

# Letters

## CCRMA and Intellectual Property

When I read the review of the 1999 Beijing International Computer Music Conference in *Computer Music Journal* 24:2 (pp. 77–83), two things jumped out at me. In addressing the topic of open-source software, the reviewers stated that Common Lisp Music (CLM) is by Fernando Lopez-Lezcano and Juan Pampin. Although these two composers are very experienced users (and even developers of certain modules and unit generators) of the CLM software, the sole author is Bill Schottstaedt of the Center for Computer Research in Music and Acoustics (CCRMA) at Stanford University, as Fernando and Juan would be the first to acknowledge.

Mistakes like that are easy to make when reviewing the ICMC, in which there are scores of developers present and it is therefore perhaps difficult to keep names straight. However, I was shocked by the reviewers' later remark that the trend towards more open-source software is a welcome development away from the "protectionism begun in the Chowning years"! In context, the implication is that John Chowning was somehow responsible for creating a closed and secretive environment in the computer music world. I assume that the reviewers are referring to John's FM work, and in particular the FM patent. Now, I was still busy playing with Lego when all of that was going on, but I was later fortunate to benefit from the legacy of the FM patent, which brought enough money to CCRMA (where I was a student) to fund fruitful research and compositional activity that otherwise would have been impossible. I think it would be fair to say that, to a large extent, FM patent money made CCRMA what it is. And everyone in

the computer music world knows the impact CCRMA has made.

It is my understanding that during the time that the FM patent was in effect, no one was stopped from using the FM algorithm, or charged a fee for doing so. (FM was always a core part of the above-mentioned CLM software and its predecessors, which is, and was, free to download, and with which many composers created pieces, modifying the algorithm at will and all without cost—except for a few gray hairs perhaps.) I wanted to point out this wholly unwarranted and unsubstantiated slight against John Chowning, which I believe should be either explained or excused.

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I would like to add to Michael Edwards's remarks by emphasizing that FM as software was never restricted by any patent quarrels (and, if I remember correctly, even hardware infringements occurred without strict follow-ups in some cases). As a matter of fact, FM was used heavily in many software pieces before it found its way into hardware, and this is one of the main reasons why it was successful in the academic environment (which was the only environment for computer music up to the early 1980s). Actually, FM and the policy of its use was always a good example for how one should and could go about spreading the use of innovative technology. There are quite a few examples in the computer music world where people were (and still are!) protecting their algorithms or programs so rigidly that their accomplishments basically disappeared.

Furthermore, one should not forget that open-source is not a development of the 1980s and 1990s but stems from the 1960s and 1970s. When I started at CCRMA in the second half of the 1970s, the discussion about "public domain" (including source code) versus strictly controlled software was already on.

One last historic remark: If I remember correctly, when FM was patented, it was not possible to patent software; only hardware implementations could be protected (and so hardware schematics for FM had to be drawn up after the software application was found). In retrospect, one might also say that only a big "company" like Stanford was capable of pushing the patent through and paying fees for years until a licensee (Yamaha) was found—which, as Michael Edwards points out, resulted in an upramping of support for CCRMA through Stanford when the royalties started to roll in. (The support from the university's side picked up only because CCRMA was then able to pay most of its way on its own.)

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## The reviewers respond:

First, we apologize for the misattribution of CLM. We were unable to attend the relevant paper session, thus we inadvertently credited those presenting about CLM, instead of Mr. Schottstaedt, who was clearly mentioned as the author in the body of the paper. Our thanks to Michael Edwards for pointing out our honest mistake.

Second, no slander of John Chowning, CCRMA, or their many contributions to the field of computer music was intended. In retrospect, it was probably a callow characterization that should not have been made blithely, so we'll attempt to explain. Yes, the reference was meant to imply the FM patent. In itself that act may not have directly resulted in diminished sharing of intellectual property, yet in paving the way for academic computer musicians to receive large amounts of money for their ideas, it could be construed as having tilted the balance of attitudes more towards commercialism than community. Around that period, a pattern of market-oriented development began to emerge. Currently, music software is among the most copy-protected of any genre, and, as Mr. Goebel noted, many people have preferred to let valuable ideas wither in isolation rather than ease restrictions on their use. The main reason to limit dissemination of an idea is if you hope to get rich selling it. Of course, the impulse neither began nor ended with frequency modulation. Since both Mr. Edwards and Mr. Goebel

have spent time at CCRMA, they have personal experience of how unalloyed a benefit the patent royalties were to the center. Perhaps the long-term impact on computer music as a whole is more complex. Clearly, everyone should have the right to earn a living from their efforts. The resurgence of the open-source movement merely asserts that "making a buck" and giving away the goods aren't mutually exclusive. Everyone benefits from that kind of success.

Finally, the open-source philosophy indeed began as soon as software became portable, advanced most notably by the foundation of the GNU project by Richard M. Stallman in 1984 as a reaction against proprietary code. So where has that spirit been in computer music for the past 25 years, outside of Csound? Until very recently, access to the best tools required a significant investment of cash. Is imposition of a formidable economic barrier really the best way to encourage participation in our field? The communal atmosphere that apparently predominated in the early growth of computer music must have been priceless, and to see such

idealism shrouded over the years for the exclusive benefit of individuals and institutions seems an unfortunate legacy. As part of the generation that has just been through our own loss of innocence in the brief warp of Internet time, we only wished to emphasize how heart-warming it is to see the return of those ideals. We did not mean to paint John Chowning as a bad guy, any more than we could fault Marc Andreessen for wanting to see his own contribution revolutionize the world. We weren't there, we surely don't know half the story, and we must defer to those more familiar with how events played out. Regardless, by all accounts we have read, the patenting of FM synthesis was a landmark in computer music comparable to the founding of Netscape, with all the positive and negative repercussions that are implied therein. We only hope the rise of Linux and open-sourcing of jMax might resound with equal force.

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