

Celebrating Gnaeus Flavius and Open Access to Law

Open access to law is embodied in the Latin slogan *Publicatio Legis* – the law should be available to the public. The historic hero of this slogan is Gnaeus Flavius. In ancient Rome, knowledge of the law and procedures was reserved for the priesthood, the application of law a religious matter. In this way the priests extended their power over society through decisions on the rights or duties of the citizens. Decisions were basically the application of a rule, but the rule was subject to *interpretatio*. This was reserved to the *Collegium Pontificum*. The Collegium would decide whether a rule of liability for a horse drawing a cart by analogue also should apply to an ox doing the same job. There was a situation in which open access was sorely needed. It is told that the lawyer Appius Caludius got hold of a copy of the rolls of the Collegium. His secretary, Gnaeus Flavius, wrote down different *legis actiones* and drafted ways in which way they could be presented. The stolen material was then made available to the public (304 BC), a dramatic application of the principle of *Publicatio Legis*. The book he published was named *Jus Flavianum* in his honour.

But it is by no means the only example on the struggle for open access to the law, and technology has often been a major element in improving availability. The fundamental example is, of course, writing – a written text could be consulted by anyone, and would not change on the whim of a king. The oldest collection of legal texts known is that of Ur-Nammus, enacted when King Shulgi ruled the Sumerian empire (2095-2047 BC). It is imprinted on a clay cylinder with a diameter of 28 cm. Eight of the original ten columns are preserved, in all 243 lines of cuneiform writing covering criminal law, family law, succession law, labor law (including the rights of

slaves) and levies for commerce and agriculture. The law of Ur-Nammus is approximately 300 years older than the better known law of Hammurabi (1792-1750 BC), also a cuneiform text chiseled into a 2.4 meter high *stèle*, 1.90 m at the foot, 1.65 m at the top. Hammurabi's law states the old rules on reciprocation, an eye for an eye. The older law of Ur-Nammus has surprised scholars with more lenient rules: 'If a man strikes out the eye of another man, he is to pay ½ mina (approximately 0.45 kilos) in silver.'

The first machines for making the law available were the *axions* from ancient Athens, ascribed to Solon and Dracon, the most famous lawmakers in the first century AD. Little is known of these devices, as none has survived. But the American archaeologist Donald Stroud¹ has suggested that they consisted of a wooden frame high as a man on which were mounted three beams, each with four sides. The beams could be rotated around an axis. On the surface, the text of the laws were carved, 2,225 letters could be represented on the 2 meters long beams. If a law was repealed, the beams had to be discarded and replaced by new – which may explain the Draconian rule that if anyone proposed a new law which was not adopted, the person would pay with his life. This was a rule of regulatory management which certainly would curb the enthusiasm for suggesting law reform. The axons were placed in the *prytaneum*, which was a public building in the center of ancient Greek cities; anyone who could read, would be able to turn the axons until he (rarely a she, it is presumed) found the applicable text. The origin of *Publication Legis* is, therefore, Greek – not, as many claim, Roman. But also in Rome, this principle was important. A popular anecdote from the time of the mad Emperor Caligula (12-41 AD) tells of the Emperor imposing new taxation schemes to finance his rather

¹ Cf The Axones and Kyrbeis of Dracon and Solon (University of California Press, Berkeley 1979). The kyrbeis also had an inscription of the law, but these were standing pillars in the Royal Stoa.

extravagant lifestyle; the taxation on the sale of food, on lawsuits and other transactions. These rules were not published, and therefore could not be circumvented by 'tax planning'. By popular demand he was forced to publish these outrageous laws. But the Emperor let the text be inscribed on tablets in as small letters as current technology permitted, the tablets were then posted at the Forum Romanum. These notices could in practice neither be read nor copied.²

The really big change came with the printing press, making it possible to produce multiple and identical copies of text to a lower cost than previously. The number of volumes of books in Europe was at that time (1450) estimated to 30,000. Numerous printing presses were established, in Venice in the year 1500 there were 150, and it is estimated that 12 million volumes had been printed.³ Of these there were also legal texts. This certainly contributed to better access to the law, but printed material was still expensive. The rise of the printing industry also was the impetus for copyright legislation, first in the order of *patents* (exclusive rights to reproduce a certain text) granted by the Republic of Venice.

