**Box 1**— If the strip to the left is the hours of the day as measured by steps, the orb to the right are the hours of the day on a dial. Although they both count the hours, they add up differently (Jacques Lacan): a) as a *sum* of elements, b) as elements of a *sum*. The latter is *synchronised* to the former. This works for all polyhedra w/Euler characteristic. **χ = 2**. The strip and the orb are paired with a Möbius-strip and a Torus. While the M-strip models exchange and is non-orientable, the Torus is orientable but not in exchange. The Euler characteristic is calculated with this equation: **χ = V - E + F** (**V**ertices, **E**dges, **F**aces). **χ = 2** goes for a range of polyhedra and includes the *sphere*. Which means that any number of steps with roundups can be modelled in this way. The strip and orb are paired with topological entities with **χ = 0** (which includes the M-strip, the Torus and the Klein's bottle). The point of the present diagram and body text is to study how the swap between S and S' works (frontline to deskfront) and what can be done to get around it.

If we take the sign **≈** to determine *resemblance*, it covers this range: the *same*, *similar*, *different* & *other* (in the sense that all these are included). Which is the specific sense in which ≈ determines something else than simple equality. In sum, the expression **Fx(a) : F_y(b) ≈ Fx(b) : F_a⁻¹(y)**—which follows Lévi-Strauss from *Mythologiques* to *La potière jalouse*—says: what **Fx(a)** is to **F_y(b)** *resembles* what **Fx(b)** is to **F_a⁻¹(y)**; where **F_a⁻¹(y)** is the opposite to **Fx(a)**. So, here opposition is complex, rather than elementary (as in propositional logic): derived from the Klein's group **x, 1/x, –x, –1/x**.

So, Lévi-Strauss' (L.S.) formula is not a direct extension of the Klein's group: a *term*, its *opposite* and their *inversions* (the four elements above). The reason is that L.S.—contrary to Klein, who is a mathematician—is working with *signifiers* (i.e. myths mainly and masks in his later works). So, in Lacanian terms, **a** and **b** would be **S₁** and **S₂**: a signifier and the signifier of that signifier. In L.S.' formula they are linked up with two different functions, called **x** and **y**. Let us say, then, that  **x** and **y** (to keep it straightforward) are **$** and (*objet petit*) **a**. If applicable, what do we have then?

What the /function of the split subject **$** applied to the signifier **S₁**/ is to /the function of **a** applied to the signifier **S₂**/ *resembles* what /the split subject **$** applied to the *signifier of the signifier* **S₂**/ is to / the functional application of the inversion of **S₁** applied to **a**/. The latter is taken to be the opposite of   **$** applied to **S₁**. What L.S. did was conceivably to find a formal language that could be linked up to mathematics (Klein), in which opposite is not really opposite, but *other*. What is called the *opposite* in math is the *other* in natural history.
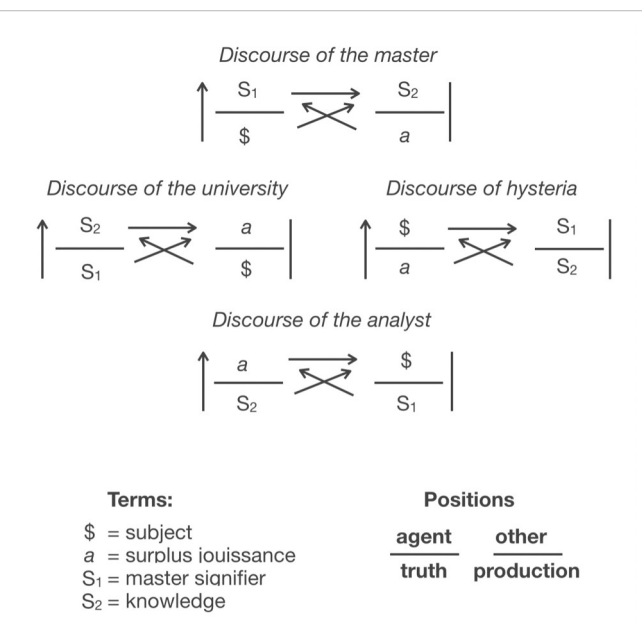
But from the vantage point of *resemblance*—which now clearly emerges *as* the [forbidden] trope of *contingency*—the opposite determines the other: in the scope of contrasting qualia that make up *resemblance* (≈): the same, the similar, the different and other. That is, under some circumstances, *contingencies* features in *clusters of variety* that we call *resemblance*. So, either we have math rotely applied to the analysis of con-tingencies (restricted option), or we have a type of machine learning which either is powered by human agency, or is disempowering it (expanded option). In this re/configuration the focus will be on *the communicative aspects of all human behaviour* (Leach's ritual) or on a disembodied *symbolism* (myth). Opening and closing: 1 and 0.



