tales of the poets, grew from other trees but particularly the oak".⁵⁸

There were also various pious individuals who dedicated shrines to the nymphs. These were the

⁵¹ Dio 51.8.3. Val. Max. 1.49 preserves the detail that he was executed in the grove itself, which is suspiciously like a dramatic flourish; cf. Meiggs *Trees* 151, 378.

⁵² Plut. *Sulla* 12.3; cf. Meiggs *Trees* 171, 378. Caesar, in what is probably a fictional episode, cut down a sacred grove at Massilia (Lucan *BC* 3.399-452; Thomas *Tree Violation* 268, 270; O.C. Phillips, Lucan's Grove, *CPh* 63, 1968, 296-300, discusses the relationship between Caesar and Erysichthon; Thomas compares Lucan and Virgil *Aeneid* 6). Note also the incident in the fifth century when the Syracusans, in building a counter-wall to the Athenians, cut down the olive trees in the sanctuary of Apollo Temenites (Thuc. 6.99.3, 100.2, cf. 75.1; B. Jordan, Religion in Thucydides, *TAPhA* 116, 1986, 129).

⁵³ Callimachos *Hymn to Demeter*. The myth is also found in Hesiod, fr. 43a-c (R. Merkelbach & M. L. West, *Frag-menta Hesiodica*, Oxford 1967, 27-31); Ovid *Metam.* 8.738-78. I take the incident here at its face value, without denying its fuller ritual significance; see N. Robertson, The Ritual Background of the Erysichthon Story, *AJPh* 105, 1984, 381-408, bibliography at 381 n.1; cf. J.G. Frazer, *The Golden Bough, Part 1: The Magic Art*, vol. 2, ed. 3, 1913, 7-58, cf. 59-96. Suid. Ἀναγυράσιος records that chopping down trees in the grove of the daimon Anagyrasios in the Attic deme of that name was punished by the daimon.

⁵⁴ Ap. Rhod. 2.476-83; Charon *FGH* 262 F 12 (= schol. Ap. Rhod. 2.476-83); cf. Henrichs 87 n.6 for nymphs in trees.

⁵⁵ Charon *FGH* 262 F 12 (= schol. Ap. Rhod. 2.476-83); schol. Theocr. 3.13c.

⁵⁶ Eumelos fr. 15 Kinkel. See also *Anth. Pal.* 9.706

⁵⁷ Note also Hom. *Od.* 10.350.

⁵⁸ Paus. 9.32.9.

nympholeptoi, those seized by the nymphs; they dedicated themselves to the service of the nymphs.⁵⁹ Archedemos of Thera came to Athens in the fifth century but then retired to live at or near a cave dedicated to Pan and the nymphs. Here he dedicated the cave with the sculptures which can still be seen there today. A steep narrow staircase leads into the depths of a large cavern in which Archedemos carved for the nymphs. One of the inscriptions in the cave states that he planted a garden for the nymphs;⁶⁰ another that he was “nympholeptos”;⁶¹ another that he built the nymphs a dancing area,⁶² and that he worked at the orders of the nymphs.⁶³ An individual known as Pantalkes planted trees for the nymphs at their cave at Pharsalos in the fifth century.⁶⁴ At the sanctuary of the nymphs at Krytone in Boiotia there was a small grove near a spring, dedicated to nymphs.⁶⁵

In addition to trees in sacred places, there were throughout Attica many olive trees which were designated as sacred. Owners of land on which these trees grew were required by law to preserve these trees; if the trees died, the obligation continued and the owner was expected to preserve the stump, rather than to dig it out to make way for another tree or to remove a field of an obstacle.⁶⁶

Not only trees were protected in sanctuaries, there were provisions relating to other types of property, which could be turned to good effect in the political field. The proxenos of the Athenians at Kerkyra, Peithias, prosecuted by his enemies on the charge of enslaving the island to the Athenians, was acquitted, and brought to trial five wealthy men, alleging that they had cut vine-poles from the temenos of Zeus and Alkinoos, the fine for which was a stater for each vine-pole. They were convicted; the amount, which Thucydides describes as great, caused them to seat themselves as suppliants in the temples. Their proposal that they be allowed to pay in instalments was successfully opposed by Peithias in the boule, so they burst into the boule and stabbed Peithias and sixty others to death, leading to an outbreak of violent stasis.⁶⁷

Many sanctuaries were obviously surrounded by tracts of land which belonged to it. Farming this land was often prohibited, and will have been easily detected and stopped. But the more transient activity of grazing was also a concern. There were two types of regulations concerning this, one prohibiting farmers from grazing their flocks in the sanctuary grounds, and the other making provision for the grazing of animals specifically brought to the sanctuaries as sacrificial victims. The pasturing of herds of domestic animals in sanctuaries was usually forbidden.⁶⁸

At the sanctuary at Koropos beasts were forbidden entry, not only for grazing purposes, but also for standing: i.e., the sanctuary was not to be used for herding the beasts together in one place. The seriousness of the situation is shown by the fact that offenders in the matter of beasts are to be fined fifty drachmas, with half of the fine going to the denouncer, a provision also found in other decrees, while a

⁵⁹ See esp. W.R. Connor, *Seized by the Nymphs: Nympholepsy and Symbolic Expression in Classical Greece*, *CIAnt* 7, 1988, 155–89.