The great revolution came in the latter part of the 19th century. In a period of a few decades, countries adopted a scheme for publication of legislation by legal gazettes,⁴ all modeled Code Napoleon (1870) § 1,⁵ which created the Journal Officiel, replacing older publications. Going through the history of a jurisdiction, one will more often than not find that the information systems for law changed at this time,

2 Cf Gaius Suetonius Tranquillus The Twelve Caesars (121 AD) translated by Robert Graves (1957) sect 41.

3 Cf Helmer Dahl Teknikk – kultur – samfunn, Ingeniørforlaget, Oslo 1983:33.

4 These publications tend to be named 'gazettes'. The origin of this word is the Venetian Gazeta, which was used in the meaning of a newspaper, originating from early to middle 16th century, when the first Venetian newspapers cost one gazeta. Similar phrases from the 19th century are the British 'a penny dreadful' or the American a 'dime novel'.

5 Cf Peter Blume Fra tale til data, Akademisk forlag, Copenhagen 1989:163.

not only by replacing other forms of making legislation known to the public (like reading it from the steps of the church after Sunday mass), but also for other legal sources. A major example is the Incorporated Council of Law Reporting, which was formed in 25 February 1865. Its purpose is the 'development and administration of the law and to make it known or accessible to all members of the community, which was a purpose beneficial to the community and of general public utility'.⁶ Obviously, for common law, the existence of and access to case reports are vital in developing the law and creating legal certainty.

The new systems of publications were established within a few decades. It is paralleled with a similar development of literature in general – this was the age of Victor Hugo, Jules Verne, Charles Dickens and HG Wells, all commanding international readerships, a development having an impact on law itself – Victor Hugo became the first chairman of the Association littéraire et artistique internationale (ALAI) which successfully talked the Swiss government in hosting a diplomatic conference in Berne, a conference which in 1886 adopted the copyright convention which bears the name of the city.

But the explanation of why this came about is somewhat more complex. It obviously is related to the general educational level, also common people could be expected to read, and therefore the law could be communicated by print. But the development of information technology contributed to change.

A main development was in the making of paper, which was traditionally based on the processing of textile or rags. Although

⁶ The quotation is from a much later decision relating to the ICLR's nature as a charitable society, cf *Incorporated Council of Law Reporting for England and Wales v. Attorney-General and Others*, [1972] Ch. 73; [1971] 3 W.L.R. 853 (Court of Appeal (Civil Division) 14 October 1971).

cheaper than vellum, paper remained expensive, at least in book-sized quantities, through the centuries. This changed with the advent of steam-driven paper making machines in the 19th century which could make paper with fibers from wood pulp. In the 1830s and 1840s, two men on two different continents took up the challenge. Both Charles Fenerty and Friedrich Gottlob Keller began experiments with wood. And at about the same time, by mid-1844, they announced their invention of a machine which extracted the fibers from wood (exactly as with rags) and made paper from them. Charles Fenerty also bleached the pulp so that the paper was white. This started a new era for paper making. By the end of the 19th century almost all printers in the western world were using wood in lieu of rags to make paper. There was also improvements in the technique of printing presses, 'endless paper' being introduced in the 1860s, paper printed from huge rolls of paper on rotary presses. Thus the literature was turned into 'pulp fiction'.

Paper is heavy. Distributing a legal gazette to its many subscribers by horse-driven carts or the pony express was not practical. But the solution also presented itself in the first part of the 18th century as steam-driven vehicles; trains across country, linking up with steam-boats across lakes and ocean. A distribution network could be established, flowing through this, the printed gazettes, case reports and other legal material could reach the practitioner and public.

