

ENRIKE HURTADO

## **Software, Music and Culture**

*The extent to which digital technology has influenced the creation, production and dissemination of music would have been inconceivable just ten years ago. The author analyses free software, and briefly reviews the history of electro-acoustic experimental music and examines the future of the digital environment.*

In recent years the influence of technology has wrought a profound transformation in music. Its medium, sound, can be generated, transformed, distributed and reproduced using digital media in a way that would have been entirely inconceivable a mere 10 years ago. One of the consequences of this new potential is that the barriers between cult music and popular music have been broken down, thanks to the socialisation of technology and the digital media of musical production and distribution. At the same time, music-swapping over the Internet is overturning such basic concepts as 'copyright', 'original vs. copy' and 'distribution channel', as sound quality is abandoned in favour of accessibility, thanks to digital audio compression formats<sup>1</sup>. The new production tools resulting from this change make it possible for anyone to work at home with professional quality, and this in turn is blurring the distinction between artist, producer, distributor and receiver. The amount of music now being produced is astronomical. It would be quite impossible even to attempt to list all the new releases, let alone listen to them all. As a result of these changes, music, the eighties' entertainment industry par excellence, is breaking up into an infinite number of production nuclei and distribution channels. One example of this phenomenon can be seen in the proliferation of thousands of tiny record labels, mostly distributing their music free of charge over the Internet.

A new universe is opening up before our very eyes and for the first time we have a chance to take an active part in its creation. An infinite number of interesting processes and situations have sprung up, but in this article we will concentrate on just a small part of this great ocean: the area related to computer-created music, and specifically the tools used for creating experimental electroacoustics.

If we look back over the last few decades, we will see that in the second half of the twentieth century, experimental music generally developed in the ambit of electroacoustical music studios in large institutions and laboratories, such as IRCAM in Paris and Bell Labs in the USA<sup>2</sup>. These institutions concentrated (and controlled) the most modern production resources and technologies, which ordinary individuals could not afford. The technology subsequently became less expensive and during the 1980s experimental work began to be carried out outside the influence of these large institutions. The result was a huge increase in independent production and a dramatic reduction in the limits between popular and cult music. The definitive change came in the 1990s with the popularisation of digital technologies. Anyone could now make high quality professional music with only a modest investment. Specific computer tools began to appear too: we have already seen programs which simulate synthesisers and mixing desks, and now we are to have programs that allow sound processes to be created which are impossible outside the digital arena.

As a result of all these technological advances and their influence, today it is almost impossible to find a single disc where computers or digital tools have not been used at some point in the creation process. The incredible flexibility and polyvalence of the computer in generating and manipulating sound has opened up vast new possibilities to the musician, a practically infinite sound palette, contrasting with the limits of the orchestra and traditional instruments. It is all too easy, however, to fall into the trap of believing that digital media allow us to do “everything”. For the moment, at least, we cannot equal the actual playing of a trumpet, with all its limitations and peculiarities, so rich in nuance. The computer is an all-purpose machine which opens up a new world of musical sounds and structures, a world which need not be opposed to the world of “real” instruments but which can complement and broaden it.

In view of this situation, I believe there are a number of questions we need to ask about software creation. Who decides what musical structures are incorporated in the software we use to make music? Who is the software designed for and for what purpose? But above all, on the basis of what interests are these decisions taken and by whom?

“...Software is not a “transparent” tool for the creation and processing of the digital product. It defines a quite limited space, within a specific framework in which people are required to work. [...] . In addition to the limitations of using computer programs there is also a certain predetermined position - a creative, social, even political one - into which the software user is put, not so much by the software’s creators, but by more general power structures: the culture of software creation and media culture as a whole. And this, in turn, depends on the dominant social rules ...”<sup>3</sup>.

It is not difficult in some music to hear an echo of the software that has been used to create it; not just in the nature of the sounds but also in the musical structures it adopts <sup>4</sup>. Any software imposes certain limits and rules, however transparent or neutral it might seem. Most rhythm boxes, for example, use conventional notions of what a rhythm “should” be. But who establishes what is or is not rhythm? What about the rhythmic structures of non-“Anglo-Saxon” cultures? <sup>5</sup> Do we accept these predefined concepts because it interests us to work from them, or because we have not been given any alternative? How can we incorporate our subjectivity into the software, if it comes pre-packaged?