⁶⁰ *IG* I³ 977a. For Archedemos and his cave: Connor, *Seized by the Nymphs* 166–74; F.T. van Straten, *Daikrates' Dream – A Votive Relief from Kos and some other Kat' Onar Dedications*, *BABesch* 51, 1976, 19; N. Himmelmann-Wildschütz, *Theoleptos*, Marburg-Lahn 1957, 9; C.H. Weller et al., *The Cave at Vari*, *AJA* 7, 1903, 263–349 is still useful.

⁶¹ *IG* I³ 980; cf. Himmelmann-Wildschütz *Theoleptos* 9.

⁶² *IG* I³ 977b.

⁶³ *IG* I³ 980.

⁶⁴ *SEG* 1.248, *SEG* 2.357; Connor, *Seized by the Nymphs* 162 with n.29; cf. van Straten, *Daikrates' Dream* 19, and for other nympholeptoi, 19 n.279.

⁶⁵ Paus. 9.24.4.

⁶⁶ *Lys.* 7; [Arist.] *Ath. Pol.* 60.2; *Dem.* 43.71.

⁶⁷ *Thuc.* 3.70.4–6; see S. Hornblower, *A Commentary on Thucydides*, Oxford 1991, vol. 1, 468–69.

⁶⁸ For regulations governing beasts at sacred sites, see the references at *LSCG* 116, p. 211 and *LSCG* 104 p. 199; specific regulations: *SIG*³ 685.80–82; 826 G.21; 963.35–37; *IG* I³ 4.14–15; *IG* II² 295; *IG* II² 310; *BCH* 44, 1920, 78 no. 11d.5–8; *LSCG* 57.3–4; 67.13–26; 79.25–31; 84.13–14; 91.11–12; 104.2–8; 105; 116.2–14; 136.21–33; *Hesp.* 10, 1941, p. 67, no. 31.39; see Sokolowski *Onchestus* 376–80; A.J.M. Weiler, *Lampas* 20 (1987) 16–22.

slave is to be whipped 100 times,⁶⁹ with a fine of one obol per beast.⁷⁰ There was an awareness that a large number of animals would do more damage than a small number of them, which indicates a knowledge of the problems to be associated with overgrazing. Similarly, at Ialysos, bringing animals into the sanctuary incurred a fine of an obol per beast;⁷¹ the provision is one of many in the decree aimed at preserving the shrine in the good condition it enjoyed in ancient times. The Greeks were aware that there was a clear connection between grazing and removal of surface vegetation, and that goats were the primary offenders in this matter.⁷²

An inscription from Ios records that a stranger was not to graze his flock for more than five days. The inscription is fragmentary but it is almost certainly a sacred law, in that provisions forbidding grazing were to be found in laws regulating the environs of sanctuaries. As it mentions strangers specifically there may also have been a provision about the punishment for citizens. The reference to strangers might be to itinerant graziers and the practice of transhumance. While strangers were restricted to five days grazing, citizens were presumably entitled to more. While grazing was not completely banned in the sanctuary grounds in question (which implies that the grounds would have been large enough to make such grazing attractive), it was restricted.⁷³ This provision strongly suggests an awareness on Ios that overgrazing was an unsuitable agricultural practice.

At a sanctuary on Euboia, if anyone grazed or drove his flock in he would be deprived of the beasts in question.⁷⁴ The same provision held at Arkesine, where the sheep would become consecrated to Zeus Temenites.⁷⁵ Deprivation of the means to a livelihood would have been a particularly harsh sentence in a culture where pasturage was of great significance as a way of life. A decree from Chios specifically refers to sheep and to swine.⁷⁶

Special areas within the sanctuary were set aside for sacred animals. At Delphi, the hieromnemoi decreed that there be land set aside for the sacred beasts, and for horses also, possibly the means by which many had travelled to Delphi, either directly from their home polis or from the seaport to Delphi, but probably belonging to the god. The boundaries of the land so assigned were well delineated. Setting aside land for such a purpose would inevitably lead to a temptation to exploit it by those who had no religious scruples but had herds to graze, and so non-sacred cattle were forbidden in the areas set aside for the grazing of the sacred beasts. In addition, certain other areas were clearly of concern: profane beasts were not allowed at the spring at the Kerameia.⁷⁷ At Athens, a fragmentary inscription records that there was a “place for grazing” for sacrificial animals at one shrine.⁷⁸ At Hera’s sanctuary in Tegea sacred animals making their way through Tegea could graze, for a day and a night; the priest was allowed to graze a specific number of his own animals (twenty-five sheep, a pair of oxen and a goat) on

⁶⁹ *LSCG* 84.13–14. Slave: lines 16–17 (cf. *LSCG* 37.9–10: fifty lashes), grazier: line 14. *LSCG* 116 has a similar provision: a half stater fine per beast.