The increase in publications made libraries subject to a deluge. Libraries took care of books as precious objects; they were often chained to the shelves. They also were a rather small number, and they were often organized on the shelves using their height as criterion – a look into the marvellous Long Room of Trinity College, Dublin, gives a glimpse of this past. But help for improved organisation was on the way in the form of better and more flexible methods for indexing material, which was organized along the

shelves according to the same system, making related publications being placed together. The classification system of Melville Louis Kossuth Dewey (1851–1931) became popular, first published as *A Classification and Subject Index for Cataloguing and Arranging the Books and Pamphlets of a Library* in 1876. Dewey's classification system is perhaps still the system most used by libraries, extended and refined over the years.

As this brief expose of a couple of thousand years has proved, the idea of *Publicatio Legis* has been very much alive, and – as exemplified – information technology has throughout the ages been used to increase the access to the law, both for the professional lawyer and the population at large. Of course, computer technology has also opened new possibilities. The first text retrieval system was in fact first constructed by a lawyer, Professor John Harty of the Graduate School of Public Health at the University of Pennsylvania. He was assisted by his colleagues at the Data Processing and Computer Center, which had been established in 1955. To appreciate the boldness of his approach, one should consider the level of computer technology at this time. For the project, there were available an IBM 650, which was based on vacuum tubes and a drum storage of 2,000 words, and an IBM 7070, which was a transistorised version of the IBM 650, having a magnetic core storage containing 9,990 numbers of ten digits each. One may compare the capacity to current examples of information technology, like a digital watch or a pocket calculator. Random access memory devices like magnetic disks were not available; data not placed into the central storage units mentioned above, had to be stored on sequential tapes. In spite of the difficulties, Harty's text retrieval system was successfully demonstrated at an American Bar conference in 1960.

The primary use of Horty's system was to assist states in consolidating statute books. The computer made it easier to enter the full text of statutes and amendments, and edit the text to reflect the consolidated statute. Though indirect, computer technology was used to make the printed versions of the law more available. But computerised information systems were also being built, the first being based on Horty's technology – The Air Force, Denver launched the system under the name 'Legal Information Thru Electronics' 13 November 1963 under the inventive slogan *Let there be LITE!*

This idea became the objective of a project initiated by Bryan Niblett, a nuclear research physicist with the UK Atomic Energy Authority. He spent 1966-67 on a sabbatical in California, primarily to learn about computer programming. But as he had been called to the English Bar, he also spent time digging into US research in computers and law. He came across the work of Horty, and planned doing something similar in the UK. On his return, he had already worked out the acronym STATUS (for Statute Search), and was determined to develop a machine independent program written in a subset of FORTRAN. Having produced the first version of the program, he ran into trouble – the Lord Chancellor advised the UKAEA that to put all the statutes into the system would be an *ultra vires* act, infringing the monopoly of Her Majesty's Stationary Office (HMSO) under Crown Copyright. Therefore, the STATUS system became limited to the atomic energy regulations. It was never impressive as a database; its importance was the program itself and the underlying philosophy. It was significant that the program was machine independent, which could be compiled for different computers, FORTRAN being one of the high level languages with acceptable portability.

We see in this last instalment the challenges of open access to the law. Availability can be measured – any element generating cost, like fees, the time necessary to research legal sources, *etc* reduce availability. Most such factors are pragmatic, and can be overcome by spending resources to gain access. But some are formal, like the Crown Copyright claimed by the HMSO, these cannot be overcome unless the formal situation is amended, for instance re-interpreting the doctrine of Crown Copyright.

Open access to the law is a basis for a democratic society. Computer technology has made it easier to provide the public access at a low cost to legal material. But to develop and improve the situation requires vigilance and understanding of the possibilities and limitations. These are the challenges of the Journal of Open access to law (JOAL).

Jon Bing

Professor at the Department of Private Law, Norwegian Research Center for Computers and Law (NRCCL).