



Box 1 — CENTURY OF PROGRESS/SLEEP Experimental opera (detail). Credits: [Paul Catanese](#). Process-outcome link in performance (keywords: experimentarium/sensorium).

After [Paul Catanese](#)'s lecture at KHIO, we discussed inter alia what would be the consequences if the entire art-world—like professionals involved in the technology—used machine learning (ML) instead of artificial intelligence (AI): which means (1) including into the language of technology a 74-year history, rather than the more recent AI-hype [relative to recent turns in publicity that I discussed in 139. LOCK-INS]; (2) the kind of symbolic extension of imagination that occurs while working with machines, and where learning has a *variable* share of human/machine sentience.

Extending machine learning—in this sense (2)—to a sizeable share of what we are doing at KHIO—is a chance to articulate what we are, and have been engaging with, for longer than the 74-year ML-history, extending back to 1818 with the provisional drawing school. That is, the kind of learning that occurs from the frontline of machine-operations—e.g. as simple as drawing—when it is revealed to us, through practice, that learning takes on a direction of its own, and extends our thinking beyond what was previously imaginable. That is, artificial intelligence as the human loop in ML.

Of course, ML as we know it today—on the digital platform—cannot be reduced to this. But that is the beauty of it: since by seeing ML and AI as two sides of learning (i.e., the kind of double looped, or two-tiered cybernetics one finds in e.g. Bateson and Lacan), we can work at screening, intercepting and framing AI (that is, the human side of machine learning): we can, for instance, map our human cut of ML—and making it ethnographically specific—by keeping logbooks. And then

sampling from learning we acquire from the full array of machines we use in learning at KHIO. That is, logbooks to 'montage' our human cut on ML, in a *sequential mode*. Entries with dates in a conventional bound logbook. But this is surely not enough.



But then we can also map the development of our own artificial intelligence—through the development reflective work with machines—beyond 'contingent montage', unto single intermedium with a material cogency as a *multiple*. That is, a non-sequential mode: or, even better, a con/sequential mode (in which sequence is to consequence as text is to context). How new is this? Well, as we read, we shift between the two senses montage—cut and multiple—*all the time*: the sequential montage is cinematic (turning pages/shifting frames) and *deictic*, while the consequential montage is *sculptural*, in the sense of hyper -surface, -volume, -process. In short, it is hyper-dimensional and indexical because it springs from the existence of a material: a material we eventually intercept as existing. This dual montage is *anaptúxis*.

In my view, Paul Catanese's lecture—which I under the sway of its impact experienced as an opera—itself featured what I call *anaptúxis*. A kind of flowering in

Box 2. Imaginary for an imaginary opera from the life of [G. Bruno](#) (detail)

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[learning theatre](#)

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which growth, development and explanation are [in-one](#): generative processes that become self-explanatory as they mature and hatch. Living knowledge. Featuring his major case in the lecture on developing an imaginary from an imagined opera on the life of Giordano Bruno. Going inside the black-box, as he said, with [Karen Barad](#): in Catanese's verbatim—black box (digital) meets black box (stage), as we move to work within and beyond (a very specific figure-ground configuration).

That is the same kind of uni-lateral duality—in Laruelle's *Principles of non-philosophy*—where artificial intelligence/AI (symbolically extended and modified human) meets machine learning/ML. Or even, a duality that needs to be *worked out* in order to exist, on the backdrop of a radically immanent unity. Which is what is meant by conceiving unilateral duality *in one*. It is quite similar to what Barad has to say about [identity](#). A verging unto banal way of seeing this are the two sides of a Möbius-strip: which is naive because it supposes a third vantage point in order to be seen.

That is, the M-strip is such is that either it is one side at the time, from which the shape is indicated by its non-orientable cycles of exchange. Or, it is seen from a point outside of the M-strip: if such a point even exists. Of course, it does if we proceed topologically to conceive the M-strip from a Torus (which e.g. Lacan does). Or, in turn, the Torus from a Klein's bottle. Although these topological transformations dictate what rules the figure/ground relations in interception, they also appear indifferent to the differences extending from them because their Euler characteristic is $\chi=0$.

So, in their topological variance they are sidereal, in Lacan's lingo: *stars* do not speak because **i)** they have no words, **ii)** they don't have time, and **iii)** they have been silenced. As we can tell the sidereal perspective applies to a variety of stars: ranging from the luminary bodies in the firmament to human bodies with exceptional lives (such as Giordano Bruno). Of course, art school is absolutely specked with such aspiring stars. When we consider that the permanence/indifference of stars is what allows ordinary humans to navigate, we are turning to domain of *topology*.

And topological *models*. When Paul Catanese brought us into the heat of his creative processes, it became readily apparent that the array of [associated technologies](#) that he works with—to the point where he is ready to make artistic choices—covers the whole range from Neolithic tooling, via the variety of record/replay instruments from modern media-archaeology, to his more recent forays into AI/ML. That is, a range of variation on where sentience is readily located in the human/artefact interfacing process. Which means that the material interest derives from the *variable* AI/ML ratio.

Of course, the challenge for a *rationalising* person as me, is to know when to stop: to let craze be craze and simply move along with it. But this, as far as I can see, is a basic problem for *resemblance*: of working creatively while securing the learning outcomes. That is, being content with not over-theorising things, which I take to be Paul Catanese's approach, and instead developing more heuristic model understandings linked up with *anaptúxis*. That is, somewhere *between* eternity and the garbage bin. It is the kind of place we are when we work in paper-models, for instance. Something I learned from [Tadeusz Kantor](#) (who started to distrust painting in 1943/44, went on collect objects, work with scenography to end up as a stage directing).

E T H I C A

Ordine Geometrico demonstrata,

E-T

In quinque Partes distincta,
in quibus agitur,

- I. De Deo.
- II. De Naturâ & Origine MENTIS.
- III. De Origine & Naturâ AFFECTUUM.
- IV. De SERVITUTE Humanâ, seu de AFFECTUUM VIRIBUS.
- V. De POTENTIA INTELLECTUS, seu de LIBERTATE Humanâ.

I will wrap up this note with some reflections on triple loop learning: **a)** first loop—am I doing things right? *Technê*; **b)** second loop—am I doing the right things? *Poiesis*; **c)** third loop—by which right am I doing this? *Ethica*. The two first are kind of obvious. The latter requires some propaedeutic in Spinoza's *Ethica—Ordine geometrico demonstrata*. In sum, the criticality of inhabiting the process of *anaptúxis* lies in the hatching of new repertoires: activating rather than pacifying human agency: the [ability to respond](#) as the ultimate breakdown of responsibility.