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Borrowed intelligence

Observing and implementing the culture of the art world

L'intelligence empruntée : observer et mettre en œuvre la culture du monde de l'art

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BORROWED INTELLIGENCE

OBSERVING AND IMPLEMENTING THE CULTURE OF THE ART WORLD

Judson WRIGHT*

Not too long ago, the label « artwork » was primarily limited to paintings, sculptures, drawings. Dance, music and drama were also considered « art forms », though audiences felt comfortable that only an occasional break of 'the fourth wall' would seriously challenge the labels. In the 20th Century, reconsideration were applied to architecture, craft, etcetera. Over the years, Walter Benjamin, John Cage, Jackson Pollock, Andy Warhol, and countless others had certainly revealed the incompleteness inherent in this labeling scheme (Benjamin, 1929; Cage, 1961; Dickie, 2000; Branden, 2003). Subsequently, it became popular to acknowledge that « anything could be art! »

This seems equally disturbing. While originally, the label was used in ways the audience was not fully acknowledging, this alternative rendered the label fairly useless. Perhaps, a precise definition is elusive and subtle, but *a distinction is made*. Certainly, the thermostats on the wall at the Metropolitan Museum of Art do not receive the same attention as the paintings. Moreover, regarding the neurological and psychological effects of music (Bregman, 1999; Levitin, 2006; Sacks, 2007; for interesting example cases). These effects can be more easily studied with music, since there

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exists a large, convenient corpus of work that adheres to a standardized protocol – Western music theory), it seems likely to surmise there actually may also be art-objects which yield some response that is very different than to others non-art-objects.

Figure 1. A thermostat at the Metropolitan Museum of Art.
Photo by author

[The figures depicted] do not share the bulk and weight of earthly creatures. They are made of subtle mind-stuff ..., such stuff as composes the figures of our dreams and phantasies, or the divine apparitions that come before the concentrated inner vision of the yogi and devotee... Their corporeal incorporeality is a sublime form of Maya (Zimmer, 1946: 120).

I make software-art, and am particularly interested in how machines might overcome the curiously coveted task of displaying intelligent behavior, despite fundamental impossibility to do so (Edelman, 1992: 211-252; Hawkins, 1995: 65-67). An intermediate understanding of how these tools (computers) work quite clearly reveals that even the slightest amount of complexity (Gordon, 1999: 145-146) required *cannot possibly occur within the machine*¹. But

¹ Briefly, the basic way that binary computation can be processed consistently, obeying both mathematics and physics, whether employing plumbing tubes, transistors or silicon chips, requires that all operations must be *completed* prior to being employed in a subsequent process; Computers only ever accomplish two-term *elementary algebra* (X [operator] $Y = ?$), albeit many equations, very fast, but exclusively one at a time.

rather than argue such a point further here, there is a more interesting phenomenon to address. Namely that science (in general) has constructed a *faith*, in much the same way that any tribe would. Faith has the subtle feature of appearing, on the surface, as *passive* explanation, though requiring underlying *active* conceptualization of experience, symbiotically constructing the world for the believer.

Why anthropology? With the advent of Post-Post-Modernism, anthropological studies of cultures have been the content of art-objects, art performances and displays. Most often the anthropologist-artist takes a somewhat distanced, cynical but heroically serious look into cultures assumed to be considered peculiar by audiences. Though modern anthropology aspires to, and often succeeds remarkably in making admirable strides to avoid « outsider » judgment, it is actually fundamentally impossible, from a neurological standpoint regarding perception, to accomplish exhaustively, to become an « insider » as an adult (Gregory, 1966; Asquith, 1984). The best we can do is to curb acting on judgments. Though each human (anthropologist, artist, audience and computer programmer) is limited by psychology for better or worse, it is actually an intrinsic feature (of which we will take advantage) of the computer itself. The collection of artifacts excavated from trailer parks at the Museum of Jurassic Technology in Los Angeles comes to mind (indeed the entire museum, which began in 1987) (Weschler, 1996). There are certainly earlier examples (a more recent example is discussed in Wright, 2010a). Why not Cezanne? In this ethnographic scheme, the artist employs artistic media in order to describe (a personal relationship to) that culture. One might consider tribes inhabiting the Balinese jungle versus say, the social organizations of ancient Maya. But the subject content is somewhat arbitrary. The bulk of the artist and audience members attention goes to the chosen medium (conceived of given a familiar conceptualization from « outside »), how the artist perceives that world (which includes the tools of that medium), and which aspects the artist prioritizes in rendering that subjective interpretation.

