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# CURSE TABLETS: THE HISTORY OF A TECHNOLOGY*

This article sets out to reconsider the history of curse tablets in the ancient Mediterranean world as the history of a technology, one marked by episodes of innovation and appropriation. Attempts to write a history in terms of diffusion or of the spread of classical ideas or of magic have failed to convince, and most recent studies focus on the particularities of specific tablets or groups of tablets. This article argues that, if human and object agency are taken into account, it is possible to explain both the discontinuities in the history of curse tablets and also the shape of their thousand-year history. Curse tablets emerge as a technology the affordances of which allowed it to be put to many uses in many different social locations formed by the complex and shifting cultural contours of antiquity.

**Keywords:** technology, ancient Mediterranean, innovation, appropriation, curse tablets, object agency, discontinuities, diffusion, social location, affordances

This is an article about curse tablets as artefacts, rather than curses as texts. It is also about the practice of cursing, rather than the body of knowledge (variously imagined) that is commonly termed magic. None of these things are completely separable. I have drawn heavily on previous scholarship, much of it directed to different ends.[1] Taking something already made and suiting it to new purposes is often described as

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[1] Among recent collections on which I have drawn I am glad to acknowledge R. Gordon and F. Marco Simón (eds.), *Magical Practice in the Latin West. Papers from the International Conference held at the University of Zaragoza, 30 Sept.–1st Oct. 2005* (Leiden, 2010); C. Sánchez Nataliás (ed.), *Litterae Magicae. Studies in Honour of Roger S. O. Tomlin* (Zaragoza, 2019); and two special issues of *Religion in the Roman Empire*: 5.3 (2019) ('Curses in Context 1: Curse-Tablets in Italy and the Western Roman Empire') and 7.1 (2021) ('Curses in Context 2: Curses in the Eastern and North African Provinces of the Roman Empire').

appropriation. This is appropriate, for this article is about ancient appropriations, as well as about the power of technologies to shape human practice. I shall assume that the history of curse tablets is entangled with the history of social relations, and that understanding it requires us to recognize the agency of curse tablets, as well as that of those who made and used them.[2] The human agency I will concentrate on is mostly expressed in appropriation, while the object agency is expressed in the ways in which certain objects and materials inspired human agents to make new uses of an evolving technology. Technological innovation often consists in finding new uses for existing artefacts, or modifying artefacts to better suit the ways in which they are used. There is a recursive element in these patterns of change. Artefacts suggest new uses to humans, and humans adapt artefacts to their needs and desires. This complex of human and object agency is described, in the discipline of science and technology studies, in terms of 'actor-network theory'.[3]

I shall use 'curse tablets' as a short hand for a range of artefacts, both those designed to restrict the future agency of their targets (binding spells) and those aimed at punishing past actions (prayers for justice).[4] Typically they are small objects made of metal (or papyrus, or stone, or pottery and other materials) and they are inscribed. There are connections we can make to curses found in other contexts, for example on tombs,[5] and to oral curses that have left no trace, and also (as I shall show) to other inscribed objects that were not curses.

## Ritual, appropriation, and distribution

When a context for the use of curse tablets is recoverable it usually suggests ritual action, at least in their final deposition (thrown into a

[2] For entanglement theory, see I. Hodder, *Entanglement. An Archaeology of the Relationships between Objects and Things* (Malden, MA, 2012); I. Hodder, *Where Are We Heading? The Evolution of Humans and Things* (New Haven, CT, 2018).

[3] B. Latour, *Reassembling the Social. An introduction to Actor-Network-Theory* (Oxford, 2005); J. Robb, 'What Do Things Want? Object Design as a Middle Range Theory of Material Culture', *Archaeological Papers of the American Anthropological Association* 26 (2015), 166–80; A. Van Oyen, 'Actor-Network Theory's Take on Archaeological Types: Becoming, Material Agency and Historical Explanation', *CArchJ* 25 (2015), 63–78.

[4] J. G. Gager, *Curse Tablets and Binding Spells from the Ancient World* (Oxford and New York, 1992).

