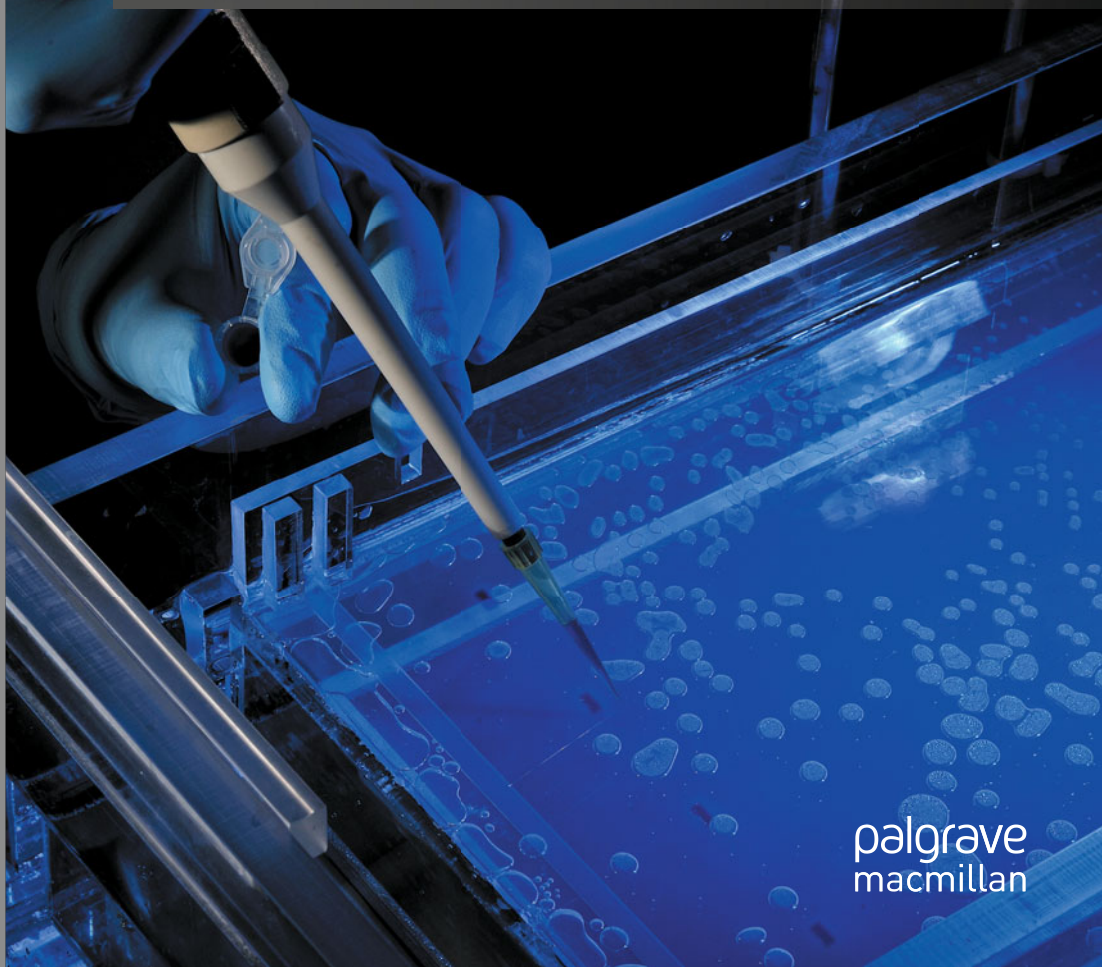
PALGRAVE BIOART

Difference, Sameness and DNA

Investigations in Critical Art and Science

Paul Vanouse



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Palgrave BioArt

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Reconfiguring living organisms into technologies can change our relationship with the environment, our bodies, and with concepts of materiality, nature, and life itself. What happens when we treat life as a raw material for artistic expressions? *Palgrave Studies in BioArt* presents a series of books written by researchers and artists who manipulate life in scientific laboratories. These artists develop new meanings relating to the concept of life through engaging, provoking, and creating contestable living and semi-living biological artworks. They ask: What is life? What is a body? What are the futures of life? And who is allowed to manipulate life? Such BioArtistic investigations are vital in articulating this new somatic-cultural space. The series will present important and diverse voices discussing frontier biotechnologies and their effects on society, ecology, industry, and life itself. This interdisciplinary series will be of interest to those working in the areas of art and design, science, cultural studies, bioethics, science fiction, and much more. We welcome proposals from researchers and practitioners in the field of BioArt, and cultural/experiential laboratory engagement.