In this scheme, the object on display is necessarily assumed

by the artist to be intelligently organized, before even considering the object itself (Ossman, 2010). Whether that artist created the object, or found² the object among some social group, it is recognized as eliciting some message specific to a specific culture. The object 'says something' about the (also assumed) environment. The audience, as well, further assumes that the object must feature an intelligent message, to be displayed, and relished with social clues as to the object's importance. Thus, the task for the audience is to identify the precise nuance of the implicit culture. In cases where audience members are unfamiliar with the specific culture, there is still the assumption that the object is intrinsically meaningful.

However, in this chapter we begin with somewhat an opposite premise, that the label «art» is not causally nor magically indicative, of meaning, that all objects *only* contain information that is apparent by physical means. This is not to say «art» is bogus, rather that we are searching for how it functions at a deeper-than-intellectualized level. The priorities (loosely «aesthetics») of curators in the art world generally differ profoundly from say, the priorities (loosely «objectivity») of theoreticians of Western sciences in academia. They represent two generally distinct cultures. Social scientist Carolyn Marvin describes attitudes in the United States at the turn of the dawn of the 20th Century. «A true and full appreciation of scientific knowledge was off limits to all except properly schooled experts who belonged to restricted textual communities» (1988: 42). This exclusivity remains deeply entrenched even today, upheld not just from territorial scientists defending valued positions, but even in the minds of the excluded with beliefs like «I'm not a math person». However the art-science dichotomy has since proven an insufficient concept on a myriad of fronts. Un-learning these traditional boundaries in ever-deeper ways becomes essential – at least for the study of the mind. We are not «reaching across cultures» rather we are ignoring artificial distinctions that separate them.

² À la Marcel Duchamp (Dickie, *op. cit.*).

In this latter scheme, we create potential artistic works by programmatic means, in order to observe how a specific culture (the art world) reacts to these various art-tests. We are researching if/how intelligence might be programmed, taking an unorthodox step *away from* computer science and boolean (digital) pragmatism, informed rather by anthropology, looking at a specific culture's (the art world) response to artworks. One might object that submitting artwork to art shows in order to ask « Is it art? » is a circular argument. However, there are two main differences here. Firstly, we do not actually care about any particular art-object. The fate of a given piece is inconsequential. Secondly, we are not concerned with proving or disproving that art exists, just as we would not attempt to prove to the natives worshipping tree spirits that they are in error. Quite the opposite, the belief in tree spirits holds some very practical purpose, specific to that tribe's consensus about their environment, an environment which we may be physically incapable (having developed different perception) of seeing in the same way³. What we are interested in is that people seem to behave in an unconscious, yet fairly consistent manner toward whatever it is that they feel is art.

Framing

Why is art necessary? This may seem like a facetious question, however, by taking an anthropological approach to the « art scene », the field becomes our lab for closer scrutiny. Let us back up momentarily to a better vantage point. Experiments reveal that *recognition of* – and not presence of – intelligent organization in music is key (Becker, 2004; Cohen, 2006; Wright, 2010b). This recognition strategy is seen in variety of modalities and media-types. The distinction was especially salient in the transition from silent film to talkies, where new conceptualizations had to be constructed before interpretations of perceptions could take place (Eyman, 1997). History paused to reconsider the theater aspect of

³ The French hear vowels Americans can't, who hear L's in ways Japanese can't (Pinker, 1994: 267-265; Solso, 2003: 175-177; Yoshida *et al.*, 2010).

the Cartesian Theater. It is central to our constructed concepts of mathematics (Lakoff & Núñez, 2000). In Noam Chomsky's seminal work (1957), an example he uses is that we can differentiate between sentences that are potentially meaningful though ultimately not, and ones that could not possibly convey meaning. We recognize something about « Colorless green ideas sleep furiously » that we know is not present in « Furiously sleep ideas green colorless » (p. 15).