⁷⁰ *LSCG* 84.17–18.

⁷¹ *LSCG* 136.30–33 (c. 300 BC).

⁷² Eupolis F14 (Kock, Edmonds) = F13 (Kassel & Austin); T. Kock, *Comicorum Atticorum Fragmenta*, Leipzig 1880, vol. 1, 261; J.M. Edmonds, *The Fragments of Attic Comedy*, Leiden 1957, 1.318–21, no. 14 (with trans.); R. Kassel & C. Austin, *Poetae Comici Graeci (PCG)*, Berlin 1986, 5.308–09, no. 13. Note Varro *RR* 1.2.14–16, cf. Meiggs *Trees* 385 (some colonies had charters restricting the activities of goat herdsman: no goats were to graze on land where young trees were growing, and some leases did not allow goats to be grazed on the leased land).

⁷³ *LSCG* 104 (fourth century BC). For seasonal transhumance, see Hodkinson, *Animal Husbandry*, in: Whittaker, *Pastoral Economies* 51.

⁷⁴ *LSCG* 91.11–12.

⁷⁵ *SIG*³ 963.35–37.

⁷⁶ *LSCG* 116.5–6, 11–12 (fourth century BC). Punishments are provided for those not observing the prohibitions.

⁷⁷ *LSCG* 79.19–31; spring: 26–27; profane cattle: τὰ ἰδιωτικὰ θρέμματα (26).

⁷⁸ *IG* II² 295.5–6 (fourth century). Note also *IG* II² 310 (fourth century; cf. Sokolowski, *Onchestus* 378), a fragmentary inscription referring to ‘hiera’ (possibly consecrated beasts), ‘those arriving’, ‘not to enter’, ‘not to feed’, and ‘no sheep’.

sacred ground; in addition, a beast could graze if it was to be sacrificed, and beasts used for transport to the sanctuary could be grazed for a day and a night by ‘strangers’.⁷⁹

Animals needed to be penned because of the large numbers of them sacrificed. While many sacrificers presumably purchased beasts when they arrived at the sacred site in question or at a nearby town, others undoubtedly brought their animals with them. In 370, Jason of Pherai, planning to take over the governorship of the Pythian games at Delphi, commanded the Thessalian cities to contribute cattle, sheep, goats and pigs for the sacrifice. Although he laid a modest assessment on each city, no fewer than one thousand cattle and ten thousand other animals were collected.⁸⁰

Another inscription, from Ios, is similar to the Delphic law, allowing animals dedicated to the god but not non-sacrificial animals to be pastured in the sanctuary. The inscription from Ios leaves nothing to chance, for beasts which are intended for sacrifice are allowed to graze, but these beasts had to be marked, in fact branded, to distinguish them from non-sacrificial beasts, which were not allowed to graze; unbranded beasts were not allowed into the sanctuary area.⁸¹ Fines were provided in cases of non-compliance: those grazing the beasts were to swear that none but sacrificial beasts were grazing, and if they did not swear they were to be fined.

One of the most comprehensive pieces of legislation intended to protect a sanctuary (of Hera) comes from Samos.⁸² Both public officials and private individuals were to leave the sacred wood alone. Clearly there was a concern that officials may have felt empowered to make use of the sanctuary’s wood for projects connected with their office, and to prevent this, lopping, chopping, and burning of the sanctuary trees is expressly forbidden. There is a provision which prohibits *therizein* at the places by the sea (this probably represents a prohibition on harvesting (grass for hay?) within the sanctuary), while water could not be drawn out of the Imbrasos, reflecting a strong belief in the sanctity of the water. The Thebans pointed out that the Athenian troops occupying the sanctuary at Delion were using for profane purposes the water which should be used only for purification before sacrifice,⁸³ and the injunction on Samos is probably to be interpreted similarly (and as noted above, profane beasts were not allowed at the spring at the Kerameia at Delphi, and this too might point to a ritual use for this water). Sowing the land was not permitted, nor camping around the trees of the sanctuary. A wide range of natural resources and activities are dealt with in this inscription: trees, land, and water; and there were prohibitions on lopping, chopping down, sowing, sleeping, and reaping; financial penalties were imposed for transgressions. The grazing of beasts is not mentioned but perhaps provisions for sacrificial animals were contained in the upper part of the inscription, now lost.⁸⁴

That sanctuaries could be illegally used for agriculture is shown by the case of the Persian Artayktes, satrap of Sestos in the Chersonese for Xerxes, who had gained possession of the treasures of the hero Protesilaus and of the temenos surrounding his tomb at Elaios. Artayktes turned the temenos over to agriculture and pasture, and kept his women in the adyton. He was besieged by the Athenians at Sestos; escaping, he was captured and brought back there, where the people of Elaios, who wanted revenge for what he had done to the shrine of Protesilaus, crucified him.⁸⁵

Another problem facing the authorities at sanctuaries was that of vehicular access and the modes of

⁷⁹ *LSCG* 67.5–6 (fourth century); there are difficulties involved in the meaning of ἰνφορβισμός. See S. Hodkinson, *Animal Husbandry in the Greek Polis*, in: Whittaker *Pastoral Economies* 51; Isager & Skydgaard *Ancient Greek Agriculture* 191–92.