[5] Most spectacular is the curse inscribed on the Tomb of the Vesonii: see *AE* 1964, 160. I am grateful to Maureen Carroll for this reference. See also H. Duday and W. Van Andringa, 'Archaeology of Memory: About the Forms and the Time of Memory in a Necropolis of Pompeii', *MAAR*, suppl. vol. 13 (2017), 73–85.

spring, buried in a grave, dropped into a fire). On occasion they are associated with other kinds of ritual deposits, as was the case in the sanctuary of Anna Perenna in Rome or of the Celtic god Maponus at Chamalières in central Gaul. The objects we can recover are simply the durable traces of the rituals performed. Quite likely the preparation of curse tablets involved ritual procedures. Perhaps, too, their use was accompanied by other rituals that are no longer recoverable, such as the pronouncing of chants, or the choice of particular days or times of day for consigning them to their ultimate destination. I understand ritual in this context to be action marked out as special by particular prescriptions and proscriptions, a rule-based performance related to particular concepts of the cosmos, and linked to specific states of mind.[6] Participants in these rituals included those on whose behalf the curse was produced, perhaps makers and scribes too, and in some cases priests, since temples were one context in which cursing rituals were performed. At a further remove there were probably spectators, some perhaps with guilty consciences.

The texts inscribed on these artefacts show that anyone who used them sought to impose control over, or bind, or restrict, or compel, or punish another human being. They are often written in the first person, and sometimes the identity of the target is not known. They often include graphic descriptions of physical and psychological parts of the target. It is rare that they are conditional (that the punishment is threatened only if a particular outcome is not achieved).[7] They generally invoked the help of a named deity. But no two curse tablets are identical, and there is an exception to almost every generalization we might try to make about them.

One of the remarkable characteristics of curse tablets is that they were used over a very long period and in a wide range of ancient societies. They originated in the archaic Mediterranean and were used long after the fall of the Western Roman Empire. At present

[6] C. Bell, *Ritual Theory, Ritual Practice* (Oxford and New York, 1992); P. Liénard and P. Boyer, 'Whence Collective Rituals? A Cultural Selection Model of Ritualized Behavior', *American Anthropologist* 108 (2006), 814–27.

[7] *Tab.Sulis* 100 is a possible exception, although the stipulated condition seems impossible to fulfil. I am grateful to Stuart McKie for pointing this out. On the text, see R. S. O. Tomlin, 'Vinisius to Nigra: Evidence from Oxford of Christianity in Roman Britain', *ZPE* 100 (1994), 93–108; S. McKie, 'Distraught, Drained, Devoured or Damned? The Importance of Individual Creativity in Roman Cursing', in M. J. Mandich *et al.* (eds.), *TRAC 2015. Proceedings of the Twenty-Fifth Annual Theoretical Roman Archaeology Conference, Leicester 2015* (Oxford, 2016), 15–27.

around three thousand examples are known from the classical period, about two-thirds of which are written in Greek, and most of the remainder in Latin. But there are also small numbers in Etruscan, Oscan, Celtic, and perhaps Iberian languages. They have been found throughout the Mediterranean world and also in the continental territories of the Roman Empire. In that respect they may be compared to other categories of inscribed objects with broad distribution ranges, which occur in many local variants of design and language. Coinage is one such category, inscribed tombstones is another.

## Histories of magic and narratives of cursing

How should we explain the spread of the use of curse tablets over the thousand years or so of their use? Any plausible explanation needs to account not only for the similarities on the gross scale, but also for the myriad differences at a local level. Ideally it would also explain the gaps in the distribution of surviving curse tablets, and why their use seems to have spread rapidly in some periods, and slowly in others. This is made difficult by the fact that many of the surviving curse tablets have been found in deposits that each contain a large number of examples, such as the sacred spring at Bath or the sanctuary of Isis and Magna Mater at Mainz. This means that the present-day distribution is in some respect accidental, and liable to be changed by future finds.[8]

This is the sort of problem that archaeologists are very familiar with. Few are now satisfied with vague terms such as diffusion (which includes no account of agency and offers little explanation for the gaps in the ultimate distribution). Those versions of diffusionism that are represented as civilizing processes – Hellenization and Romanization among them – are even more suspect, given the value-laden assumptions they encode (that indigenous peoples recognize and desire the products of 'higher' civilizations, for example).[9] At one level it is true that curse tablets formed part of a loose and capacious family of artefacts and practices extended throughout and

[8] J. Reynolds and T. Volk, 'Gifts, Curses, Cult and Society at Bath', *Britannia* 21 (1990), 379–91.

