COMPUTER MUSIC & THE PRE(ANTI/POST(NON.MODERN)))

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ABSTRACT: In his analysis of technology, Latour underscores the importance of hybrid objects, neither natural and explained by sciences nor cultural and explained by "politics." However, our modern "constitution" denies the existence of such objects by limiting their scope and viewing them as natural or cultural objects. The crisis of modernity results from the proliferation of such objects. Computer music has often been cited in this culture/nature debate because of its entanglement with the electrical circuits and the circuits of cultural production. In light of Latour's comment computer music should then be revisited as a quasi-object whose trajectory between nature and society has yet to be mapped.

Introduction:

Although it can be said that the use of the computer in music has emerged from a tradition which goes back several centuries to Mozart or even Plato, computer music is often characterized as a quasi-scientific discipline solely developed in the 20th century by engineers like Pierre Schaeffer (1952) or Max Mathews (1969). The debate attempting to place computer music in the realm of contemporary music, modern technology and society has often resulted in opinionated caricatures which describe its practice in contradictory terms. Computer music is sometimes a milestone in the development of new instruments (Boulez, 1968), a long awaited composer assistant (Xenakis, 1971), the epitome of scientific application in the arts (Minsky, 1982), a digital playground for Game boy fanatics, or the ultimate tool for commercial exploitation (Atalla, 1977). The contest of diverging opinions underscores the difficulty of placing computer music in any given clear cut discipline or at the inter-disciplinary junctures of several disciplines.

The cacophony of discourses which results from this situation, lead to diagnose a "postmodern syndrome" (Richard, 1994) which warrant further analysis.

The modern constitution

In Nous n'avons jamais été Modernes (1991) (We have Never Been Modern), Bruno Latour traces the history of modernity to the 18th century when the definition of a clear cut classification of objects along the lines of nature and culture could be made. In the modern paradigm this separation needs to be enforced, even if sometimes violently, to guarantee the non-interference between these two empires. This is the absolute condition of the constitution of the modern. So politics became the realm of the ruling of human affairs and the sciences the realm of the ruling of things. Everything had to have its proper place, as in an Encyclopedia.

The separation of power of the political from the scientific translates in incompatible modes of critique. Indeed, the modern framework only allows to speak from a scientific perspective, polarized on nature, or from a sociological perspective, polarized on culture or else from the perspective of language which only attempts a symbolic synthesis of the Nature/Culture polarity. These positions, respectively scientific, sociological and semiological are summarized in the works of "Changeux, Bourdieu or Derrida" (Latour 1991, 13). However, when these critical discourses are combined out of necessity, as observed in the discourse of computer music, a violation of the modern constitution always results.
The hybrids: fitting the modern structure

Because these constitutional violations become more and more prevalent in the contemporary world some thinkers foresee the end of modernity and the beginning of a nihilistic era. But Latour argues that, in fact, these violations have always been there but that they have been overlooked and denied through the lenses of the modern constitution. It is for this reason that we can say that we have never really been modern. Modernity has always been wishful thinking. Latour illustrates this point by stating that, for example, the ozone hole is neither a scientific problem nor a legal or a political problem. It is and remains a network of people and things which goes from one’s refrigerator and car to Antarctica by way of international courts, earth summits and the board rooms and laboratories of chemical companies. Latour, after Michel Serres, names these violators of the modern constitution quasi-objects or hybrids since they are neither objects in themselves (i.e. natural) nor artifacts of human amongst themselves (i.e. cultural). In a similar fashion, we can see the complex of computer music as a set of networks that connects, among others, my CD player, the production studios, Madison avenue, the PMRC, Yamaha and the defense department.

Percolation: fitting the movement of progress

The effort of strict taxonomy imposed by the modern constitution also structures our "modern" thinking of history and evolution. To associate objects and quasi-objects to the distinct pole of nature and culture requires a work of purification which defines a clear break between the uninformred past description of these objects and their enlightened present understanding. Implicit in this process is the notion of revolution and progress. Modernity forces one to think in terms of before and after as in PC & AD or before the computer and after the computer. Modernity’s time, Newton’s time, must be a linear, irreversible, time flowing like a river to emphasize the work of purification. But, as Michel Serres remarks (1994) rivers do not flow, they percolate; time does not flow, it percolates. The notion of past, present and future is subverted as in Einstein’s relativity theory and the network of connections become even richer since it expands to all times and spaces.