It is essential to recognize that the feat that distinguishes organic brains is not simply a single step of calculation. Rather than identification being a single-step task, as is commonly assumed, it is at least threefold (Millikan, 2000: 109-116). This has special significance to anthropological studies of foreign cultures who most certainly will identify, not only the content and relevant descriptions differently than the researcher, but fundamentally see or not see the same objects given like views of the same environment. For meaning to occur, involves tight integration of the ability to (1) interpret the output, including its (often implicit) relationship to the (3) input. This « curation » is generally transparent to all who come into contact with the technology. Inevitably, programmers of Artificial Intelligence (AI) software tends to organize data in a way that seems intelligent *to us*. In understanding how to relate to our tools, we necessarily project our own profoundly idiosyncratic conceptualizations onto them. This under-appreciated difficulty in assessing intelligence, stems the same impulsive projective nature of intelligence, under investigation. No human could interpret behavior without doing so through his/her own conceptualizations (Cohen, *op. cit.*). For instance, HS Terrace's remarks about ethology and teaching language to non-human primates, describes the problem facing computer science and AI.

In the rush to demonstrate grammatical competence in the ape, many projects ([Terrace's] Project Nim included overlooked functions of individual signs (apart from their demand function. Of greater significance, from a human point of view, are the ability to use a word simply to [spontaneously] communicate information and to refer to things that are not present (Terrace, 1984: 200).

We seek some indication that the machine *and the operator* are not merely symbiotically learning to create outputs, which satisfy that operator. Resulting theories, which otherwise may be constructed quite firmly, may include reporting on and reacting to « subjective » emotional states (Minsky, 2006).

Categorization

It is important to acknowledge that only once we comprehend what we are seeing can the sensory stimuli, such as documentation, be given attention, and is no longer « background noise ». This includes *grouping*⁴ and *categorization*⁵. Categorization, how we determine which shapes/colors belong to a chimpanzee we are observing, or which movements are intentional gestures of a dance ceremony, is certainly subjective. Moreover, both are culturally learned. An object is recognized as an apple because it fits well enough within the « apple » category and not well within others. But grouping is subtler, though no less influential here. For instance, pretend you have met a person who has come from a tribe in India, that somehow has almost never had much influence from the West. You are giving an informal crash-course in pop culture. You sing the song « Yellow Submarine » by the Beatles a cappella (we'll pretend you do a flawless rendition).

*In the town
Where I was born,
Lived a man
Who sailed to sea* (Lennon/McCartney, 1966).

Each line of the verse begins with several « pick up » notes. So it is perhaps ambiguous where exactly the main beat would go. To a Westerner, where the lines of the song are arranged as written above, the beat is perceived at the *beginning* of the final word. This is beat one of four. But to your friend from India, beat 4, the beat

⁴ Grouping is discussed in auditory scene analysis by Bregman, (*op. cit.*); see also Cohen (*op. cit.*) for more abstract ramifications of grouping in audition/kinesthesia.

⁵ Categorization is discussed extensively in mental representation by Langer, 1998; Bickerton, 1990; Dennett, 1991.

just before the first word of each line, or the ending of the last held word, is dominant. Thus the friend would perceive the music differently, though singing the song back, the rendition would sound much the same. We are predisposed by the culture in which we were raised to distinguish boundaries between observed entities, as well as behaviors. The modality is irrelevant. We might also imagine how a person unfamiliar with written English, would view a page from a book as a design filling all but the borders. Whereas someone else (us) may see the characters as distinct entities, words, with symbolic meaning. This meta-phenomenology is inescapable. I want to, at least temporarily, look at how technology, such as a camera, can be used with appreciation for this larger context, rather than discussing the use of technology exclusively in terms of one limited use for it – documentation.