[9] G. Woolf, 'Taking the Long View: Romanization and Globalization in Perspective', in O. Belvedere and J. Bergemann (eds.), *Imperium Romanum. Romanization between Colonization and Globalization* (Palermo, 2021), 19–32.

beyond the Mediterranean basin. But this is a characterization, not an explanation, and is hopelessly vague as an account of where they were used and why they took such different forms.

Romanists are familiar with a range of explanations in which a given artefact type, habit, or style is presumed to have spread first among 'elites' and then become widespread through a 'trickle-down effect'. This kind of account might be more plausible for other categories of artefact, such as wine drinking and the associated spread of wine-mixing and wine-drinking equipment. But curse tablets are not plausibly imagined as elite equipment that was then widely imitated. Religious innovations too, such as the worship of Magna Mater or of the emperors, are often seen as being disseminated through public cults and then adopted by private individuals.[10] Yet curse tablets were never employed in public religion. Recently attention has been given to the hypothesis that travelling religious specialists were key vectors of change: this is likely enough, but does not explain why some societies were more or less receptive to religious innovations, nor what changes they made in them.[11] One of the fascinations of curse tablets is that they constitute a technology that does not seem to be transferred via 'the usual channels'.

The spread of curse tablets has often been related to the expansion of magic, envisaged as a more or less coherent body of practices and knowledge originating outside the ancient Mediterranean. The first surviving account of this kind is the history of magic offered by Pliny the Elder at the start of Book 30 of his *Natural History*. For Pliny, magic is the most fraudulent of all the arts, a set of lies that had held sway over the entire world for generations, originating in Persia thousands of years earlier. It is evident from his text that this explanation was not original to him. He explicitly synthesizes a set of accounts that can be traced back to the fourth century BCE, updating them with elements derived from more recent othering discourses

[10] For the centrality of public religion, see J. Scheid, *The Gods, the State, and the Individual. Reflections on Civic Religion in Rome* (Philadelphia, PA, 2016). For the dissemination of religious motifs from public to private, see P. Zanker, *The Power of Images in the Age of Augustus* (Ann Arbor, MI, 1988).

[11] On specialists, see J. Rüpke, 'Controllers and Professionals: Analyzing Religious Specialists', *Numen* 43 (1996), 241–62; H. Wendt, *At the Temple Gates. The Religion of Freelance Experts in the Roman Empire* (New York and Oxford, 2016); E. Eidinow, *Oracles, Curses and Risk among the Ancient Greeks* (Oxford, 2007). On the factors affecting the receptiveness of ancient societies to religious innovations, see J. Sørensen, 'Religion, Evolution and an Immunology of Cultural Systems', *Evolution and Cognition* 10 (2004), 61–73.

generated in the course of Roman expansion.[12] By connecting magic with accounts of human sacrifice and cannibalism, he forms a link between ancient Persia and the recent past in Gaul and Britain. The Romans emerge as opponents of magic, who should be thanked for having driven it back on all sides to the limits of the earth. Their achievement is explicitly presented as something for which they should be thanked. The elimination of magic and superstition provides one justification for Roman imperialism.[13] It is easy to think of more recent analogues in colonial histories of science.

Pliny's account makes no mention of the actual artefacts at all. Instead, it focuses on illicit practices and on particular groups such as the Persian Magi and the Gaulish Druids. Even recently, the material culture of religion has been treated as secondary to beliefs and practice. With the exception of images, on which there is a huge literature, the material traces of religion are usually treated as being of secondary importance. Despite the prominence given to knives, lamps, plates, and other utensils in the art of Roman sacrifice, most modern scholarship focuses on words, actions, and beliefs. That reflects both modern ideas of what is central to religion, and attitudes to Roman material culture more widely.[14]

Curse tablets themselves have been treated as signs of superstition, of deviant religious practices, or even as the opposite of religion.[15] Roman religion proper is still commonly treated as being centred on public,

