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RESEARCH NOTE



Athenaeus describes the most ancient intellectual property

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Introduction

Inventors seek ownership of intellectual property (for example, in the form of modern patents) to protect their inventions against copying, and – for protection of their personal investment in innovation – so do entrepreneurs. Modern patents may be awarded to an inventor and confer on him a monopoly for a limited time, enforced by the state in exchange for disclosure of the invention (Fenning, 1929). This form of patent is different from earlier forms of protection of innovation; for example, in letters patent and monopolies awarded to royal favorites in England (May, 2002), rewarding political loyalty or transplanting existing intellectual property from one jurisdiction to another (Bugbee, 1967; Kingston, 2010).

There is a distinction between invention of intellectual property (which is useful) and using a previously invented intellectual property to develop an industry, often in a new jurisdiction (which is valuable). Both have been separately rewarded by states in the past. The difference between them can be illustrated by the development of methods using steam for the processing and preservation of food, which culminated in modern bottling and canning, hugely important processes. Denis Papin (1647–c.1713) was a dedicated scientist, pupil and experimental collaborator of Robert Boyle (1627–1691), the physicist and founder of modern chemistry. Papin's experiments with energy, gas expansion and contraction contributed to the development of ideas related to the steam engine. Papin also invented a process which, rather than contributing to pure physics, preserved food using steam and high pressure. He gave this invention to the world in the vulgar tongue of English, rather than the usual Latin (Papin, 1681), but it was largely ignored. In stark contrast, widespread success was achieved by a similar process invented by a shopkeeper, Nicolas Appert (1749–1841) (1812), unaware of Papin's gift to the world. Instead of immediately publishing, Appert spent many years developing products in the organic development of his business, responding to customers and distributing samples widely, including to Napoleon's ministers and a range of committees, professional societies, and admirals (Appert, 1812). It is the modern custom to recognize the inventor, in this case Papin, but neglect the one who made a process work. Interestingly, patents were not important to the early development of bottling and canning, Papin denying the whole idea (Papin, 1681) and Appert initially protected his process by secrecy (Appert, 1812). His successor in the House of Appert eventually partially protected its processes with minor patents for a steam gauge and pressure retort (Bitting, 1937).

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It is ironic that the increasing cost and inconvenience of obtaining protection by patents are often beyond the very small inventors who are supposed to benefit most from the system. We may be returning to a situation of patronage, interference and exploitation, not by the state again but by (principally) powerful private factions (Kingston, 2005), including chemical and pharmaceutical companies (Cole, 2001; Kinsella, 2001; Macdonald, 2004). The modern disadvantages of patents for individuals outside these factions may suggest to some that secrecy is again the best protection for small concerns (e.g. Dass *et al.*, 2017), and – strangely – that patents can even inhibit invention (Heller and Eisenberg, 1998; Macdonald, 2004). Perhaps the irony is explained when we remember that most small inventors are more skilled at invention than at protecting themselves. This is why they still seek patent protection even when this may not be the best tactic for them (Macdonald, 2011).

Many lawyers assert that the first modern form of patents, which contain the features we associate with patents today, were composed in Venice (Mandich, 1948; Bently and Kretschmer, 2018). The Venetian statute of 1474 (Bently and Kretschmer, 2018) marked the beginning of the modern age of intellectual property (May, 2002; Bradford, 2015). However, at least some of the features seen in modern patents have existed much longer. The idea was recorded by Athenaeus of Naucratis (late second to early third century AD), but his observation was largely ignored until the early twentieth century (Cichorius, 1922). Few scientists read and understood his work *The Deipnosophists* (Gulick, 1927).

