

Heterodox Economics Newsletter

INTERFACES ON TRIAL 2.0, Jonathan Band and Masanobu Katoh, 2011, Cambridge, MA: MIT Press; ISBN: 978-0-262-01500-4; 248 pages.

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This volume constitutes the follow-up to the authors' successful *Interfaces on Trial: Intellectual Property and Interoperability in the Global Software Industry* (1995).¹ Both books focus on the history of the debate on intellectual property protections for computer software, specifically as it regards the ability of software developed by different firms to 'work together' – i.e. interoperability. This debate, which has been going on since the 1980s, revolves around two issues: 1) the scope of copyright protection afforded to software, most importantly in the interface specifications that define interaction with other software; and 2) the permissibility of reverse engineering computer software, especially for the purposes of creating new interoperable technologies. Although both texts exhibit remarkable breadth, covering the crucial developments around the globe, this review will focus on the U.S. history.

The authors' 1995 contribution traced the important legislative and case history from the late 1970s to the mid-90s, superbly presenting the technical and legal issues in an accessible and compelling manner. Congress explicitly recognized copyright protection for computer software in 1980; however, courts needed to use subsequent litigation to flesh out the law and to adjudicate in the interests of stable market relationships. (It is worth noting that software as a salable product was a very new idea in 1980, having historically been treated as part of the support services hardware manufacturers provided for their machines.)

The precedent in the first volume concerns a number of cases in which, relying on various standing theories in copyright law, the US Courts of Appeals came to a degree of agreement on the scope of copyright protection in this new technology. Protection would be extended just far enough over the literal and non-literal elements of software so as to protect against outright piracy without unfairly arming dominant vendors with the tools to stifle competition. Elements of programs which were necessary to copy for interoperability were exempted from protection on the various grounds that: they were dictated by external market conditions or standard programming practice, constraints on programming solutions were such that the distinction could not be drawn between the non-protectable idea embodied in the program and the protectable expression itself, or that the elements did not constitute the subject matter of copyright in the first place.

Thus, for instance, the code necessary to allow one firm's applications to function within a particular operating system environment could not receive copyright protection. Likewise, as in *Lotus v. Borland*, the hierarchy of commands in a spreadsheet application was deemed unprotectable subject matter, essentially because it constituted a language in which programs ('macros') within the spreadsheet application were written and thus a 'method of operation' statutorily excluded from copyright protection.

¹ Though the text is not a substitute for the first volume, the first chapter does provide a short summary of the important back-story covered in the first volume.

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Interestingly, the first volume went to press before the First Circuit ruled on *Lotus v. Borland*; however, even by that time the precedent was fairly well established that interface specifications were not protectable and that copying incidental to reverse engineering did not constitute infringement. The courts had sided with interoperability, protecting the expression (or implementation) of these technologies but not the ideas (or specifications) that allowed them to work together. As the authors argue, the courts had correctly balanced incentives to innovate with the requisites of competition.

By the time of the *Lotus* case, then, the authors believed the interoperability debates to be substantially settled; and, as it turns out, they were largely correct, at least as far as judicial interpretation of the standing copyright law is concerned. Of course, new developments have a habit of bringing settled matters into dispute once again.

Following a review of the copyright case law since the first volume, the authors turn to the Digital Millennium Copyright Act, passed by Congress in 1998. This still-controversial law aims at preventing circumvention of technologies intended to protect copyrighted work. The authors consider the law principally in terms of its implications for reverse engineering, which would otherwise be considered legal under the standing interpretations of copyright law. The text then considers contractual restrictions that may likewise prevent otherwise lawful reverses engineering.

Indicating the global breadth of the authors' work in this field, chapter five goes on to consider treaties, legislation, and case law in the Pacific Rim nations as well as Israel. The volume concludes then with a discussion of open-source licensing and the increasingly important, and controversial, issues with software patents.

The eclecticism of the average heterodox economist suggests that little is needed to impress the idea that readers of this *Newsletter* would find both volumes of *Interfaces on Trial* helpful. Nonetheless, a few remarks are in order. In particular, the authors explicitly connect their understanding of the courts' opinions in the cases considered in terms of the Legal Realist tradition. They argue that the courts, dealing in unsettled areas of the law, nonetheless understood the competitive implications of copyright law and adjudicated so as to maintain reasonable standards of fair competition. Different legal theories were then applied to justify these rulings on a case-by-case basis. The result has been a number of overlapping theories, which on the whole promote interoperability.

As Rutherford (2011) has documented, the Legal Realist tradition and original institutional economics form the 'old' law and economics, which was ultimately supplanted in the mainstream discourse by the Chicago approach. For this reason, heterodox economists are likely to find in this text not merely an august exposition of the legal and technical history of intellectual property rights in computer software, but one that is very much amenable to the theoretical traditions within heterodox economics proper as well.

If one slight exception must be taken to the Band and Katoh's arguments, it is their interpretation of one particular, and relatively minor, case: *Compaq v. Procom* (1995). The case concerned parameters within hard drives designed to operate with Compaq's servers, which

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indicated to the server that the drives were nearing failure. Procom, which manufactured competing hard drives for Compaq's servers, copied these parameters wholesale and Compaq alleged copyright infringement.

Had these parameters been strictly dictated by the technical requirements for interoperability with Compaq's computers, or had they been nothing more than a reflection of the fact of future drive failure, it is clear that they would not have been protected under copyright. To grant such protection would be to afford a patent-like monopoly to Compaq without requiring the review process involved with patenting. Furthermore, it would require that Procom design hard drives which were, from an engineering standpoint, inferior for less effectively indicating drive failure. The district court, however, found that, because the parameters reflected not merely the engineering issue of predicting drive failure but also business considerations of customer expectations of service and the cost to Compaq of replacing the drives under warranty, they were indeed protectable under copyright.

The authors believe that the district court was right to consider the facts of the case and refuse to protect what was necessary for functional interoperability while still protecting the parameters themselves as reflections of both engineering predictions and business relationships between Compaq and its customers. The decision, they argue, protected the implementation (expression) of the failure warning system without also protecting the idea of the system itself, which would be a matter for the patent system.

In terms of the balance between incentives to innovate and competition through interoperability, the authors are right that the *Procom* decision does not upset the balance carefully developed in the case law of the 1980s and 90s. The critique that must be made, however, is that this is not the only balance sought in copyright law. The law must be weighed ultimately against the impact on the welfare of the public generally, and this decision explicitly protects technology on the grounds that it is in part a reflection of the standing of *Compaq* in the market. Heterodox economists working in the tradition of Veblen, Hamilton, and Commons will find it difficult to see how affording such a right is of any service to the public at large. Indeed, it is clear that this ruling creates what Hamilton called 'market equities' (Rutherford 2011), which throughout the bulk of the cases considered in *Interfaces on Trial* had been skillfully minimized by the courts.

Viewed from the legal realist tradition, in which jurisprudence is understood in terms of the habits of thought of judges (Rutherford 2011), the *Procom* decision suggests that what the courts have sought has been not interoperability *per se* but reasonable competition and the survival of going enterprises which are profitably operating in the markets for these technologies. That is, legal sanctioning of methods of restricting access to serviceable technologies has been, at heart, the function of the courts. The serviceability of the technologies themselves, in terms of their ability to interoperate or otherwise, must necessarily then be of secondary concern.

Again, the foregoing is a minor critical observation of the authors' position from a heterodox economist's perspective. On the whole, the text stands along with its prequel as a brilliant work, on both historical and analytical terms, which should be standard reading for any economist or student of this particular subject. All the better that the authors have licensed it

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