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Dedicated to my family.

Foreword

Same Same, but Different: Splitting Hairs and Spitting at Flags

Countless anonymous visitors from the most diverse cultural backgrounds gather for a promiscuous and joyful collection of fluids, ready to engage in sharing their most personal chemistry as an act of deliberate closeness. In Paul Vanouse's *America Project*, a voluntarily anthropomorphized spittoon serves as a new melting pot for peoples and cultures as an act of exploring what the artist conceives of as "radical sameness." Meanwhile resourceful genome companies capitalize on millions of saliva donors to find out about their presumed individual genetic identity, here, spitting into the fountain-like decanter in the midst of an intriguing ritual anarchically turns the usual purpose of DNA identification upside down, resulting in a dynamic gel electrophoresis image of the US flag, made collectively. It's a blurry image though, unlike the usual clean and quasi-digital images of abstract banding patterns, approximate and full of smear, produced by the wet interplay of nucleotides, primers and molecular probes at work in this process. The result is not an image *of* DNA, but rather DNA *as* an image; and such images "do not represent anything; they are, so to speak, 'images' of themselves: material metonyms in which 'representation' takes on the meaning of a production."[1]

Thus it is the very metaphor of the so-called genetic fingerprint itself as an individual identifier, which is under the microscope—a "metaphor we live by," one that "in allowing us to focus on one aspect of a concept" keeps us from "focusing on aspects inconsistent with that metaphor."[2] The biotechnological installations and live laboratories of Paul Vanouse pull the proverbial rug from under the codes and images of contemporary knowledge production. The artist—and hands-on media theoretician—subtly transforms so-called genetic fingerprints into demystifying *Trompe-l'œils*, drawing the viewer into a perfidious play of deliberate confusion, wherein once firmly held beliefs are turned solidly on their heads. To be precise, a "genetic fingerprint," as opposed to a classic dactyloscopic fingerprint, is not an *imprint* but a *trace* of a body in the form of blood, spit, sperm or skin cells, which has been manipulated through standard laboratory procedures. In fact, it needn't come from the finger at all. Splitting hairs, one might even note that while "genetic fingerprinting" creates a profile based on the deoxyribonucleic acid (the carrier of genetic information) present in the trace of the body constituting its point of departure, this profile is determined not on the basis of protein coding regions of DNA, but instead on the basis of individually varying minisatellites in the non-coding sections of the gene sequence, or introns, whose direct influence on an organism's phenotype is a matter of dispute. Aren't "genetic fingerprints" not even "genetic" then?

Behind such subtle linguistic hoodwinking, Paul Vanouse reveals a mesh of metaphoric battles raising a myriad of questions: How and with what effect do such uncritically accepted turns of phrase as "genetic fingerprinting" become engraved in the public mind? Why do such metaphors efface the technical construction of the putatively natural? May such techno-scientific believability boost a contemporary biologism,[3] emerging in the form of gene fetishism and which cements existing clichés and prejudices? Are not genes, as ontologized bodily fragments, introduced as an argument for natural predetermination, suspected to be responsible for homosexuality, criminality, dictatorial or war-mongering character or Jewishness, and thus throwing fuel on the flame of discrimination and racist ideologies? Are not the findings of molecular biology used today as "objective" proof for questionable reasoning, the same way photography was once used to draw conclusions about character traits on the basis of physiognomy? And, what role in all of this do the

various technological media and art media—especially those claiming to be particularly realistic, authentic or "present"—play?