⁸⁰ Xen. *Hell.* 6.4.29; cf. Jameson, *Sacrifice and Animal Husbandry in Classical Greece*, in Whittaker *Pastoral Economies* 95; Isager & Skydgaard *Ancient Greek Agriculture* 175.

⁸¹ *LSCG* 105 (fourth century).

⁸² *LSCG Suppl.* 81 (first century AD).

⁸³ Thuc. 4.97, discussed further below.

⁸⁴ Cf. *IG* II² 2494 (mid-fourth century); a provision against sowing (μήτε ἀρ[οῦ]ν); 14–15) seems certain.

⁸⁵ Hdt. 9.115–116, 120. In Euripides’ *Hippolytos* (773–78), Hippolytos speaks of an undefiled meadow, where no shepherd dares to graze his flock, nor where the iron of the plough comes: only the bee goes about the undefiled meadow.

transport of the worshippers: many worshippers would have travelled to shrines by wheeled cart.⁸⁶ The evidence for some sanctuaries indicates that worshippers entered sacred shrines on foot, and vehicular access to sanctuaries was not allowed; vehicles usually had to be left outside of the main sanctuary area.⁸⁷ Approaching on foot was not an act of humility on the part of the worshippers, but was an effort by the authorities to preserve the grounds of the temple. Horses and carts entering the shrine could damage grass cover, create wheel ruts, cause dust and compact the soil (making it difficult for ground cover to grow), particularly if traffic was heavy.⁸⁸

The *Homeric Hymn to Apollo*, according to Sokolowski's interpretation, contains a sacred law that the rider of a chariot to the sanctuary of Poseidon had to dismount before entering the shrine, proceeding on foot to the shrine itself. If he drove the chariot into the sanctuary it would be confiscated; though the driver would be free to take his horses home.⁸⁹ Sokolowski has pointed out that "the driving of chariots and horses into the grove of Poseidon was surely liable to impede the traffic, to incommode the pedestrians and do damage to the surrounding greenery."⁹⁰ The comment can be extended to other sites and has validity for all sanctuaries. Some inscriptions indicate that special areas outside of but in proximity to the sanctuary were set aside for the transport animals.⁹¹ At Eleusis, vehicles were to be left outside the gates and the worshipper was to proceed on foot.⁹² At Rhodes, various animals used for transport were denied access to the sanctuary of Elektrona.⁹³ But at Tegea, transport beasts could be allowed to graze for a day and a night in the sanctuary grounds.⁹⁴

The pressure arising from the need for accommodation for worshippers at sacred sites would have been severe at the time of the major festivals. Hundreds, or perhaps thousands, of pious pilgrims, anxious to worship the gods, would travel for long distances to partake in religious celebrations. Worshippers brought their own tents, skenai, which they pitched in the vicinity of the sacred site. There were precise regulations about the tents of worshippers at Andania. Tents were to be limited to thirty feet in length on any one side and there were to be no curtains or screens placed around the tent. The officials responsible for all aspects of the cult were given jurisdiction over the tents, and they presumably had powers to punish those who did not adhere to the regulations.⁹⁵ The fact that the tents were to be limited in size strongly suggests that the area in which they could be pitched was restricted, that is, that a special area had been set aside for camping. At Samos, it was forbidden to camp in the sanctuary of Hera;⁹⁶ sleeping in the shrine of Zeus Diktaios was forbidden.⁹⁷ Camping in the sacred area was forbidden, and sleeping in temples, unless for incubatory procedures, was also not practised.⁹⁸

These restrictions were primarily to prevent worshippers from camping in the sanctuaries, as the restrictions imposed at Andania indicate. It is also possible, however, that these camping regulations

⁸⁶ *IG* IV² 122, iama 33.

⁸⁷ If possible, temples and altars should be situated away from roads and paths (*Xen. Mem.* 3.8.10).

⁸⁸ Sokolowski, *Onchestus* 379.

⁸⁹ *Homeric Hymn to Apollo* 229–38, Sokolowski, *Onchestus* 376–80.

⁹⁰ Sokolowski, *Onchestus* 378.

⁹¹ Sokolowski, *Onchestus* 378–79 mentions the following inscriptions: *SIG*³ 685.80 (cf. 1157.80–82); *BCH* 44, 1920, 78, no. 11d.5–8 (cf. *SIG*³ 963.35–36); *LGS* II 145 (= *LSCG* 136), *LGS* II 62.23–24 (= *LSCG* 67); *LGS* II 63 (= *LSCG* 68); *LGS* II 51.3 (= *LSCG* 57); *IG* II² 295, *IG* II² 310.