[12] On these discourses, see most recently P. Zanker, 'Die Gegenwelt der Barbaren und die Überhöhung der häuslichen Lebenswelt: Überlegungen zum System der kaiserzeitlichen Bilderwelt', in T. Hölscher (ed.), *Gegenwelten zu den Kulturen Griechenlands und Roms in der Antike* (Munich and Leipzig, 2000), 409–33; W. Nippel, 'Ethnic Images in Classical Antiquity', in M. Beller and J. Leerssen (eds.), *Imagology. The Cultural Construction and Literary Representation of National Characters. A Critical Survey* (Amsterdam and New York, 2007), 33–44; E. Gruen, *Rethinking the Other in Antiquity* (Princeton, NJ, 2011); G. Woolf, *Tales of the Barbarians. Ethnography and Empire in the Roman West* (Malden, MA, and Oxford, 2011); F. Hartog, 'Barbarians: From the Ancient to the New World', in M. Boletsi and C. Moser (eds.), *Barbarism Revisited. New Perspectives on an Old Concept* (Leiden and Boston, MA, 2015), 31–44; B. Dumézil (ed.), *Les Barbares* (Paris, 2016).

[13] R. Gordon, 'Religion in the Roman Empire: The Civic Compromise and Its Limits', in M. Beard and J. North (eds.), *Pagan Priests* (London, 1990), 233–55.

[14] R. Raja and J. Rüpke (eds.), *A Companion to the Archaeology of Religion in the Ancient World* (Chichester, 2015); A. Van Oyen and M. Pitts (eds.), *Materializing Roman Histories* (Oxford, 2017); A. Parker and S. McKie (eds.), *Material Approaches to Roman Magic. Occult Objects and Supernatural Substances* (Oxford and Philadelphia, PA, 2018).

[15] On all this, see R. Gordon, 'Superstitio, Superstition and Religious Repression in the Late Roman Republic and Principate (100 BCE–300 CE)', in S. A. Smith and A. Knight (eds.), *The Religion of Fools? Superstition Past and Present* (Oxford and New York, 2008), 72–94; J. Rüpke, *Religious Deviance in the Roman World. Superstition or Individuality?* (Cambridge, 2016).

daytime rituals performed by high-status priests and directed to major deities. The implied opposite is private rituals, often conducted in secret and/or at night, sometimes by foreign experts or individuals of low status, and directed to a different set of divine beings. These dichotomies have turned out, on recent examination, to be over-simplifications. Some public rituals were carried out at night (as part of the Saecular Games at Rome, for instance, or the Eleusinian Mysteries in Attica). Private cult took place to the same gods in houses, and even in public temples. As for curse tablets, many of the powers invoked are underworld figures like Hermes, Hekate, and Persephone, but we also find some addressed to deities such as Neptune (in Britain) or Magna Mater and Atthis (at Mainz), gods who also received public cult.[16]

There is no doubt that magic was often regarded as a weapon of the marginal and as undesirable. Some curse tablets were deposited in graves, a clear departure from what was acceptable either as ritual or as treatment of the dead. Yet other curse tablets were set up in sanctuaries. Many are marked where nails were used to fix them to posts. At least some high-status individuals – such as imperial freedmen at Mainz – were involved. At the spring of Chamalières, the Celtic curse tablet deposited in the middle of the first century CE included the names of Roman citizens.[17] There is therefore no reason to see *all* cursing as illicit or marginal. It is difficult to justify generalization about the use of this technology, and the idea that a single theory or method lies behind the use of curse tablets looks less and less defensible.

One of the achievements of the 'Curses in Context' project has been to question some of the grand narratives about magic that continue to frame discussions about cursing. The idea that Mediterranean magical practice had an ultimate origin in one or other Near Eastern culture now seems to reflect the same Orientalist assumptions as Cumont's category *Religions orientales*.[18] Both concepts cordoned off a more dignified public religion for Greece and Rome from less acceptable, supposedly foreign, contaminants; and what constituted a dignified

[16] For Neptune, see R. Tomlin, 'Roman Britain in 1996', *Britannia* 28 (1997), 455–7. For the Mainz sanctuary, see J. Blänsdorf, 'The *Defixiones* from the Sanctuary of Isis and Mater Magna in Mainz', in Gordon and Marco Simón (n. 1), 141–89.