This neglect is understandable because most of Athenaeus' writing describes features of ancient Greek culture of interest mainly to humanities scholars, such as cooking fish and other sea creatures, how much to water wine, party games and literature. Athenaeus was concerned with a Greek culture that was already ancient in the second century but submerged in the dominant Roman world. He lived in post-Ptolemaic Egypt within a pure Hellenic culture, despite the Romans and almost completely ignoring them. His writing describes upper-class diners discussing anything interesting. This occasionally included the antics of a technical class, with the usual supercilious scorn of the ancient upper class (Frumkin, 1947).

Athenaeus' passage about intellectual property is known to only a very few ancient Greek scholars, who seem to have failed to see its significance to technology (with one exception). The passage has also been noted, though briefly, by a few modern authors with an interest in technology (Frumkin, 1945; Thorndike, 1958; Krauth, 2000), but not fully appreciated. Athenaeus is worth more than a sentence or two on this subject, but there is a complication. The modern rediscovery was originally made by Cichorius (1922) and published only in German, making the paper inaccessible to many. This translation and brief commentary illustrates Athenaeus on intellectual property rights, information neglected for many hundreds of years. It is presented here in the words of Cichorius himself as translated from the German in Box 1. The footnotes and square brackets are my own additions.

Box 1. A patent law from Greek antiquity.

by C. Cichorius

The modern national economy begins with the origin of our patent system and our first patent law was invented at the beginning of the seventeenth century. What seems to have gone completely unremarked is that a patent law dating back to the sixth century BC is explicitly attested to a Greek city. The grammarian Athenaeus, ca. 200 AD, gives excerpts from various authors of earlier literature on luxury and revelry in the twelfth book of his great collection, *The Deipnosophists*. He presents ... a series of very valuable cultural and economic notes from the historian Phylarchus, who lived at the end of the third century BC. [Athenaeus] wrote of that century up to the year 221, including numerous excerpts, in which some of the topics were excursions far from his main theme. The following note comes from one of these excursions.¹

Συβαρίται ἐξοκειλάντες εἰς τρυφήν ἔγραψαν νόμον τὰς γυναῖκας εἰς τὰς ἐορτὰς καλεῖν, καὶ τοὺς εἰς τὰς θυσίας καλοῦντας πρὸ ἐνιαυτοῦ τὴν <κλήσιν> ποιεῖσθαι, ἵνα ἀξίως ποιούμεναι <διὰ τούτου> τοῦ χρόνου τῶν τε ἱματίων καὶ τοῦ λοιποῦ κόσμου <τὴν παρασκευὴν> προάγωσιν οὕτως εἰς τὰς κλήσεις. Εἰ δέ τις τῶν ὀψοποιῶν ἢ μαγειρῶν ἴδιον εὔροι βρῶμα καὶ περιπτὸν, τὴν ἐξουσίαν μὴ εἶναι χρῆσασθαι τούτῳ [ἕτερον] πρὸ ἐνιαυτοῦ, ἀλλ' ἢ αὐτῷ τῷ εὐρόντι, τὸν χρόνον τοῦτον ὅπως ὁ πρῶτος εὐρὼν καὶ τὴν ἐργασίαν ἔχη, πρὸς τὸ τοὺς ἄλλους φιλοπονοῦντας αὐτοὺς ὑπερβάλλεσθαι τοῖς τοιοῦτοις. Ὠσαύτως δὲ μηδὲ τοὺς τὰς ἐγγέλεις πωλοῦντας τέλος ἀποτίνειν, μηδὲ τοὺς θηρεύοντας. Τὸν αὐτὸν τρόπον καὶ τοὺς τὴν πορφύραν τὴν θαλαττίαν βάπτοντας καὶ τοὺς εἰσάγοντας ἀτελεῖς ἐποίησαν¹).

When the Sybarites descended into feasting, they enacted a law that the women should be invited to their festivities, and that they should be invited the year before, so that during this time the women could prepare their garments, and the rest of the ornaments for the feast.² When one of the chefs³ invented his own delicious dish, no other person should be allowed to make use of this invention before the end of a year, only the inventor himself; during which time he would have the business profit from it, so that others would compete and surpass each other in such inventions. Also, those who sold eels should not pay any tax, just like the ones who caught them. In the same way they exempted those who dyed with sea-purple, and those who imported [sea-purple] from the payment of customs duties.