⁹² *Hesperia* 10, 1941, no. 31.37–40 (first century BC); cf. *IG* I³ 251 (*LSCG* 6, with Sokolowski's comment, p. 12); cf. *Plut. Mor.* 842b, *Comp. Nik. & Crass.* 1.3; *Ael. Var. Hist.* 13.24.

⁹³ *LSCG* 136: horses, asses, mules, "small horses", and other yoked animals were prohibited.

⁹⁴ *LSCG* 67.12–13.

⁹⁵ See Dillon, *The House of the Thebans* 79.

⁹⁶ *LSCG Suppl.* 81.8 (first century AD), partially restored.

⁹⁷ *SIG*³ 685.81–82 (139 BC).

⁹⁸ Dillon, *The House of the Thebans* 87; *idem*, *ZPE* 101, 1994, 241, 244–45, 247–48.

may have been a reaction against the use of sanctuaries by armies. The Athenian general Demosthenes in 427/6 camped in the sanctuary of Nemean Zeus, in Lokris.⁹⁹ The Athenians captured and fortified the sanctuary of Apollo at Delion, then ignored the protests of the Thebans that sacred sites were meant to be inviolate in times of war. Wood from the vines in the sanctuary area was used in the fortifications; but what the Thebans particularly protested against was the pollution of the sanctuary: the Athenians were making use of the water which the Boeotians only used for washing their hands before sacrifices, and they were doing profane things there.¹⁰⁰ In this context, the inscriptions which prohibit the bringing of weapons into sanctuaries can be noted.¹⁰¹

At Amorgos it was forbidden for fires to be lit in the sacred area itself.¹⁰² Temples could burn down, that of Hera's at Argos is an example,¹⁰³ and restriction of the campers at Andania to a special area, presumably away from the temple complex itself,¹⁰⁴ may have been at least partly motivated by this consideration. The Greeks were certainly aware of the dangers of bushfires. Potent Homeric similes invoke fire: "As rages a devouring fire through the deep hollows of a parched mountain and the deep forest burns, and the wind drives it and wheels it around, so stormed Achilles over the whole field of battle with his spear, like a god".¹⁰⁵ Thucydides writes of great forest fires raging in the mountains; Plataea was largely destroyed in the Peloponnesian War by the Spartans heaping wood up against the walls and setting fire to it.¹⁰⁶ Fire was useful in war; the burning of the brushwood at Sphakteria, an accidental fire, made the Spartans more vulnerable to the Athenians.¹⁰⁷ Kleomenes, king of Sparta, committed suicide (apparently) by cutting himself up bit by bit: different people put forward different explanations, but most Greeks believed it was because he had bribed the Pythian priestess, the Athenians because he had devastated the land of Demeter and Persephone when he marched to Eleusis on his way to the aborted attack on Athens; the Argives, however, believed it was because he had burned down a sacred grove in Argos, and had thus committed sacrilege.¹⁰⁸

Most regulations regarding sacred environments regulated human activities, but some concerned undomesticated animal life. Amphibious creatures were protected, as streams could be sacred. The Rheitoi, the streams dividing Eleusis from Athens, were sacred to Demeter and Persephone, and only the priests were permitted to catch the fish in these streams.¹⁰⁹ In Lakonia, at Aigiai, there was a lake that was sacred to Poseidon, with a temple to this god. The locals feared to fish from the lake, claiming that whoever fished from these waters would turn into a fish.¹¹⁰ At Pharai, in Achaia, there was a spring

⁹⁹ Thuc. 3.96.1; see also 6.61.2, cf. 7.29.3; Xen. *Hell.* 4.5.2.

¹⁰⁰ Thuc. 4.90–91, 96–98; Jordan, *Thucydides and Religion* 129–30, with n.18; Parker *Miasma* 162; N. Marinatos, *Thucydides and Religion*, Königstein 1981, 37–39. This important case is overlooked by A.J. Holladay & M.D. Goodman, *Religious Scruples in Ancient Warfare*, *CQ* 36, 1986, 151–60.

¹⁰¹ *LSCG Suppl.* 60 A & B; 91.6; perhaps 59.17–18; *LSAM* 68.2–3; *LGS* II.117.13; others as cited at *LSCG Suppl.* 60, p. 115.

¹⁰² *LSCG* 100 (*LGS* II 95); see also *IG* I³ 4B.6 (*LSCG* 3.6; Athens, 485/4 BC); 67.21 (Tegea, fourth century BC); 112 (Paros, second century BC); *LSCG Suppl.* 43.3 (Delphi, third century BC); 105 (Kamiroi, Roman era); 111.12 (Paros, end of the fifth century).

¹⁰³ Thuc. 4.133. 2–3; see also Diod. 16.35.6, 58.4–6 & Paus. 10.53.3.

¹⁰⁴ *LSCG* 65.35–36.

¹⁰⁵ Hom. *Il.* 20.490–94, translation of Meiggs *Trees* 107.

¹⁰⁶ Thuc. 2.77.4; cf. Meiggs *Trees* 375.

¹⁰⁷ Thuc. 4.30.2.