The modern constitution thus marks a distinct point in history by defining itself as a revolution and an ultimate culture defining event. Implicitly it also carves out the pre-modern, as what is not modern and inspires the anti modern and the post modern reactions. The pre-modern, in effect, encompasses the primitive thinking which existed before the modern revolution and which is still present in “primitive” societies. It is the pre-modern that the modern aims at obliterating through progress. In contrast, the anti modern, inflexible traditionalist, and the post modern, prophet of doom, are reactionary position which respectively negate or saturate the modern position.

Modernity brings a closure to structure, by rejecting quasi-objects as hybrid, as monsters or as objects yet to be classified. It also brings a closure to time by making incompatible modern technology and the ancient myths; forbidding to establish the direct relation that exists between the human sacrifice to the Mesopotamian god Baal and the sacrifice to technology realized in the Challenger explosion (Serres, 1989).

Thus the very existence of quasi-objects put into question the value of the modern constitution and calls for a vision which re-integrate the pre-modern and goes beyond the postmodern stance of suspicion and the sterile criticism of the anti-modern.

Computer music as a quasi-object:

To frame computer music within the modern constitution is thus as difficult as framing music in general. The hybrid nature of musical objects (Hemmis, 1993) inevitably results in apparent schizophrenic discourse about music. For instance the Orphic myth gives divine origin to music, while Plato places music in the transcendent realm of pure ideas with astronomy and geometry. While Rameau (1727) bases his harmony on the natural intervals defined by a vibrating string, Roussel (1979) finds in musical melody the origin of language and therefore society. These ambiguities and inconsistencies with the modern constitution are further heightened in the contemporary discourse about music which is more cognizant of its technology. For instance, ambiguities are evident in the search for a natural or semiotic basis of music (Schaetter,
1966), or in the search for a balance between the natural production and the social reception of music (Schaeffer, 1972) or in the justification for stochastic music from the natural sciences (Xenakis, 1971) and even in the marvel at the efficiency of Fourier's series in additive sound synthesis. But to comment on this last point Latour reminds us that the application of mathematics to the real world is as much a miracle as to "travel around the world with [an] American express card." Both cases simply reflect network relations.

The non-modern:

To bypass the modern constitution, Latour suggests that we return to reality and reject the transcendence of the modern constitution. "Whatever resists trial is real" (1988, 158), he says. Reality is the object itself. Therefore grasping or riding the object, one can observe and follow its networks of connections and understand its possible attractors to the poles of nature and culture without losing track of its own distinct reality. Thus rather than considering the various perspectives on computer music as contradictory, that is opposed to some implicit standard (the modern constitution) we can look at them as various works of interpretation, the statements of various spokespersons for that real, unique object which does not speak. Understanding the object is then tantamount to plotting the positions of these spokespersons in the space between the natural and the cultural poles by keeping all the works of mediation and purification in the open. More than a micro sociology, Latour advocates a "hyperfine sociology" where the object of focus is never reduced to an abstraction or a relation of dependence but where the trajectory of its interpretations by spokespersons and its interactions with actors as diverse as variable is plotted in its full complexity.

Consequently it is an illusion to consider computer music as an abstract entity. Computer music only becomes real in the works, in the performance and the interpretations; when it "resists trial". It is through this resistance that its connections to multiple networks can be understood. It is there that the percolation of time can be experienced when Mozart's dice game can be connected to automatic music composition, or when set theory can be related to Barbata's algorithmic music. It is here that instruments designers and performers find themselves neighbors with computer scientists. In Rome, the first book of foundation Michel Serres (1994) used the metaphor of Jupiter, the God of Gods, to explain the elusiveness of reality. He points out that the word Jupiter is made of radical "Ju" which refer to the heavens and the cosmic sciences and "Pier" which refers to the Father and the social sciences. Despite the decomposition of the word and the corresponding ideas, he argues, Jupiter, the word and the idea, is still there in his full power. The sciences have explained nothing. Reality is in the hyphen which joins the radicals Ju and pier into a single word. Similarly, the reality of computer music manifests itself in the making of the music. Computer music is the creative movement of its composition not the historical justifications for its existence; it is the kneading of the sounds not the scientific rationale for its synthesis. A computer musician, like any other musician, makes music like a baker makes bread by confronting the elements with energy and creative drive.

Conclusion:

Orpheus was symbiotically dismembered to share his talents among many, yet this dismemberment only silenced his song and denied his nine stringed lyre: "we do not have a global art any more, with nine muses, nine strings, we only have disciplines" (Serres 1985, 143). Because of the complex networks to which computer music is connected it is probably more at risk of dismemberment and desegregation into disciplines. It is only the emphasis on the reality of its creative becoming that can make it "a global art."
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