To do so, one needs to reconsider behavior as a form of communication, insofar as it is intentional and designed to communicate, if only to attain an appropriate reaction from the environment. Non-human organisms are scarcely implied to have a *Theory of Mind* (Whiten, 1998; Gopnick & Meltzoff, 2006; Fodor, 2000). Instead, as with human infants, before developing any sense of self or distinguishes others, the child assumes the universe is simply an extension of the self (Piaget, 1929). It is as if the child is unaware of experiencing internally, for there is no clear distinction yet between internal and external thought. In this way, studies of the developing mind, form our understanding of the behavior of apes. Likewise it enhances our understanding of *how* to observe possibly intelligent behavior in human and non-human primates, as well as machines.

It may simply be tempting to place the origins of thematic structure further back still, in the real world, and to say that there is an act of giving, that act logically includes as its minimal participants, someone who gives (Agent), something that is given (Patient) and someone whom that thing is given (Goal). However, to adopt such a position neglects the fact that acts of giving have no separate existence in nature, but occur as part of an unbroken pattern of behavior that we happen to segment in a certain way... (Bickerton, 1990: 185-186).

Two variations of projected intelligence

For over a decade now, most of my artwork is related to two key investigations. One is the work of Richard Gregory on the eye and brain (Gregory & Ramachandran, 1991; Hunt, 1993: 442). The eye is not an isolated system, but plays a smaller role in instigating thoughts. Of particular note is his short film of a Dalmatian walking through snow patches. From a still image, it is difficult to identify the scene. However, in motion, the scene becomes clear. So long as the dog is moving, the brain draws imaginary outlines of it. It uses Gestalt rules to do so (Hunt, *ibid.*: 442-460). What is peculiar about this phenomenon is that Gestalt rules apply not just to visual organization, but rather well to audio scene analysis (Bregman, *op. cit.*). I would further hypothesize that these Gestalt rules function well beyond modality and sensory analysis to conceptual analysis at a more fundamental level.

The other experiment is ELIZA, the AI program by Weizenbaum (1966). The program appears as a simple text editor. It claims to be a computer therapist and begins by asking (in text) how you feel today. Let's say we answer with « Fine, but my tooth is bothering me ». ELIZA might reply « Why is your tooth bothering you? » It utilizes a well-known trick from psychology, repeating part of something just said. We have already given meaning to the words, so when we hear them back, assume the question is meaningful as well. ELIZA appears intelligent, though the meaning is entirely projected.

Both cases, seem also to relate to the perceptual magnet effect (PME), as studied in spoken and musical sounds (Patel, 2008: 79-84). The conceptual categorizations of chaotic audio is prone to be interpreted as a particular iconic, expected note or phoneme. When the source is fairly similar to the exemplar, this would be expected. But there is a grey area, where the source is perceived as being closer than it actually is. This magnet-like tendency recurs, not just in perception, but general comprehension. Both Gregory's and Weizenbaum's experiments borrow our instinctual predispositions as users toward construction and toward projection

of communication (henceforth IPTPC), applying it to the inanimate screen.

What is a « system »?

Aside from the obvious modality differences, music and visual art are subject to unique epiphenomenal experiences. One can listen to a discordant series of notes, and say « that doesn't sound right », but there's nothing one could paint or sculpt or ... to elicit that same feeling. One might decide that the colors clash, but this intellectual decision would not *feel* the same at all to us. This indicates that our bodies look for some sort of understood system in music, and not in art, and respond in some pre-conscious, visceral way. It may be tempting to say that interpretation is shaped by culture, however it is merely a result of the current neural process, though it is as if culture is the foreman of the construction of those neural networks. However, the primary difference is that the formalized ruleset that is music theory is a great deal easier to recognize, while it is unclear if and how exactly a ruleset might be consistently applied to visual objects. We can think of the experience of qualia as distinct from the effect of phenomena where modalities are but arbitrary vehicles between the environment and the mind.