[17] M. Lejeune, 'Deux inscriptions magiques gauloises: plomb de Chamalières; plomb du Larzac', *CRAI* 128 (1984), 703–13.

[18] C. Bonnet, V. Pirenne-Delforge, and D. Praet (eds.), *Les religions orientales dans le monde grec et romain cent ans après Cumont (1906–2006). Bilan historique et historiographique. Colloque de Rome, 16–18 Novembre 2006* (Brussels and Rome 2009).

public religion was strongly shaped by sectarian disputes of the day.[19] In place of a single tradition it seems preferable to envisage a long and eclectic history of appropriations across a very broad cultural zone. Those borrowings did not respect any consistent boundary between magic and religion.

The critique of these unsatisfactory histories of magic has cleared the ground for a more reflective enquiry into the technology of cursing. But, as in other fields of the humanities, the retreat from grand narratives has come at a cost. Many studies focus on the examination of individual curse tablets, or small groups of them; others ask how cursing worked in a particular milieu, such as the agonistic culture of Greek *poleis* or among the factions that surrounded chariot racing in the Roman world.[20] The preferred contexts are often very local and the specificity of particular texts and practices are emphasized. This has brought many rewards in understanding, including a sense of how much variety there was among cursing practices. But we are left without an adequate account of why cursing and curse tablets persisted in use for over a thousand years and over such a wide range of cultures and societies.

## Curse tablets: a fragmentary history

The key to understanding the history of curse tablets lies in their diversity. This diversity was not a product of gradual incremental change, nor of 'cultural drift', but of a series of moments of innovation, in each of which the technology was repurposed and the objects redesigned. Each of these discontinuities represents a moment of appropriation. The number of times this happened also raises the question of what it was about curse tablets that made them so easily transferred from one purpose to another.

The earliest surviving curse tablets from the Mediterranean world appear in the late sixth century BCE and were written in Greek. Like the first Greek letters, which were also often written on lead, they

[19] J. Z. Smith, *Drudgery Divine. On the Comparison of Early Christianities and the Religions of Late Antiquity* (Chicago, IL, 1990).

[20] C. A. Faraone, 'The Agonistic Context of Early Greek Binding Spells', in C. A. Faraone and D. Obbink (eds.), *Magika Hiera. Ancient Greek Magic and Religion* (Oxford, 1991), 3–32; R. Gordon, 'Gods, Guilt and Suffering: Psychological Aspects of Cursing in the North-Western Provinces of the Roman Empire', *ACD* 49 (2013), 255–81.

appear early not just in the central areas of the Greek world – Sicily and Attica – but also in its peripheries such as southern Russia and Iberia. Greek curse tablets continued to be manufactured and used into late antiquity.

Curse tablets in other languages appeared as early as the fourth century BCE, from which point Oscan and Greek Oscan bilinguals are found in small numbers.[21] Fourteen curse tablets were written in the Oscan language between the fourth and first centuries BCE; eight of these were written in Greek characters, five in the Oscan script, and one in the Latin alphabet. Latin curses are sometimes said to descend from these, although there is no particular reason to think that there was only one line of transmission. Most of the Oscan examples were from tombs. Seven Etruscan examples are known, five of them from Volaterra, also mainly from tombs and all dated to the third century BCE.[22] It has recently been suggested that some of the Iberian texts inscribed on lead tablets may also have contained curses.[23]

The first curse tablets written in Latin appeared in Italy in the second century BCE, and some provincial examples are known from the first century BCE. However, most of those that we have are from the first two centuries CE. Like their Greek analogues, Latin curse tablets continued into late antiquity. A recent survey catalogues the Latin *defixiones* and makes clear how unevenly finds are distributed across the empire.[24] Some 160 of the 600-odd known are from Britain, mostly from Bath and Uley; 51 are known from the Germanies, but 34 of these are from Mainz. This may reflect the chance of discovery, and since lead is easily recycled it may be that survivals were exceptional. But it is also possible that the use of curse tablets was sporadic and local, that the ritual enjoyed short periods of popularity in particular places. Finally, there are a small number of curse tablets in Celtic languages, one from the sacred spring at Chamalières near Clermont-Ferrand,

[21] F. Murano, 'The Oscan Cursing Tablets: Binding Formulae, Cursing Typologies and Thematic Classification', *AJP* 133 (2012), 629–55; K. McDonald, *Oscan in Southern Italy and Sicily. Evaluating Language Contact in a Fragmentary Corpus* (Cambridge, 2015).