These circumstances most likely occurred in the sixth century BC at the latest, for Sybaris was destroyed around 510 BC by its old enemy, the neighboring town of Croton [Rutter, 1970]. Sybaris on the Gulf of Taranto, was at that time the largest and most prosperous Greek marketplace in the West [Orville, 1971], and was comparable to Miletus, which was politically and economically, the richest city of the Greek world at that time. There was a large storage and transshipment station for goods coming from the East, especially for Italy [Bullitt, 1969]. Here enormous wealth accumulated over the course of time, and hand-in-hand went a luxury which, at least in this early period, was quite unheard of in Greece, and [Sybaris] still serves as a proverbial name to this day. Of the legal provisions handed down by Phylarchus, which correspond, in form, entirely to the style of ancient law-language, special interest is likely to be aroused by the second, according to which a chef who had invented any new dish has the exclusive right for the preparation of this dish, for a period of one year and this right was only withdrawn after that year. If we were to formulate the modern patent such that an inventor for a precisely set time is guaranteed the sole exploitation of his invention by the state for a precisely fixed time, but it is forbidden for any other manufacturer to do so and this only becomes permitted after expiry of the legal period we would have a completely modern patent law in the formulation of the Sybarites. Here, the inventor is to first of all exclusively enjoy the advantage and profit from his invention, and also there are established norms about the duration of this right. The fact that this earliest example of the protection of inventions is encountered in the field of cookery may seem alien to us, but is intelligible from the circumstances under which it developed. In modern times we give more regard and tips to waiters who are merely *apparatchiks* of eating rather than to the technical people, the chefs and cooks, responsible for food. Athenaeus describes cooks which have a high status and were considered interesting people. They might personally introduce or explain a newly served dish and were considered to be very inventive. The further development of this ancient patent system was cut off with the destruction of the State in which it had originated.

Even those who do not believe that the statements of Phylarchus [see Chisholm, 1911] are credible for that early period have to acknowledge that the concept of the modern patent was attested by a Greek author [Phylarchus] from the third century BC. Incidentally, the third very interesting legal provision of Sybaris should be noted. Here we see the liberation of eel fishermen and eel salesmen from taxes which would be otherwise payable, an example of favoring economic enterprises which are important and desirable to the state or its population. In the same way, a certain branch of industry, purple dyeing, is to be exempted from taxes and duty for importing raw materials.

Conclusions

Sybaris was the largest ancient Archaean city (Stanley and Bernasconi, 2009) and, like most in Greek culture, independent of other cities. The Sybarites also ruled over others, including four of the original tribes in their region of Calabria and 25 subject cities (Jones, 1924; Bullitt, 1969), gaining their power and wealth from the Miletus-Sybaris-Etruscan trade route (Colburn, 1976). Until recent times, the site of Sybaris and all remains of the city were lost and the city was known only from its great reputation in ancient literature, a tantalizing mystery for classical scholars (Rainey, 1969).

Conrad Cichorius (1863–1932) was professor of ancient history and the author of numerous influential works on ancient Rome (e.g. Cichorius, 1896, 1900). His translation of this passage of Athenaeus is very similar to those of the two most important translators of Athenaeus, Gulick (1927) and Olson (2010), and the information relating to protection of intellectual property is quite clear and similar in all three translations. The Sybaritic legal beneficiary was the inventor and not, for example, a friend of the Doge. A monopoly was conferred for a limited time, for up to one year in the Sybaritic example, and for up to 20 years in the case of most modern patents (WTO, 1994). We know a very little of the laws of Sybaris from Athenaeus (Bullitt, 1969, p.59), and no details of enforcement by the city state of Sybaris are mentioned by Athenaeus or any other ancient (Rutter, 1970). It may be that these laws were never written down (Hölkeskamp, 1993; Lewis, 2007). All the features of a modern patent are evident except perhaps disclosure, though allowing Sybarites to see and even eat the invention in public is similar to disclosure in the form of a model. Disclosure using models was so common in early American patents that a great collection accumulated in the Department of State, spared by invading British soldiers in 1814 and only destroyed by fire in 1836 (Bugbee, 1967).