If the "genetic fingerprint" claims authority, it is because of the *symbolic* transference of the convention of classic fingerprints and their reputation of infallibility, akin to the index, on which our intuitive trust in imprints and early photography has relied. In addition, especially in early multiple band chromatograms, there appears to be a visual *iconic* similarity between the papillary ridges of the dactylogram and the distribution of the DNA bands of the gel electrophoresis chromatogram. Now, we can safely speculate that Francis Galton's 1892 treatises on the fingerprint as index were known to philosopher and logician Charles Sanders Peirce when he wrote his text "What is a Sign?" in 1894, a seminal essay for the field of semiotics in which he defines distinctly different relationships between signifier and signified for *symbol*, *icon* and *index*. Symbols, according to Peirce, are arbitrary, purely conventional general signs and evolve through usage agreed upon. A *symbol* "connected with its object by virtue of the idea of the symbol-using mind"[4] and its meaning "lies in nothing but the very fact of there being a habit"[5]—a symbol to be interpreted thusly and not otherwise. *Icons*, then, bear visual analogy or formal similarity to the objects they depict, in their likeness they "convey ideas of the things they represent simply by imitating them."[6] An *index*, by contrast, is a sign connected to its object physically or through a shared materiality and therefore indicates it; it "fulfills the function of a representamen by virtue of a character which it could not have if its object did not exist."[7]

Paul Vanouse's art, therefore, plays ingeniously with styles and formats of art and media history, from religious symbols to technical images, all the while the biomedia behind it all step, themselves, into focus in all their processuality. His performative pieces reveal what becomes, and always became, hidden in a fixed image: The imprint as direct, mechanical bodily presence preserved in a particular medium is linked to the controversy about *acheiropoieta*, images not made by human hands, such as the veil of Veronica or the shroud of Turin, which carry the uncertainty if they really bear the direct imprint of Christ's body. Early photography as "the pencil of nature"[8] also suggested a kind of self-inscription and non-intentionality linked to mechanical objectivity. Throughout history,

so-called *indexical* media of supposedly great truthfulness and objective-mechanical "nature" at the same time always inspired an equally great creative impulse to feign. Thus, for example, Georges Didi-Huberman, speaking of the cultural history of the imprint from prehistory to modern art, points to the constant interplay "between the *made imprint* and the *imitated imprint*." The imprint has thus always already been "not only a *process* but also a *motif*,"[9] whereby process itself is depicted as motif, taking the form of *imitated imprints*.

In light of the perpetual desire to artificially produce signs of evidence, what comes more immediately to mind today than the fingerprint—and be it the genetic one as artistic fake? Vanouse shakes up the stability of this sign, since, according to Peirce, "the most perfect of signs are those in which the iconic, indicative and symbolic characters are blended as equally as possible"[10]—and that is precisely what his works achieve: *Indexicality* is denaturalized through the processual exposure of its technical construction. The abstract banding patterns, which in a way *iconically* reminded us of fingerprints, are manipulated by Vanouse to create *symbolic* artistic motifs by treating each lane on the gel as a row of pixels composed of DNA fragments, creating a 2-D grid of bands resembling low-resolution bitmap images: the chicken or the egg, 0 or 1, the encircled "c" of the copyright symbol—all call up binary oppositions not unlike the typical black-white contrast of fingerprints themselves. On the other hand, Vanouse's installations, such as *Relative Velocity Inscription Device (RVID)*, *Suspect Inversion Center (SIC)* and *Ocular Revision (OR)*, often take on the form of triangular configurations as a triptych, aesthetically sanctifying belief patterns, but conceptually constituting a strained persiflage of this sacral-authoritarian image format.

Vanouse's strategy seems to resonate with French philosopher Régis Debray's analysis of the timeliness of Peirce's sign trichotomy, and its cultural shifts grounded in the evolution of technical media: "Greco-Roman art takes us from the index to the icon. Modern art from the icon to the symbol. In the era of the visual, the loop of contemporary art reverses itself and turns away from everything symbolic in a desperate quest for the index […] Flesh rediscovered."[11] Beyond computational paradigms, bioinformatics, genetic databases and the metaphor of DNA as information, "matter matters" when the artist inverts the

