Chapter 11
Triggering the Flotsam of Behavior:
A Technique for Applying Computation to Musicality

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ABSTRACT

As computer artists, we might ask: can the computer serve as the artist or a proxy thereof? There seems no possible conclusive answer to this. Rather, we approach this question from a different angle: Why do humans make artifacts/praxis, which might be experienced by conspecifics as art (e.g. visual art, music, dance)? To investigate this subtle issue, computer technology provides an important tool for artist-engineers, namely allowing programmatic integration of audio analysis and visual graphic animation. We initially discuss the history and problems of the role of an intuitive model of cognition, in the pursuit of an automated means of the synthesis of intelligence, versus what has been learned about organic brains. This comparison, while somewhat critical of empiricism, is meant to zero in on the cognitive function of art for humans, as an evolutionary adaptation. We are thus lead to an alternative programming paradigm regarding art's very particular but crucial role for our species.

INTRODUCTION

In this paper, we present a novel approach to using the computer as a tool in art. This approach is informed by taking a deeper look into what computers actually do, at the technical level below the interface that we see on the screen (Nissan & Schocken, 2005) and what human[1] brains actually do, when that brain is expecting to experience art (Stecker, 2000). Compare "human readable code" (e,g, C++, Python, HTML) to binary (e.g. high/low voltages represented by humans as a long list of 1's/0's). Noting these differences has lead us to think about meaning, communication/messaging, and a theory about the role of art, relative to *Homo sapiens*.

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In fields concerned with communication from an epistemological level (e.g. primatologists studying language learning apes), though not to answer this issue philosophically, *theory of mind* (ToM) is considered intrinsic to communication, profoundly distinct from *signaling* (e.g. barking, ornate plumage, or electrical circuits and network pinging). This theory further differs from a traditional, aesthetic art-for-art's-sake practice, mutated somewhat in recent decades to accommodate a techno-aesthetic (see also the attribution of mystical qualities to novel technologies, in Marvin, 1988; Nadis, 2005). Though isolated fields may harbor conclusions about these three topics within respective domains, conflicting views are certain to arise. We must be careful to take an ever-more inclusive approach (termed *conceptual integration* in Tooby & Cosmides, 1992) that does not seek to select a single best scientific law to explain some event from a competitive pool, nor a compromise of laws, but a continuous effort of integrating laws from a widening vista[2].

We discuss a categorizing scheme we will call the *flotsam of behavior* (FoB), as in the remanence after the fact, that remains "floating on the surface." This scheme is comprised of two dimensions, continuums between artifact (e.g. a tangible tool: for instance, a book) and praxis (e.g. an act: as when Catholics sometimes rapidly cross themselves, as a quick blessing in response to tragedy), meaningful and chaotic. Surely many readers will already come to this with a comfortably complete notion of "art," which we do not claim to be able to predict nor debunk. Nonetheless, in practice, we would guess that most people usually make a fairly boolean (true/false) distinction between objects deemed art-objects and those that are not.

To clarify, of course, in ambiguous cases, this decision may waver back and forth, but it probably rarely makes sense to say something is "partially art." In fact, we need not assume "art" is a distinction made of groups of stimuli describing anything real, so much as all "art" is defined here only as an FoB, though not the reverse. Instances of art are then readily located within this FoB space. A dance might be part of a ritual, performed for communication with spirits, and might be deemed religious. Though the very same dance, performed in the same context, observed by a modern curator might seem artistic. The creativity, expression, or intention is of no matter here. There is no conflict between these two interpretations, so long as we decide that the locus within the FoB is not intrinsic to the instance, but describes only how that instance is understood, whether by the composer, performer or observer.

Within strictly confined environments, with a myriad of implicit programmatic assumptions about the physical laws to be expected of these environments, AI[3] has yielded abundant functional successes (i.e. an expected feature consistently identified). Nonetheless, it remains speculative whether or not "intelligence" has truly been synthesized (for example syntactical rules, in Fitch & Friederici, 2012; or for music theory in Lerdahl, 1992) —the problem of a strict definition of intelligence notwithstanding. The technique we discuss here is an alternative approach to how the computer might be employed, to instigate the experience of experiencing art in the minds of audience members. Moreover, we describe how the by-product of this technique, the output of art-as-software, can be employed toward a testing paradigm.

When examining art, people often discuss aesthetics as existing externally to humans, having a concrete effect on minds (compare the reasonable quantification of proximal causes of proximal results in Etcoff, 2000; to the dubious quantification of distal causes of proximal results, in Himonides, 2009). Despite the countless literature discussing aesthetics, these documents merely describe a subjective experience. Not that aesthetics cannot exist, but it is not apparent—perhaps to anyone—how a nonhuman, such as a computer, might attend to this feature, one without any defined concrete properties. Rather than rejecting all art referring to aesthetics, we take an anthropological approach to "the art world"[4]. We must not