Pictographic systems

Phonemes and alphabetic characters generally bear no logical relationship to their referents (Bickerton, 1990: 52- 54), nonetheless we often try to project a relationship from a few coincidental examples. The Japanese character for mountain does look a bit like a mountain. However, Chinese characters (the most extensive part of the Japanese writing system) are usually comprised of four sections, where each section has a different role in the meaning of the word (Coe, 1993: 17–33), and not necessarily a visual feature. Suffice it say, written language is a negotiated « system » used to

interface minds⁶. It is not a representation to convey what the writer observes in the hopes that the reader sees the symbol as referring to the same thing, and is being used by similar semantics to construct the *intended* message.

Perhaps one might say things like Egyptian hieroglyphs – or simply the decorations in King Tut's tomb – are depiction. To the ancient Egyptians though, hieroglyphs are not considered for aesthetics or creative self-expression (Pinker, *op. cit.*: 89-91; Crystal, 2005: 107-109). A better candidate might be perspectival rules from the Renaissance (Solso, 2003: 189-201). But this is a grey area at best, since the rules were essentially just observations of physical phenomena, not inventions or intended personalized variations.

Visual art, as well as sound is often subject to gestalt principals. A detailed discussion of this is Bregman (*op. cit.*). Gestalt might seem like a formal system for visual information. But since gestalt rules are, for the most part, not generally, radically revised by intentional interactivity (Hunt, *op. cit.*: 280-310), they do not precisely qualify in our re-definition of a system. In the same way, gravity works somewhat systematically, but is not considered a system. We might then think of « system » as a synonym for « protocol ». Sensory information is fairly meaningless, until it has been interpreted by the brain, which attempts to fit the stimuli into the cookie-cutter shapes it has available, as best it can. Any node can send any protocol to any other, but only when both nodes are primed to the same protocol is a transmission successful. In the case of a videographer pointing the camera at some behavior, though the camera is merely employed as a medium, with the assumption the viewer will share a like protocol. This protocol assumes similar experiential ethology to distinguish what are behaviors worth watching, and what are simply « signal noise ».

Transduction and actualization

The problem becomes much clearer when we broaden our

⁶ For further discussion of constructivism, see Vygotsky, 1978; Allen, 2004; Fosnot & Perry, 2005; Sfard, 2008.

assumed definitions of the senses, to speak in electrical engineering terms of *transducers*⁷ and *actualizers*, rather than input/output of *media*. Color is not a feature eyes detect. The eyes send stimuli to the brain, which manufactures qualia in a very specific protocol, only used by this illusionary Cartesian Theater. The theater cannot be proven to exist, is not likely, but is metaphorically experienced nonetheless. It is convincing in the same way a person born on the stage and with no ability to leave, with flimsy sets and props that may not be functional, but look real enough from the audience's perspective. Such an actor might think the universe is really like that stage, that guns only shoot blanks and windows are essentially the same thing as a painted landscape. In other words, the first step is to re-conceptualize colors, not as input but as output. Output that is exclusively applicable to a particular mental context and not for the benefit of the rest of the universe.

Frogs react quickly and effectively to bugs that fly past them, but this by no means implies that they have a concept of « bug ». Indeed, we can be pretty sure that they do not, or at best that their concept of « bug » both under- and over-generalizes to a rather gross extent. For instance, they will overgeneralize by snapping at bug-sized pellets that are flipped past them, but will undergeneralize by totally ignoring motionless bugs even when no other food source is available. (Bickerton, 1990: 27-28)

Jellyfish skin is very delicate. It is easily damaged by light. Thus, when the jellyfish detects that too much light is hitting it, the fish sinks to deeper, darker waters. Is the jellyfish aware of this detection? Given the neural anatomy – or profound lack thereof – of the jellyfish, this is surely not the case. Does the jellyfishes feel uncomfortable in too much light, and seeks comfort? This is speculative, but highly unlikely. It is ultimately impossible, of course, to determine the precise point at which an creature's mind is aware of that creature's behavior or reasons for it. Though it would be ridiculous to imagine that the jellyfish has any concept of things like « skin » or « light ».

