The Beast's glove: The tactile and the digital in computer music

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Abstract

The relationship between computer music and technology is almost self-evident yet often misrepresented as a determinant of style and aesthetics. While, it can be argued that more traditional music also share connections to technology we must more fundamentally emphasize that music is always a complex of technologies techniques and creation. This paper explores this nexus with the concept of the digital and the tactile suggested by Deleuze to better understand the nature of the relationship of musicians to music regardless of the medium they chose.

"A work of art is never made by or for its technique" [1]

1 The Beast's glove

The question of creativity, of manifesting the new, lies at the heart of the tale, Beauty and the Beast. The Beast possesses five magical objects: a rose, a horse, a mirror, a key and a glove. With Beauty's love, these objects transform Beast into the new prince. Each object symbolizes an aspect of the creative process: beauty, courage, transcendence, technique and responsibility respectively. Of particular interest is the glove with which one can "virtually" travel anywhere provided, Beast warns, one takes full responsibility for one's actions. This glove fits the caressing hand, the tactile, and the calculating fingers, the digital. The tactile and the digital, two ways of looking at the creative process, are often represented as mirror images. However, the tactile and the digital do not mirror each other. They are two distinct representations of knowledge which form and inform the creative process, a process which is ineffable. Only by subjectively assuming the responsibility of creation can the artist merge the tactile and the digital. Once the artist accepts the glove, she can travel "virtually" anywhere, creating without bounds.

2 Music & technology

To say that computer music makes great use of technology is no doubt banal. The sophisticated audio systems, computers and media infrastructure which maintains a steady supply of "serious compositions" as well as marketing jingles testifies to the reality of this connection. However, the relationship between technology and music is not so new. Music has had a technological dimension since instrument makers first made instruments and musicians first played them. So in some sense, music and technologies are coextensive. But this first level of understanding the relationship between music and technology must be refined.

Deleuze [2] provides one level of refinement when he distinguishes optical art whose genesis requires coding, calculation and translation from haptic art which is drawn in a movement (apto = touch). This distinction is translated to the realm of music by distinguishing digital art from tactile art. However it is a mistake to use the concepts of digital and tactile to characterize the difference between computer music and more traditional music. In such a scheme, computer music is associated with algorithms and abstract models, while fingering and posture characterize instrumental music. Associating computer music with technology because it employs electronic equipment and uses mathematical methods is as detrimental to our appreciation of music as associating traditional music with its techniques because it displays virtuosity. To further our understanding of the relationship between music and technology, we must avoid a perspective which leads to a schism between traditional music which is the result of a disciplined human expression and computer music whose outcome is simply technologically determined.

3 Technology and technique

It is true that the distinction between digital and tactile can be particularly acute and discriminating when technical composition supersedes aesthetic composition. It is also true that computer music is particularly susceptible to this distortion because it uses formal mathematical tools. Nonetheless, formalist abuses have plagued all sorts of
music. Boulez, for instance, recognized that an orchestral piece like Polyphony X suffers from "theoretical excess" [3, p.74] that has nothing to do with technology but which stems from the combination of extensions of Webern's serialism to several sound parameters and rhythmic elaboration inspired from Maessien's Mode de valeurs et d'intensités. Even with asynchronous computer generated music there is a technical concern when the composer or a technician controls the sound console to modulate the delivery of the composition, as any interpreter would. We must therefore recognize that all music has an intimate relationship with both technology and techniques. Deleuze's distinction between digital and tactile art is not a distinction between computer music and instrumental music. Rather Deleuze points to the infinite possibilities of creation inherent in all music. To unleash these possibilities we need to understand the relationships of music to technologies and to techniques.