¹⁰⁸ Hdt. 6.75.3, 80; Paus. 2.20.8; cf. Thuc. 3.81.3 (note Front. *Strat.* 2.2, 9); A. Griffiths, Was Kleomenes Mad?, in A. Powell (ed.), *Classical Sparta: Techniques Behind Her Success*, London 1989, 61, 75 n.27; Plato *Laws* 843e provides that if anyone burns his woodland without care for his neighbours, he will be fined, and mentions that many states have this ruling (and others). That the concern is for property and not ecological in nature is indicated by Plato's next provision: when planting trees, sufficient space must be left between them and the neighbour's land.

¹⁰⁹ Paus. 1.38.1.

¹¹⁰ Paus. 3.21.5.

sacred to Hermes and the fish in it were not caught as they were considered to be sacred to the god.¹¹¹ In mythology, Agamemnon sacrificed his daughter because he had slain a deer of Artemis in her sacred grove and boasted of the deed; Artemis would not allow favourable winds to blow until she had been recompensed with human blood.¹¹² But some animals were prohibited. In Euripides' *Ion*, Ion threatens to shoot the birds who approach the temple: they are not to defile it. He is presumably not merely referring to the nest building habits of birds but to their ability to foul with their aerial excrement.¹¹³ Dogs were excluded from Delos,¹¹⁴ but their perceived ritual uncleanness rather than their mess may be responsible in this case. However, there were dogs sacred to Asklepios at Epidauros, reputed to bring about cures for some of the ill.¹¹⁵

A decree of the boule of Chios of the fourth century BC sets out regulations for the shrines on the island. A fine of half a stater per beast is provided if anyone is caught tending beasts in the sacred groves; whoever saw someone tending a flock was to report the matter to the appropriate officials.¹¹⁶ A fine is also provided for manuring: five staters in this case, and the provision is aimed at preventing the preparation of the land for agricultural purposes. Immediately after the statement of the fine for kopros, the decree states that if anyone "sees" but does not denounce, he will owe five staters.¹¹⁷ The provisions for denouncing the offender, and also the fine for failure to do so, were presumably for both the tending of livestock and for manuring.

A decree from Argos concerns regulations for the sanctuary of Apollo Lykeios, and prohibits various activities in the sacred place. The resolution is fragmentary, but there seems to be a provision against riding horses into the sanctuary. There is also a provision not to dump kopros. The inscription then goes on to prohibit the chopping of wood from the sanctuary, unless the wood is to be used for public purposes.¹¹⁸

At Delos, kopros and ashes could not be dumped into the sanctuaries of Dionysos and Leto, and anyone apprehended doing so was to be brought before the boule.¹¹⁹ Once again, there is a clear injunction on the witness to make sure that the matter came to the attention of the authorities. The boule was made responsible for punishing those caught; a slave was to be given fifty lashes,¹²⁰ and was to be placed in a pillory for this purpose, while a free man was to be fined ten drachmas. The seriousness with which the offence was regarded is indicated by the fact that the informer was rewarded with half of the fine. The wording of the decree seems to suggest that there had just been a "clean up" and possibly a purification of the sanctuaries, and that the regulation has been prompted by a desire to ensure that they

¹¹¹ Paus. 7.22.4. See also on fish: Plut. *Mor.* 976a–c, 938f. For sacred fish with a mantic function, see Aelian *Characteristics of Animals* 12.1. Asklepios punished a fishmonger for failing to fulfill a vow by having fish attack him (Dillon *ZPE* 101, 1994, 253, 260).

¹¹² See especially Soph. *Elektra* 563–75.

¹¹³ Eur. *Ion* 154–83.

¹¹⁴ Xen. *Kyn.* 5.25.

¹¹⁵ *IG IV²* 122–23, iamata 20, 26.

¹¹⁶ *LSCG* 116.6–8.

¹¹⁷ *LSCG* 116.5–20, note 17–20. *LSJ⁹* explains κοπρέω as κοπρίζω, to spread manure (as in farming), but it also refers to the dumping of kopros. For animal and human manure as fertiliser: note Hom. *Od.* 9.329–30 (cf. Xen. *Oik.* 16.12); E.C. Semple, *The Geography of the Mediterranean Region: its Relation to Ancient History*, London 1932, 406–32; J.D. Hughes, *Ecology in Ancient Civilisations*, New Mexico 1975, 78; R. Sallares, *The Ecology of the Ancient Greek World*, London 1991, 382, 385; E.J. Owens, The Koprologoi at Athens in the Fifth and Fourth Centuries B.C., *CQ* 33, 1983, 48; Hodkinson, Animal Husbandry, in Whittaker *Pastoral Economies* 49–50; A. Burford, Greek Agriculture, in *Cambridge Ancient History VI²*, Cambridge 1994, 663–664.

¹¹⁸ *LSCG* 57.

¹¹⁹ No dumping: *LSCG Suppl.* 53.7–8 (end of the third century); apprehension, lines 10–13.