⁷ À la Cognitive Scientist, Zenon Pylyshyn, 1984.

A Function of trance

Joscelyn Godwin describes the teachings of Suhrawardi (1153-1191) (1986: 82–87). He became figure in Sufism, but was ultimately executed. Suhrawardi believed that while Plato was correct in nearly everything, he was speaking of a *mythical* world that lies between the world of Angelic Intelligences and the material world we inhabit. These worlds are separated by « Lights », lying within the celestial spheres, which justify the harmony of music, as well as the « heart ». Certainly, it may be said that some confusion arises in respect to modalities, it may also be said that the modalities themselves must be reconsidered. An apt modality that warrants further discussion, that perhaps Suhrawardi is even inadvertently referring to, is trance.

While we have long observed trance in most cultures throughout the world, it is often given a very different understanding in Western cultures (Campbell, 1949). Gilbert Rouget (1980/1985) uses the terms « trance » and « ecstasy » to refer to what he emphatically declares are two distinct mental states. The contrast in externally observable behaviors is certainly extraordinarily salient. According to his view, *trance* is reached through rituals involving excited music and dance. *Ecstasy* is reached meditatively, with the exclusion of sensory « distractions ». Another difference he observes is that trance occurs involuntarily, and ecstasy requires a learned effort. This view has been discarded in two important ways. Numerous brain scans of several kinds have revealed that these distinct states are actually neurologically indistinguishable. This has an important implication, which brings about our second revision. To reach this brain state, there are cultural rituals of a huge spectrum employed, from extreme solitude to rituals involving the entire tribe. In other words, internally – as opposed to the perspective of a removed observer, though the « syntax » of the ritual may vary widely, as with language, the underlying « meaning » may be essentially the same.

Mere observation, a general stance Rouget's view assumes, of these rituals falls short of recognizing the underlying mechanism. Participants do learn from gradual participation that certain

ceremonies and behaviors, incite transcendence. That transcendence may be more specifically identified as Buddhist enlightenment or a shaman's journey to the underworld. Whether it is labeled one way or another is ultimately an incidental byproduct of the subject's understanding of the social environment (Vitebsky, 1995). But in either case, the potential purpose of the ceremony is learned from culture after gradual assimilation and repeated experience. (Pertinent details of myth and ritual are outlined in Campbell & Moyers, 1988). The West, particularly due to the influences of Descartes and Plato, seems to have a peculiar bias against losing tight control of the self (Roseman, 1991: 179-184). An essential step in delineating the environment from the self, involves rendering the world using the mental media tools made available socially, to see where divisions might lie. However, there is no a priori reason to assume such a division is « real », rather than cultural (Sells, 1996).

All cultures may have a reflexive personal pronoun to refer to the speaker, but not all have the nominalized disengaged, objectified « self » commonplace in Western thought... In exploring the possibility of the correlation between the willingness and ability to accept spirit possession [or relinquishment of self] and certain ideas of selfhood, we need to be able to imagine both what our ideas of selfhood are and what some others might be. I believe that the notion of self... has, throughout the history of the colonization of North America, worked to exclude the acceptability of spirit possession and trancing...

Integrating the insights of phenomenology and those of neuroscience means reexamining two ideas with profound roots in Western intellectual history; ideas that have provided us with a bedrock of stability for both science and religion; ideas that have spawned spectacular scientific discoveries and sustained profound religious values. Nonetheless, some concepts central to our world understanding may have inhibited our search for the ways that we can be transformed by music and by trancing.

These two related ideas are so much part of our intellectual heritage that they are not considered to be concepts or theories but « facts ».

1. There is an objective world outside myself that has definable properties and
2. I am a single, bounded, unitary consciousness that rationally perceives that objective world and thinks and acts on the basis of

« correct » perceptions or representations of that world...

... We perceive according to our past bodily experiences and in order to change an ingrained perception, we need to physically interact with the novel environment (Becker, *op. cit.*: 92 & 108).