standard logic of making visible banding patterns created by gel electrophoresis in his counter laboratories: Analytic laboratory methods are used for synthesis, and figurative images are created from a *known* DNA sample instead of the customary abstract patterns from an *unknown* DNA sample. While usually the viewer's attention is drawn almost unwittingly from the signifying medium to the signified message when the motifs appear as pixel-like puzzle pictures, the artist forces the mediality of the apparatus back into focus. In the age of digital photography and its overlooked materiality and erased temporality, Vanouse suggests parallels between "genetic fingerprinting" and the development of photographic images. Gel electrophoresis produces biological vestiges, which when treated with radioactive substances, reveal an image, not unlike photography whose susceptibility to manipulation, whether analogue or digital, is well known today. Vanouse reveals and points to what could be considered the "source code" of these biotechnological operations, in a way similar to how tactical computer artists in the 1990s such as JODI have revealed the invisible fundamental characteristics of the Internet while functionally highlighting its code and its both informational and material infrastructures. For example, their web-based art piece wwwwww www.jodi.org first displays totally unreadable text at the surface but, when requesting the page's source code, reveals the diagram of how to make an atomic bomb.[12] From the mindset of a politically motivated tactical media artist, Vanouse himself locates the primary conceptual influence behind the most important of all contemporary biotechnologies, the polymerase chain reaction (PCR, an algorithmic kind of molecular photocopier machine), invented by biochemist and Nobel Prize winner Kary Mullis in 1984, in the paradigm of exponential power of a physical chain reaction: "To understand the invention of PCR it is necessary to leave behind the metaphors of informatics and accept those principles, influences, and metaphors of the Cold War more broadly and, most importantly, the bomb itself."[13] Although the PCR process is based first and foremost on the discovery of the Taq polymerase bacterial enzyme and its functionality at different temperatures, Vanouse emphasizes that culturally transforming metaphors are trans-disciplinary per se: "The nuclear bomb had transformed the concept of the chain reaction from esoteric, advanced chemistry into a common cultural trope. […] The link to biology also underscores that the nuclear bomb is not merely a technology, but also a phenomenon from the depths of nature."[14] It deserves some attention, then, that Vanouse's first concept sketch for

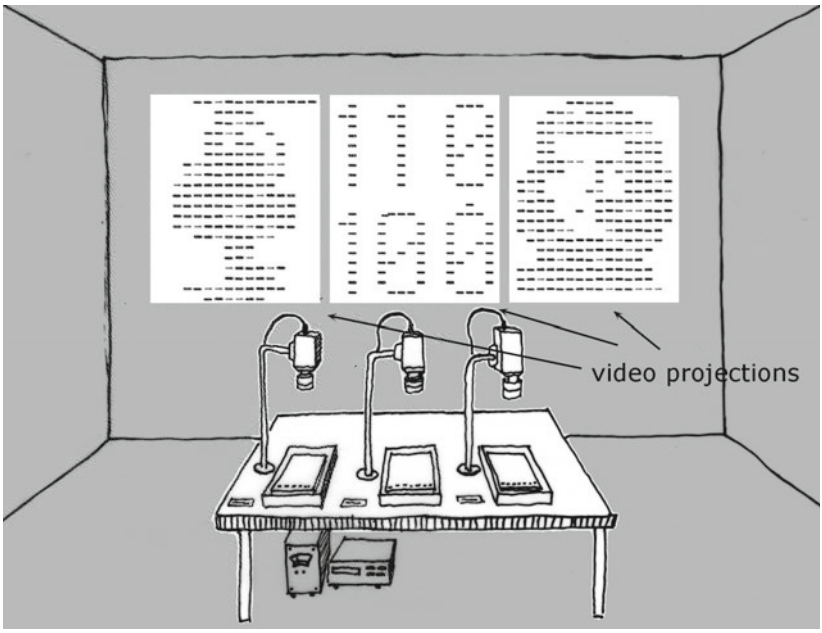

Fig. 1 Paul Vanouse, *Latent Figure Protocol*, concept sketch, 2004

Latent Figure Protocol initially proposed three different possible DNA images: the binary code represented by 0 and 1, the atomic bomb mushroom cloud, and Che Guevara (Fig. 1), thus stressing both the political and epistemological dimensions at stake in techno-sciences' metaphoricity (Fig. 2).