Discourse of the master

$$\frac{S_1}{\$} \quad \frac{S_2}{a}$$

Discourse of the university

$$\frac{S_2}{S_1} \quad \frac{a}{\$}$$

Discourse of hysteria

$$\frac{\$}{a} \quad \frac{S_1}{S_2}$$

Discourse of the analyst

$$\frac{a}{S_2} \quad \frac{\$}{S_1}$$

**Terms:**
$ = subject
*a* = surplus iouissance
S₁ = master signifier
S₂ = knowledge

**Positions**

$$\frac{\text{agent}}{\text{truth}} \quad \frac{\text{other}}{\text{production}}$$

**Box 2.** Lacan was concerned with discours, I am asking what the implications might be that we instead concern ourselves with parcours. This alternative follows from the two-tiered analysis of the strip and orb of polyhedra, designed as topological models. Hence my concern is with the parcours of the master, the parcours of hysteria, and the parcours of the university. And also of the overall parcours involving mastery, hysteria, analysis and university: as the standard life-cycle of *anaptúxis*. When the positions are held by the terms, we are in a training phase. While when the terms are held by the positions we are in an enabling phase, where explanation and materialisation conjoint.

Which brings us to how the quadrant **$—>[S₁—> S₂]—>a** affect the other of Lacan's quadrants: **truth—>[agent—> other]—>impact** (which then will either be arrested [**0**] or will be driving [**1**] the

first quadrant). Please note the similarity between the way Lacan sets up the two quadrants and the Klein's group. Which means that the quadrant **truth−>[agent−> other]−> impact** alternates between being contained [**0**] by the quad-rant **$−>[S₁−> S₂]−>a** and containing it [**1**]. In other words, the application of **Fx(a) : F_y(b) ≈ Fx(b) : F_a^{-1}(y)** to the *truncated* nomenclature from Lacan (**£**) yields a reversibility that we find in the Klein's bottle (which L.S. uses in *La potière jalouse*).

In other words, we have the possibility of considering *one* mode in which the *imagination* quadrant **truth−>[agent−> other]−>impact** is *arrested* by the symbolic quadrant **$−>[S₁−> S₂]−>a**, [**0**], and another mode in which the quadrant **truth−>[agent−> other]−>impact** *facilitates* the quadrant **$−>[S₁−> S₂]−>a** [**1**]. The alternation between arrest/facilitation is part of a standard learning protocol in which the learning *imagination* will be arrested by the *symbolic,* till it it learns. Then a shift will occur by which the symbolic is facilitated by the imagination: process of communicative interaction.