[22] R. Massarelli, 'The Etruscan Defixiones: From Contexts to Texts', *Religion in the Roman Empire* 5 (2019), 363–75.

[23] F. Marco Simón, 'Early Hispanic Curse Tablets: Greek, Latin – and Iberian?', *Religion in the Roman Empire* 5 (2019), 376–97. For a contrary view, see O. Simkin, 'Language Contact in the Pre-Roman and Roman Iberian Peninsula: Direct and Indirect Evidence', in A. Mullen and P. James (eds.), *Multilingualism in the Graeco-Roman World* (Cambridge, 2012), 77–105.

[24] D. Urbanová, *Latin Curse Tablets of the Roman Empire* (Innsbruck, 2018). See also D. Urbanová, 'Latin Curse Tablets: Mediterranean Tradition and Local Diversity', *AAntHung* 57 (2017), 57–82.

one from a grave at Larzac near Aveyron, and two from the spring at Bath.[25]

Translation is arguably always a species of appropriation. It was also not a routine or common practice. It is worth remembering how rarely Greek and Latin were translated into vernacular languages and written down.[26] Funerary and votive epigraphy (which together account for the vast majority of inscriptions) were almost entirely written in Greek or Latin, whatever languages were spoken locally. On occasions, like the Oscan–Greek bilinguals, it is clear that there was more at stake than convenience. The decision to write the Chamalières tablet in Gaulish, despite the fact it was made for Roman citizens using a Mediterranean ritual, was a deliberate one. It is rarely possible to work out why a decision was made to translate, or not to do so, but the process points to the human agency involved in moving cursing from one social location to another.

Script and language highlight some discontinuities in the history of curse tablets. But there are also marked differences in the uses to which they were put, from one time or place to another. Some curses were preventative, attempting to frustrate speakers from making their case in court. Others were retaliatory, like those aimed at thieves known or unknown, or like the so-called 'prayers for justice' asking deities to respond to a range of injuries. Yet others, including some love spells, seem both to respond to past encounters and to try to influence future ones. This variation of uses was not random. Examples from classical Athens target litigants and witnesses before cases come to justice, sometimes seeking to mitigate the risks of conflict, sometimes to escalate it.[27] Many of the British examples and some Iberian ones mention instances of theft.[28] Many of those from Africa relate to chariot racing. Add to this the variations in ritual practice – curse tablets might be thrown into a water source, nailed up in a temple, dropped into fire pits, or pressed down into a grave – and the discontinuities are evident. It is quite likely that there are other

[25] A. Mullen, 'Evidence for Written Celtic from Roman Britain: A Linguistic Analysis of *Tabellae Sulis* 14 and 18', *Studia Celtica* 41 (2007), 31–45.

[26] On the rarity of translation in antiquity, see D. Feeney, *Beyond Greek. The Beginnings of Latin Literature* (Cambridge, MA, 2016).

[27] Eidinow (n. 11).

[28] R. S. O. Tomlin, 'Cursing a Thief in Britain and Iberia', in Gordon and Marco Simón (n. 1), 245–73.

variations which have left no traces. What we are observing is not the gradual diffusion, by means of imitation or instruction, of a particular ritual practice. Curse tablets were a long-lived and extremely successful artefact type, but their spread did not represent a homogenization of cult, let alone the diffusion of a standard set of ritual practices.

Where Pliny and the philologists sought, in their different ways, to create a strong narrative – a history of magic – what we are left with is much more fragmented, an archipelago of magical practices, scattered over more than a millennium. This leaves us with different problems of interpretation. Those who believed in one grand narrative or another had to explain the diversity and deviation, the failures of imitation, the shifts in the priorities of those who paid for curses. Those who, instead, emphasize the local contexts need to deal with the question of how all these various versions of cursing and curse tablets were connected.