¹²⁰ As at the shrine of Apollo Erithaseos, Athens (*LSCG* 37.9–10).

remain clean in the future.¹²¹ A regulation from a spring of the nymphs on Delos forbids washing or swimming in the spring, and throwing manure or anything else into it; the penalty was two drachmas to be sacred to the nymphs.¹²²

That kopros was considered to be an unsightly substance, as a type of rubbish, is indicated by these regulations from Delos, and also from Epidauros where there was a similar injunction against the dumping of kopros and ashes in a temenos.¹²³ It is possible that the one who did so would be fined fifty drachmas, with half going to the informer, but the inscription is subject to heavy restoration which is probably modelled on the phraseology of the regulation from Delos.¹²⁴ Similarly, the tanning of hides was forbidden above the sanctuary of Herakles on the Ilissos in Athens,¹²⁵ obviously in order that the sanctuary not be polluted with dirty water (the hides may well have come from the beasts sacrificed at the sanctuary).

Large numbers of sacrificial animals would lead to large amounts of kopros to remove.¹²⁶ In a Tegean decree concerning the sanctuary of Hera, there is a regulation that the demiouργοι were to sell the kopros (presumably from the sacrificial beasts), and faced a fine if they failed to do so.¹²⁷ At Delphi no-one was to take kopros from the sacred land,¹²⁸ probably because it was intended for sale.

A different approach can be seen in cases where sacred land was leased for agricultural purposes, as at the sanctuary of Zeus Temenites at Arkesine, on Amorgos, where the tenant was obligated, under the conditions of the lease, to spread 150 baskets of kopros on the land annually, with baskets holding one-third of a medimnos; if he did not, he would be fined.¹²⁹ This indicates that the lease was for agricultural purposes. The prohibition on spreading manure in sanctuaries at Chios obviously indicates that spreading manure was forbidden there because it was a way of increasing the fertility of the soil for crops and pasturage: agriculture, and therefore soil improvement for the purposes of agriculture, was forbidden.¹³⁰ In the case of agricultural land belonging to a god and leased for profit, as at Arkesine, it

¹²¹ *LSCG Suppl.* 53.3–9, 19–20.

¹²² *LSCG Suppl.* 50 (fifth century BC). See Dillon & Garland, *Ancient Greece*, 363 for translation.

¹²³ For Greek attitudes to kopros, see Hesiod *Works and Days* 726–32, 757–59, cf. Parker *Miasma* 291, 293–94; *LSCG Suppl.* 50; *LSCG* 115.5 (Thasos, the “Garden of Herakles”; fourth century BC; a lease, the main condition of which is to keep an area clean from kopros, with the lessee empowered to take action if it is befouled, by confiscating the pot from which the kopros was dumped; he could whip the dumper if a slave); Athenaeus 417d; Theophrastos *Characters* 14.5; note *IG* II² 380.38–40, which can be restored as a prohibition against defecation in the agora and streets of the Peiraieus; *OGIS* 483.38–40, 60–65 (Pergamon); at Athens, kopros was not to be dumped within ten stades of the city-walls: [Arist.] *Ath. Pol.* 50.2. See also *Inscriptiones Creticae* IV 73A.7–10; *LSCG Suppl.* 24 & 53. Human or animal excrement in a sanctuary was literal pollution: Ar. *Wasps* 394; note *Frogs* 366. See also the various lexicographical entries for the pollution, by urinating and defecating, of the Pythion, constructed by Peisistratos, as a mark of protest against the tyrant; text and translations in J.P. Lynch, Hipparchos’ Wall in the Academy at Athens: A Closer Look at the Tradition, in K.J. Rigsby (ed.), *Studies Presented to Sterling Dow on his Eightieth Birthday*, *GRBS Suppl.* 10, 1984, 177–79. See the usually overlooked passage in Artemidoros *Interpretation of Dreams* II.26, on the interpretation of dreams involving human faeces; note C. Vatin, *Jardins et Services de Voirie*, *BCH* 100, 1970, 555–64; L. Robert, *A travers l’Asie Mineure*, Paris 1980, 155.

¹²⁴ *LSCG Suppl.* 24.

¹²⁵ *LSCG Suppl.* 4.

¹²⁶ *IG* XI 2, 146.76–77.

¹²⁷ *LSCG* 67.27–30: [τ]ὸς δαμιοργὸς τὸν κόπρον τὸν ἀπυδοσμ[. . . ἐξάγε]ν τῆι ἑβδόμῃ τῷ Λεσχανασίῳ μενός· [εἰ δὲ μέ, δαρχ]μῶ|ν ὀφλέν. Sokolowski *LSCG* p. 137 would restore ἀπυδοσμ[ὸν]; *LSJ*⁹ 198 cites this inscription as Arcadian ἀπυδόσμιον for ἀποδόσμιον. Cf. Hodkinson, Animal Husbandry, in Whittaker *Pastoral Economies* 49 (referring to the inscription as *IG* V 2, 3). At Athens koprones, latrines, could be sources of income: Owens, *Koprologoi* 48; T.J. Wilkinson, The Definition of Ancient Manured Zones by Means of Extensive Sherd-Sampling Techniques, *JFA* 9, 1982, 324–25; Hodkinson, Animal Husbandry, in Whittaker *Pastoral Economies* 49. In fact at Athens, one property is described as “house and latrine”, *IG* II² 2742, Finley *Land and Credit* 142 (horos no. 86), 260 n.116 (cf. *IG* II² 2496).