Naturalizing technologies and technologizing natural processes, therefore, always go hand in hand. Since the related guiding metaphors are always politically charged, artists are in the first line to deconstruct and dramatize the visual, invisible, technical and epistemic factors in their displays. Features that once unfolded primarily as artistic images are today being remediated, dispersed and fragmented into a confusing multitude of media. Here, mediation and technologies are no longer employed

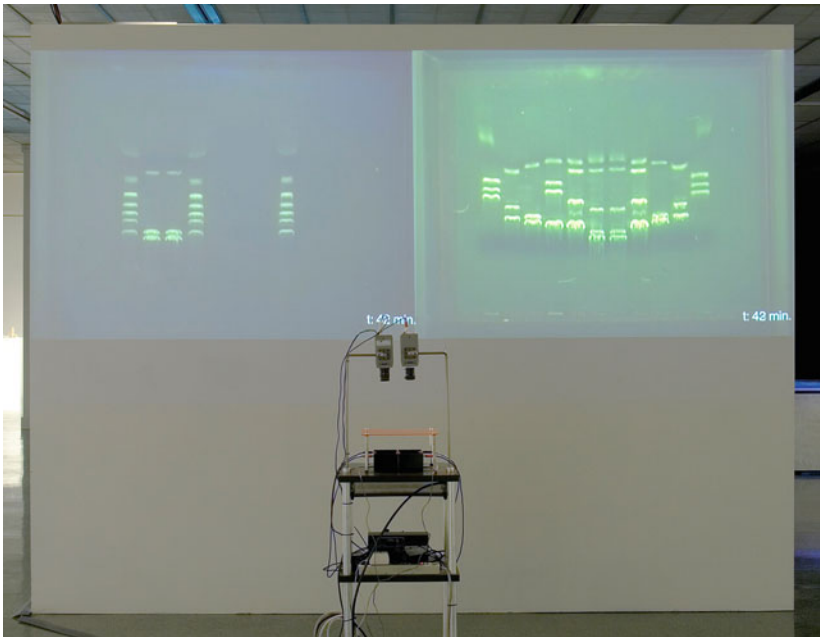

Fig. 2 Paul Vanouse, *Latent Figure Protocol*, first public performance and exhibition at SoFA Gallery, University of Indiana, 2007. Images aren't fully formed at this moment in the performance. In subsequent exhibitions, projection and lighting became more sophisticated

merely to achieve an aesthetic effect. They are themselves fully integrated elements of the aesthetic idiom.

Paris, France
May 2023

Jens Hauser

Notes

1. Rheinberger, Hans-Jörg: ‚Präparate – 'Bilder' ihrer selbst. Eine bildtheoretische Glosse'. In *Bildwelten des Wissens*, Kunsthistorisches Jahrbuch für Bildkritik 1 (2). Berlin, 2003, p. 10.
2. George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago Press, 1980), 10.

3. Heinrich Rickert's critique of the systematic transmission of explanatory models from the biological sciences to non-biological, moral or social content. See: Heinrich Rickert, "Lebenswerte und Kulturwerte," *Logos* 2 (1911/1912).
4. Charles Sanders Peirce,"'What Is a Sign?' The Peirce Edition Project," In *The Essential Peirce. Selected Philosophical Writing*. Vol. 2 (Bloomington/ Indianapolis, 1998), 9.
5. Charles Sanders Peirce, "The Simplest Mathematics. Graphs, Diagrams, Logical Algebra,"' in *Collected Papers of Charles Sanders Peirce*, eds. Charles Hartshorne and Paul Weiss, Vol. IV, Chapter 4.447 (Belknap Press of Harvard University Press, Cambridge [1931] 1960), 360.
6. Peirce 1998 (see note 4), p. 5.
7. Charles Sanders Peirce, "The Categories Defended," in *The Essential Peirce* (Bloomington/Indianapolis, 1998 [see note 4]), 163.
8. Fox Talbot and William Henry, *The Pencil of Nature* (London, 1844–1846).
9. Georges Didi-Huberman, *L'empreinte* (Paris: Editions du Centre Georges Pompidou, 1997), 35.
10. Peirce, 'The Simplest Mathematics.' Cambridge [1931] 1960 (see note 5), p. 361.
11. Régis Debray, "The Three Ages of Looking," *Critical Inquiry* 21, no. 3 (Spring 1995, University of Chicago Press), 529–555, here p. 540.
12. wwwwwwwww.jodi.org.
13. Paul Vanouse, "Situating the Polymerase Chain Reaction: The Power and Influence of Chemical and Computational Metaphors in Biotechnology," in *State Machines: Reflections and Actions at the Edge of Digital Citizenship, Finance, and Art*, eds. Yiannis Colakides, Marc Garrett, Inte Gloerich (Institute of Network Cultures: Amsterdam, 2019), 167.
14. Ibid., 167–177.

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