Communication as it can be considered as *intrinsic* to machine learning (M.L.) at all levels of manufacture/editionThat is that the aspect of behaviour that we are interested in, when we are concerned with Leach's sense of *ritual*: the communicative aspect of behaviour when it is involved in the *manufacture* and [editioning](#) of artefacts, where the learning is tied up with the machine-like workings of artefacts (in different modes), which will correspondingly define the symbolic. In sum, what *communicates generatively through learning is a candidate definition of anaptúxis in M.L.*
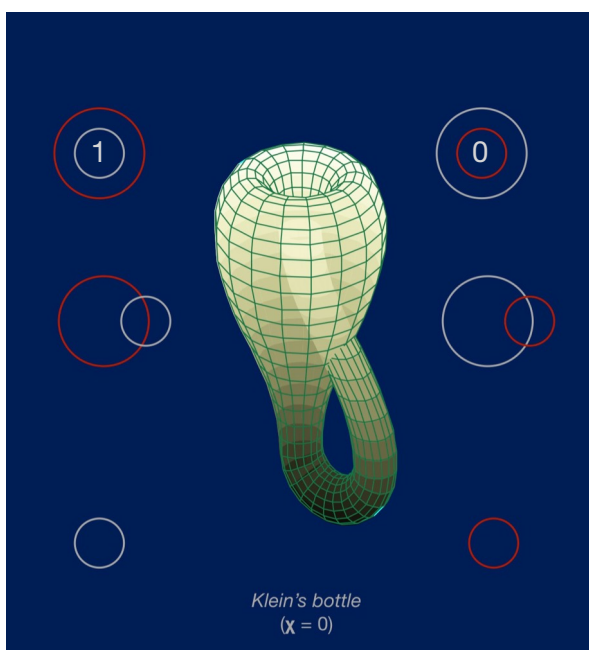
But here we are in a situation similar to when the mounting of a polygon *from* a strip *to* an orb, features *two* senses of *montage*: the one i *cinematographic*, while the other is *hyper-dimensional*. While we have previously seen how the Möbius-strip is indicated in the tiling-steps—in a succession of joining edge-to-edge til the orb is complete—there is a shift in the topological backdrop as soon as the polygon is completed (orb). Where the Möbius-strip was previously a guide, the Torus is facilitated/prompted by the polygon-orb. This shift is of major importance to conclude here.

Simply because, as the watch overtakes the diurnal cycle—once it is synchronised with it—the signifier of the signifier **S₂** shifts into becoming a signifier **S'₁**. This is the swap: **S₁−> S₂** becomes **S'₂<− S'₁** and then the swap (which is a *short-circuit*): **S₂<−S₁**. This is the logic of *simulation*, *substitution* and *erasure*. That is, the mechanism whereby what was the frontline is *exchanged* for the frontdesk: *from* the signifier *to* the signifier of the signifier. The question, then, is in which way L.S. algorithm **Fx(a) : F_y(b) ≈ Fx(b) : F_a^{-1}(y)** perhaps can help us stay clear of this repressive turn.

It is quite clear by now that L.S.'s formula is *not* any mathematical equation but an *algorithm*—in Marvin Minsky's definition, an 'effective procedure'—that applies to a topological segment in which explanation and creation are inseparable: which is the sense I have put into *anaptúxis* (growth, development, explanation). The potentials that may lie in **Fx(a) : F_y(b) ≈ Fx(b) : F_a^{-1}(y)** to study the communicative interaction of *lateral drifts* (of which one might find parallels in L.S.'s study of myths). Such as the lateral drift from the *manufacture/edition* of the Nansen passport, discussed in 142, to the lineup of *metadata/boxing* of the item in archiving.



**Box 3**—Klein's bottle. Red is *positions*. White is *terms* (cf, Box 2). Of the entities with Euler characteristic **χ = 0** the K-bottle sustain a two-tiered strip/orb model.

*Klein's bottle*
*(χ = 0)*

Between the *first* and the *second* there has been a *publication* (without which the lateral movement above would not be possible). The publication in the form of a small *exhibition*. So, if **Fx(a) : F_y(b)** (manufacture/edition) *resembles* **Fx(b) : F_a^{-1}(y)** (metadata/box), the box, can be seen as the *other* of publication (which is *archiving*): **F_a^{-1}(y)**. In this scope, publication is **F_a(y)**: in **£** it spells that applying **S₁** to **a**, the cause of drive **a**, has been moved and the split subject **$** will follow suit. It anticipates and postpones the archival acts. And it means that we can move from frontline activity, to frontline activity.