## Technologies and affordances

So far, I have mainly considered the agency of groups of people, each appropriating the paraphernalia of cursing and using them to satisfy their own desires. What connects these local communities of practice was the technology itself, and above all the material objects, the curse tablets themselves. These objects of lead and other heavy materials were relatively stable, and perhaps many practices were inspired by the material traces of much older ones. The things themselves were perhaps a provocation and an incitement to ritual experiment, rather than convenient instruments manufactured to suit the requirements of a well-known set of ritual procedures.

Technology is often used in a fairly loose way when discussing ancient religion so I need to clarify what I mean. A useful analogy is provided by coins, also widely adopted throughout the Mediterranean world, and also generally inscribed (also in a variety of languages). Like most curse tablets, coins were made of metal and were easily portable. Conventionally held to have been invented in the kingdom of Lydia, coinage was rapidly adopted by cities and states around the Mediterranean, then by successive empires beginning with Achaemenid Persia, and in temperate Europe by a number of different Iron Age populations.

Not only were coins widely adopted, they were soon put to new uses.[29] The first coins may have been designed to allow states to disburse wealth in more or less equal amounts to large numbers of people. Once disbursed, coins also made it easier for states to extract wealth from their citizens, and indemnities from their enemies. A new use found for coinage was to act as a generalized medium of exchange – in short, as a form of money. These uses transformed political and economic activity respectively. Coins would eventually find even more uses, including a means of sharing wealth as pay for jurors, for participating in building works, for hiring mercenaries, as gifts from chieftains and emperors, as media for propaganda, and as offerings to the gods and to the dead (they replaced torcs in some structured deposits in northern Europe).[30] By the third century BCE some societies used only precious metal coinages, while others needed large quantities of small change. During the Roman period, most communities used a combination of precious and base metal coinages, but they were not always part of a single monetary system, nor produced by the same authorities.

Like the history of curses, the history of coinage is full of discontinuities. The first coins were issued in the late seventh or early sixth century in western Asia Minor, and coins were not struck in Britain until the first century BCE. The line of transmission was not gradual and there were certainly long periods in which coin-using societies bordered societies that made no use of coin or simply thesaurized it as they did other bullion. The best way to explain the spread of coinage is that, once invented, coins turned out to be phenomenally useful and versatile artefacts. They were especially useful in societies which were becoming more complex and more extended, as they offered one among a number of ways of establishing common weights and measures and laws. They were especially useful for mediating economic transactions among strangers. We may say that coins had a wide range of affordances, and that different groups made use of various of them in their appropriations.

[29] M. H. Crawford, *Coinage and Money under the Roman Republic. Italy and the Mediterranean Economy* (London, 1985); R. Bradley, *The Passage of Arms. An Archaeological Analysis of Prehistoric Hoards and Votive Deposits* (Cambridge, 1990); C. Howgego, 'Why Did Ancient States Strike Coins?', *NC* 150 (1990), 1–25; J. Aarts, 'Coins, Money and Exchange in the Roman world', *Archaeological Dialogues* 12 (2005), 1–43; S. von Reden, *Money in Classical Antiquity* (Cambridge, 2010); C. Howgego, 'The Monetization of Temperate Europe', *JRS* 103 (2013), 16–45.

[30] C. Haselgrove and D. Wigg-Wolf (eds.), *Iron Age Coinage and Ritual Practices* (Mainz, 2005).

The notion of 'affordance' is crucial to the discipline of science and technology studies.[31] New artefacts are usually designed to fill particular needs, and their immediate success (if they do succeed) depends on how well they fit those needs. But once they exist, they are often found to have unexpected potentials or affordances, as in the case of coins becoming usable as money. In time these new uses fed back into the design of the artefact itself, as for example when writing began to be used to designate the standardized values that particular coins were agreed to represent. This sort of analysis has been carried out in relation to technological innovations from high-gloss finewares to mobile telephones.[32] The central idea is that of unexpected consequences, but it is framed in terms of the intersection of human ingenuity and the affordances of objects. It is also important to note that the same artefacts will not necessarily inspire the same practice from one society to another. The specific affordances of an artefact and the social specificity of those who encounter it are both influential on subsequent use patterns. That intersection is at the centre of an actor-network formed by the agencies of various groups of people and objects.