This ancient example of an intellectual property right was for up to one year, perhaps reflecting the yearly feast cycle of the ancients. This contrasts with more recent multiples of seven years, easily understood as emanating from a seven-year apprenticeship followed by seven years as journeyman (Bugbee, 1967). Each was a significant period of time for the innovators involved. Tradesmen who spent 14 years developing themselves compare with ancient chefs devoting a whole year to developing new dishes in an annual cycle (Wilkins and Hill, 2006).

This form of patent comes from a surprisingly early source. It is also surprising that the idea was seemingly lost for such a long time, re-emerging only in the Renaissance. This may be because the small city states, suppressed by Alexander and then by the Romans, practiced an increasingly elaborate system of informal Roman imperial patronage characterized by tax farming, slavery (MacMullen, 1987), the neglect of agriculture (White, 1965; Reece, 1969), currency debasement (Haines, 1941) and the hyperinflation of the denarius (Heichelheim, 1954; Gunderson, 1976). Roman aristocrats neglected the productive sectors of the economy and delegated control to freedmen, who were often subject to contempt and arbitrary hindrance rather than assistance (Hudson, 2010; Silver, 2011). A contemporary anecdote illustrates the status of inventors in the Roman period:

When Tiberius was emperor . . . a method of blending glass was invented to make it flexible, but the craftsman's workshop was completely destroyed for fear this might detract from the value of metals such as copper, silver and gold. (Healy, 1991, p.363)

The Roman system collapsed after 410 AD and a period of decentralization and polyglot fragmentation emerged (Chew, 2006). There was a loosening of governmental control over the economy (Latouche, 2013) and this lessened the benefit of intellectual property protection by law: the smaller the government, the less governors were able to enforce intellectual property rights. Recognition of the importance of intellectual property rights re-emerged only with increase in economy size, at first in the form of mining grants in the thirteenth century (Bradford, 2015), especially in Castile (Graulau, 2011) and more significantly in the form of Venetian intellectual property law in the fifteenth century (Mandich, 1948).

Sybaris was suddenly destroyed and forgotten (Bullitt, 1969), but the story of Venice and its patents is different. While glass blowers, and other skilled workers were able to persuade their Venetian governors that a monopoly to protect them was beneficial for both, over time they suffered increasing mistreatment (Murube, 2014). Because their misfortune was gradual rather than sudden and catastrophic, some were able to move on to other cities and renew their lives. They set up new workshops and, of course, they asked the new Doge for legal protection to allow creation of a new monopoly. The practice with which they had been accustomed in Venice, and from which they and Venice had benefitted, was adopted wherever these skilled workers settled (Frumkin, 1947).

The version of patents reported by Athenaeus is primitive. However, Athenaeus does show that the general idea was in men's minds long ago. It re-emerged during the Renaissance after a protracted period when intellectual property rights did not exist under law. The story of patents involves a long period of gradual development rather than a flash of inspiration and the emergence of patent law fully formed. It seems that this long period of development has been somewhat longer than most of those concerned with intellectually property rights have assumed, starting a very long time ago in Sybaris (Bugbee, 1967).

Cichorius' Notes

1. The Greek text of Athenaeus shown here is that of Kaibel (1887). There is a parallel site in Plutarch's *Dinner of the Seven Wise Men*.
2. One has to think about fashionable, time-consuming embroidery for robes.
3. The Greek text gives two different terms, of which *μάγειροι* refers to cooks for meat dishes and *όψοποιοί* to cooks for all other meals.

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