4 Breaking down techno-logy?

To understand this relationship clearly, our first task is to deconstruct the word technology itself. As Latour [4] points out, the word technology "has been limited for too long to the study of those lines of force that take the form of nuts and bolts" or of circuits (p.199). We have lost track of its resonance. Etymologically, technology stems from the combination of the word techne and the word logos. Techne refers to "a set of rules, a system or method of making or doing," in short a "know-how." As a matter of example, Heidegger [5] concludes his essay on technology by noting that the "revealing that brings forth truth into the splendor of radiant appearing...the bringing forth of the true into the beautiful...And the poiesis of the fine arts" (p.34) were called techne. Techne is practice at play in the world. Logos, appropriately appended to techne, means "explanation." It is the discourse on the techne, a projection, a flattening of the techne into the realm of language and reason. The concept of technology therefore divides itself between two perspectives, a visuality and a discourse. To understand the profound implications of this division we need to go beyond a general perspective on technology and to reflect on the implications of this split between the visual and the discursive in the material objects of technology.

5 Machines and models

Indeed, technology as a project is subjective: "only those [projects] which become objects, institutions, allow objectivity" [6, p.69]. Therefore, we must experience visibility and discourse when they are translated or reified in the objects technology creates. "Know how" is translated into machines, such as computers and pianos, and discourse is reified into models such as mathematical models, physical models or musical theories. In addition to the split between visibility and discourse, this level of understanding underscores the complex interconnection between technologies which Latour [7] collectively calls networks. Indeed, we know that computers are not solely musical instruments, and we know that the logic of generative grammar applies to music as well as to language. As Foucault reminds us, several interconnected fields of technology are usually operative in any given situation. He cites the technologies of production, of sign systems, of power and of the self; technologies which "hardly ever function separately; although each one is associated with a certain type of domination" [8, p.18] whose impact we can recognize in the realm of music.

6 The tactile and the digital

We must raise the question of the modalities of interaction between individuals and this complex of technologies because we must use models and machines to perform. It is in this relationship that Deleuze's distinction between the optical/digital and the haptic/tactile powerfully returns. In the techno-logical framework, the digital pertains to the working of models; it refers to fingers that count, to computation. The tactile is the somatic connection of one's body to the machine; it is the hand that touches, that feels. However, at this point, we must ask if the two parallel strands of visibility and of discourse describing the techne and the logos in terms of reification and relations to human beings are simple reflections of one another or if they define an incommensurable split in how we apprehend the world. The point in asking these questions is to consider the possible responses. On the one hand logos insists that there is no distinction between the strands of discourse and visibility. It claims that the tactile can be digitized, as in robots, that the model can run the machine, that discourse is fully performative. Its radical textualization rejects any place of ambiguity or of paradox; there is, logos proclaims, no place beyond dogma. On the other hand, techne emphasizes practice. It claims that ultimately discourse is an unnecessary surplus, a mirage, that the strand of the logos is an illusion. Techne claims that composition comes from the juxtaposition of the given, suggesting "bricolage." Logos posits a strict and constrained relation between the possible and the real. Techne simply trusts the real to be.
7 The catastrophe of Subjectivation

The vanishing of difference between visibility and discourse is not astonishing since it is explicated within a system which cannot speak the ineffable. Such a system confuses geography with landscape and forgets that there is always an implied surplus which "flickers on the edge of meaning" [9, p.174]. Thus a more radical interpretation is necessary: it is impossible to explain this difference for it can only be inferred. Deleuze [10] suggests such an interpretation in his monogram on Foucault. There is, he insists, a fundamental void that exists between discourse and visibility. The connections between these two strata of knowledge and power is only possible through the intervention of a subject, the artist, whose formation is the result of a fold "at the crossroads of a lack-of-being and of a destruction, that of a repetition and of an interruption, that of a placing and of an excess" [11, p.157]. It is from this position, at the cusp of the caustic curve illuminating the visible and the discursive, that the subject, the artist, combines the tactile and the digital. In the very process of subjectivation, in becoming a subject who assumes the responsibility of her human condition, the artist creates, actualizing the virtualities emerging from the tactile/digital.

Because of its privileged and explicit link to technology, computer music forces contemporary composers to face the responsibility of composition. This engagement defines the digital/tactile nature of art through the technological innovations composers design, through the creation of new techniques that constitute their work of art as a reality, and through the work of art itself which delineates the very effect of their style.

References