Borrowing intelligence

One example of Borrowed Intelligence, from the years before computers were widely available, occurs commonly in Muslim societies (Quraishi, 2008). Four times a day, payer-songs are broadcast from speakers throughout the region. There is a mystical connection between human musicians and listeners. But it does not stand to reason that the same mysticism resides within the machines. At no point do the machines *mean* one random set of vibrating air molecules, rather than another⁸. In general, Quraishi points out that Muslims have a strong disdain for technology, so it is unlikely that the machines are considered to be creating intelligent messages. It is the message received, by the devoted listeners, that is imbued with special significance – only in the act of hearing, not in the playing, nor in the air between.

Speaking and understanding language may not seem not easily reducible to this idea of transducer/actuator. However, Chomsky (*op. cit.*: 15) revealed a subtle but crucial nuance. There is a detection and response that is culturally assimilated and essential just prior to the actual parsing of syntax. As mentioned previously, we recognize the sentence « Colorless green... » as being potentially worth further scrutiny, whereas « Green colorless... » can be dismissed as non-sense immediately. This criteria is entirely dependent on our conception of what nouns are and how verbs apply to them, etcetera. It may seem an oversimplification to call this the grammar of thought (Fodor,

⁸ One might be tempted to argue that the amplifiers are no less tools than the musical instruments. However, that implies the holy message imparted by the musicians is also imparted by whoever presses the PLAY button. Because this occurs so frequently, it is likely that in some cases, an automated timer « presses PLAY ».

1975). In fact, it is useful as a model to reconsider the senses as *potential meaning detection systems*.

Open calls as tests

An in-obvious avenue of exploration is the Open Call for computer art. Curators representing galleries and museums around the world often post requests for artist to send proposals and/or samples of artwork. From the responses, often number thousands, a few are chosen for displaying in the show. Since our interest is whether or not the end product of our system is compelling or not, this appears a fair test. Two features of these competitions make them all the more salient. Firstly, curators notoriously tend to be disinterested in technical issues. The justification is generally that the computers are unemotional, thus computation is deemed mutually exclusive to emotional expressiveness – *despite* that much of modern art using traditional media, including video, makes absolutely no concerted attempt in this regard. In fact, the informal trend seems toward elusive or entirely concealed emotion, at least to those uninitiated into that art world. True, some curators are actually more technophiles than technophobes. However, even they tend to be wary of science that goes too far beyond subjective experience and/or focus on sensorial output, akin to *surface grammar*.

This actually anti-computation bias makes for an ideal environment for us. Secondly, the competition for which works are chosen is rather high. Surely a great deal of works that are deemed « OK », are not selected, while even ones deemed « great » are surely rejected due to limited space. Thus if a piece appears overtly un-emotive or un-creative, there are certainly several other pieces to choose from. Recall however, that we are not attempting to generate pleasing artwork, simply artwork that engages people who are resistant to being engaged by machines. We are looking for indication if the resulting work is *ever* « colorless green », rather than « green colorless » (Chomsky, *op. cit.*: 15). No further assumptions are made that the same piece would be interpreted the same elsewhere. It stands to reason that we are all initially drawn to

varying qualities in varying contexts to varying degrees.

Of about 60 pieces, submitted 1–4 times, from about 2007 to 2010, about 10 were chosen in a fair amount of Calls. The criteria of a « fair amount » is necessarily vague. Pieces that were submitted many times, but only appeared in smaller shows or shows with a single non-professional curator, do not meet the criteria. Those that were seen in only one much larger show, with stiffer competition, and a judging panel of several « expert » curators do meet the criteria. Not that we are judging the quality of the judges, offering « better » judgment, rather that experienced judges more often tend to make, and trust, their own intuitive decisions in this regard. Generally, multiple positive opinions that are voluntarily given are taken to indicate, not so much that this is « good art », but that the piece is not simply perceived as mechanical. The point is to discover if – and not which – works could be generally evocative. Can a computer be implemented in the creation of worlds, for someone? More importantly though, can the computer create the stimuli, rather than the human programmer (who is assumed to be an intelligent organism) explicitly create it, only employing the computer as a medium to deliver that creation? In other words, is the recognition of intelligent organization a result of an intellectual (post-socialization, from a computational perspective) process or neurological (contingent on socialization, from an anthropological perspective).