The idea may be elaborated in various ways. It is possible to trace actor-networks further backwards and forwards in time. Coinage, for example, exploited the affordances of metallurgy, and of metrology, of the alphabet, and of representative art. In a different way, it made use of all the affordances of growing state and market apparatuses. Equally, once coins existed, their affordances were exploited to create tax regimes, to find ways of storing generalized wealth, as a measure of worth, to enable borrowing, and in new ways of honouring the gods and burying the dead.

The utility of this approach to understanding the discontinuous history of curse tablets is obvious. Their original invention depended on the affordances of some pre-existing technologies, including the old one of metallurgy and the relatively new one of writing. Most likely they also depended on earlier oral cursing practices. It has been suggested that writing a curse was a way to extend the effect of a

[31] Latour (n. 3); B. Latour, *We Have Never Been Modern* (Cambridge, MA, 1993).

[32] On *terra sigillata*, see A. Van Oyen, 'Actor-Network Theory's Take on Archaeological Types: Becoming, Material Agency and Historical Explanation', *CArchJ* 25 (2015), 63–78; A. Van Oyen, *How Things Make History. The Roman Empire and Its Terra Sigillata Pottery* (Amsterdam, 2016). On mobile phones, see N. McBride, 'Actor-Network Theory and the Adoption of Mobile Communications', *Geography* 88 (2003), 266–76.

speech act.[33] We can also consider the creation of curse tablets as a mobilization of the new technology of letter writing: many are explicitly addressed to some external power.[34] Most letters were not written on metal of course, but some contracts were. Lead in particular, as a relatively inert and stable material, had the affordance of permanence that was perhaps especially important for those writing contracts and curses. Perhaps it was the weight of lead, and its resistance to oxidization, that inspired the deposition of some curse tablets in watery contexts.[35] It is implausible to imagine either that the ritual appeared first, and then instruments were designed to carry it out, or that *defixiones* were produced before at least some of their uses were imagined. Technical and ritual innovation must have gone hand in hand.

The history of cursing does not end there. It is unlikely that the first curse tablets were used to influence legal cases (as they were in fourth-century BCE Athens) or chariot races (as in Roman North Africa). These practices were subsequent innovations, inspired by earlier but different practices and designs of object. Around the Mediterranean, and then beyond it, local groups found more and more uses for this technology, just as they did for coinage. There were certainly some regularities about the kind of situation for which curse tablets were co-opted. It is noticeable that they were used in a matrix formed by personal relationships between humans: they were not used to curse or bind legislative bodies, states, or even magistrates. Gods, demons, and other beings are always the object of the appeal, never the target for magic. Curse tablets operated inside a human social network, and were aimed with precision at a particular person or at opponents whose names and identities were unknown. Yet, within this broad field of social relationships, the occasions for the use of curse tablets were very varied.

The argument I have sketched out here is that curse tablets were a contingent invention, and one that might have remained a short-lived and highly localized artefact type. What made the difference was not the rolling out of magic across the ancient world, nor the efforts of travelling religious specialists, but the simple utility and versatility of

[33] R. Gordon, 'Showing the Gods the Way: Curse Tablets as Deictic Persuasion', *Religion in the Roman Empire* 1 (2015), 148–80.

[34] P. Ceccarelli, *Ancient Greek Letter Writing. A Cultural History 600 BC–150 BC* (Oxford, 2013).

[35] On the particular properties of the material, see M. J. Versluys and G. Woolf, 'Artefacts and Their Humans: Materialising the History of Religion in the Roman World', *Religion in the Roman Empire* 16 (2021), 210–33, esp. 227–8.

the curse tablet form. Like coins, curse tablets were easily replicated and easily modified. This was done again and again for more than a thousand years. More and more uses were found for them, or inspired by them. The category 'curse tablet' that we have created out of the traces of all these appropriations gives a misleading impression of a single cultural practice. In fact, humans were continually finding new uses for these peculiar objects, which were in turn continually finding new uses for humans.

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