“We are not so naive to believe that the ‘media question’ might be a matter of technology or aesthetics. It’s a matter of power. Still, the passion is there, time and again, to stretch the possibilities of software, experiment with new forms of narrative and dream up even better feedback loops for the users-producers” <sup>6</sup>.

Faced with this dilemma, there are two possible approaches, or possibilities for action. The first involves appropriating the existing tools, through a “subversive use” or “misuse”, by pushing them to their own limits. The second involves building tools that incorporate new personal and collective needs. The division between these strategies is blurred, perhaps non-existent; in general terms, the two positions overlap. The purpose is the same in both cases; to achieve a personal and subjective use of the computer, to allow for attitudes and behaviour other than those offered by mainstream culture and the musical mass media. It is

interesting to examine the concept of the hacker — where we find a synthesis of the two strategies — within the context of these ideas; the hacker uses and modifies a tool in a way or for a purpose for which it has not been designed, in order to solve a problem or fill a gap.

This first approach, based on subversion of the software, results in so-called “glitch aesthetics”. This has been a very popular trend in recent years, to the point of becoming a full mainstream movement <sup>7</sup>, whose formulae are repeated over and over again. Software creation, on the other hand, has traditionally been reserved to a few engineers or “geeks”, but in the near future it is more than likely that we will all be able to do some form of programming. An increasing number of freely usable programming libraries and tools are being created in the area of Free Software <sup>8</sup>, such as Pure Data, Supercollider and Python. The first two allow audio software to be tailor-made, while Python makes it easier to develop all types of software and interfaces. Nonetheless, the fact is that much of the software developed by independent programmers simply replicates existing arrangements. There is no point building your own computer tool if it is only used to make standard techno, or transgressing under the protection of a “movement”, without adding anything personal.

However, I think it may be useful to borrow from the programming and software design world the idea of the prototype as a tool and model to be used at both a conceptual and practical level. The prototype allows various arrangements to be tried out with simply and without excessive baggage. It allows the creator to change course, make mistakes and stray, paying only a minimum logistical cost. Faced with the top-heaviness and complexity of the large companies, we need to opt for home-made, “Do It Yourself” technology, recycled software and hardware, recombined technologies and collective, modular and decentralised work.

It is fundamentally important to ascertain the possibilities and limitations of these new tools and technologies in order to use them consciously and consistently. Perhaps then we can start to build our own spaces in the digital environment, which for good or ill is increasingly becoming our everyday world. Today, more than ever before, as the Clash had it, the future is not written.

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## NOTES AND REFERENCES

1 This idea, incidentally, raises several interesting questions, for example, about the way we listen to music; what is the important thing, listening or recognising the tune?

2 Institute of Research and Coordination in Acoustics.

- 3 There are some who go so far as to claim that some music is the work of the software creators and not of the musicians who used the software to make it.
- 4 Artistic Software for Dummies and, by the way, Thoughts About the New World Order. Olga Goriunova, Alexei Shulgin
- 5 The digital culture is mainly “Anglo-Saxon”. English is the predominant language of the Internet and IT, and also of the software creation culture. And of course it is also the language of the ideas and concepts that the software incorporates.
- 6 Reverse Engineering Freedom. The Revolution Will Be Metatagged. Geert Lovink & Florian Schneider. October 2003
- 7 I consider it to be a mainstream movement within the sub-world of experimental electronic music. I do not consider Kim Cascone any less mainstream than Britney Spears. We long ago lost any measure of scale: all “worlds” now stand at the same level, regardless of their sales volume or number of followers; it is not so much a question of size as of usage, intentions and meaning.
- 8 ‘Free software is a matter of the users’ freedom to run, copy, distribute, study, change and improve the software.’ More information at <http://www.gnu.org/philosophy/free-sw.es.html>