Conclusion

Whether internally in the mind, or externally in the teaching process, didactic methods are detours to development and learning (Vygotsky, 1986: 101-102, 150; Fosnot & Perry, *op. cit.*) and ubiquitous in hard sciences, particularly computer programming. Code itself is necessarily a tightly ordered list of explicit instructions. Where constructivist teaching is absent, learners must create mental games for themselves based on those didactic instructions, if any learning is to take place (Dewey, 1910: 32-35, 59-67, 163-169, 193-195). Particularly, given this obstacle, before

we even begin to consider AI, we need to investigate whether *some* artificial system can actually demonstrate intelligence at all. Given our human reflex to create interpretations of meaning, empirical studies in AI have yielded only dubious results. An anthropological study is not an empirical one. Cultural studies are not quantitative. However, perhaps subjectivity is exactly what needs to be applied – albeit in a less intuitive way, as we shall see.

Certainly, attention has long been called to the influence of the observer on the observed in anthropology, as well as quantum physics. What may not be obvious though, in the enthusiasm for novel technology, is that this problem has not actually gone away. In recent decades, the video camera has been employed to allow researchers a kind of displacement in the field and bypass the problem. However, this does not address the fundamental issue of *framing*. Not that the camera cannot be considered an « objective observer », but that the description is rendered meaningless once the footage is given context. As with software, context is essential for comprehension, often an overlooked nuance of observation. Once footage is interpreted, as a ritual observed from a distance, from a « third-person perspective » (Harris, 1984; Dennett, *op. cit.*: 70-72, 95-98), the visual aspect becomes a distracting souvenir of some exotic event.

What may be even less obvious is that, while there really are no distinct cultures, one simply blurs into the rest, extremes do exist. The culture of the art world, though impossible to distinguish precisely, can be addressed *as if* it were a foreign tribe, in an unfamiliar habitat, by assimilating *into* a culture, in this case the art world, rather than being a remote observer of it, development of discourse takes a very different path (Sfard, *op. cit.*: 163-194). Art historians and critics may have insights for the art world. Nonetheless, more fundamentally, for the cognitive sciences, a helpful role is that of the artist. Thus we become co-creators of custom trance-inducing rituals, art pieces in the « tribal » language.

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Summary

In order to investigate the broader issue of synthesis of intelligence in man-made systems, by putting aside the argument whether or not intelligence is feasible by computational means alone, we are in a better vantage point to assess, not *how*, but *where* various positions in this argument lie. One curious faction, that is particularly relevant to perceptions of intelligence, appears in the culture of the art world. The anthropologist can take a missionary stance or a native one – as an artist. Rituals, necessarily in a continual state of flux, can be engaged in and modified from within. We can then ask, how does the culture of the art world approach computation and meaning?

Key-words: art, artificial intelligence, brain waves, language acquisition device, neurology.

Résumé

L'intelligence empruntée : observer et mettre en œuvre la culture du monde de l'art

Afin de pouvoir examiner au sens large du terme, les manifestations de la synthèse de l'intelligence humaine au sein des systèmes produits par l'homme, tout en mettant de côté les arguments qui consistent à affirmer ou à s'opposer à l'idée que l'intelligence est reproductible uniquement par les moyens computationnels, nous avons choisi une position plus intéressante, non pas en situant la manière mais plutôt en partant de l'espace où nos différents arguments peuvent se nicher. Une curieuse faction, qui paraît particulièrement importante pour la perception de l'intelligence, réside dans la culture du monde de l'art. L'anthropologue peut se positionner en tant que missionnaire ou en tant qu'autochtone, comme un artiste. Les rituels, inévitablement dans un flux constant, peuvent se dérouler et être modifiés de l'intérieur. On peut se demander alors, comment le monde de la culture de l'art perçoit le numérique et le sens.

Mots-clefs : art, intelligence artificielle, ondes cérébrales, dispositif d'acquisition du langage, neurologie.

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