¹²⁸ *LSCG* 78.21 (178 BC): [ἐκ] τῶς ἱερῶς γὰς κόπρον μὴ ἄγεν μηδεμίαν.

¹²⁹ *SIG*³ 963.21–26, 40–44 (*IG* XII 7, 62), fourth century BC; Hodkinson, Animal Husbandry, in Whittaker *Pastoral Economies* 49; Burford, *Greek Agriculture* 664.

¹³⁰ *LSCG* 116.4–5.

was in the interests of the authorities in charge of the land to ensure that its fertility was maintained.

In addition to kopros dropped by animals, there was also onthos, and it has been suggested that this is the waste inside the intestines of the sacrificed beasts. Archedemos, the nympholeptos dwelling in the hills of Vari, decreed that the animal onthos was to be cleaned out of the cave of the nymphs along with the inner parts which found their way on to the floor during the sacrificial procedure.¹³¹ The Hekatompedon inscription has a regulation which reads: μεδ' ὄνθον ἐγβ[αλῆν], and this may be a prohibition against washing out the onthos from the intestines of sacrificed beasts in the sacred area.¹³²

Those in charge of the sanctuary punished the transgressor without reference to asebeia. Piety and impiety are concepts which are largely absent from the inscriptions, which are precise and pragmatic.¹³³ Perhaps this suggests that although the sanctuary is the subject of concern, the sanctuary is conceived of in terms of property, administered and protected by mortals for the gods' benefit. It is perhaps correct to state, as Meiggs does, that "although Plato describes the permanent damage to the environment that can be done by deforestation, there is very little evidence elsewhere in Greek or Roman literature of consciences disturbed by an excessive exploitation of forests".¹³⁴ This neglects the epigraphic evidence pertaining to sacred groves. Exploitation of sacred groves and fear of such is clear from the inscriptions. On the other hand, the basic premise of Hughes and Thirgood, that Greek civilisation fell because of the degradation of their environment, is obviously overstated. In the fourth century, wagon loads of timber were still being cut from the Attic hinterland to feed the demand of the city of Athens,¹³⁵ but for their naval supplies the Athenians needed to go as far afield as Macedon even as early as the fifth century, presumably in search of specific types of wood.¹³⁶ Attica was still at least partially wooded in the second century AD.¹³⁷

Deforestation was clearly a problem in ancient Greece, but one which had not yet reached the proportions evident in Greece today: the current landscape results from 2500 further years of environmental exploitation and is not necessarily a reflection of the ancient environment but the end product of many millennia of human activity. Classical ruins may stand in blighted landscapes, and columns may frame a deforested and eroded ecosystem, but many centuries have passed since the end of ancient Mediterranean civilisation. The collapse of Greece and Rome cannot be attributed to human degradation of the environment. Nevertheless, ecological legislation was necessary in the case of sanctuaries. Modern scholars argue that the deforestation in progress around the sanctuaries encouraged the Greeks to preserve the vegetation of the sanctuary, but all this resulted in was greater temptation in the community to plunder sanctuary wood, and it was the authorities who had to step in to preserve the trees of the sanctuary. There is much evidence for concern about sacred environments, which were finite and more easily protected, but little for concern about the non-sacred environment. But on the other hand, ancient Greece did not collapse because of human destruction of the ecology: Greece, and Rome do not provide, as has sometimes been argued, an apocalyptic vision for our own civilisation.¹³⁸

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¹³¹ IG I³ 982 (LSCG 9).

¹³² IG I³ 4B.11 (LSCG 3); G. Németh, Μεδ' ὄνθον ἐγβαλῆν. Regulations Concerning Everyday Life in a Greek Temenos, in R. Hägg (ed.), *Ancient Greek Cult Practice from the Epigraphical Evidence*, Stockholm 1994, 59, 63.

¹³³ LSCG 150a.6 is unusual in this respect.

¹³⁴ Meiggs *Trees* 377.

¹³⁵ Dem. 42.7.

¹³⁶ A.C. Johnson, Ancient Forests and Navies, *TAPhA* 58, 1927, 202; but note Meiggs *Trees* 123–26, cf. E.N. Borza, Timber and Politics in the Ancient World: Macedon and the Greeks, *PAPhS* 131, 1987, 41–45.

¹³⁷ Meiggs 381. Cf. Diod. 14.42.4; Johnson, Ancient Forests and Navies 201.

¹³⁸ Contra J.D. Hughes & J.V. Thirgood, Deforestation in Ancient Greece and Rome: a Cause of Collapse, *The Ecologist* 12, 1982, 196–208.