

Fig. 1—in the geodesic grid made up by the fold-print of the disdyakis tricontahedron (120 face polyhedron) the notes of the “parasols” have been dudded with blue circled reds (empty) and blue dots: the reds are empty, the blues are full. In this montage they are used to map the work of the hands, on the walk to 120 errands: that here are contingent.

To conduct an *empirically* led study of hyper-dimensional rotation (*real* marks on fictional process) *both* ordinal and cardinal contingencies are relevant: that is, we are interested in aspects of the real that *cannot* be measured, but *can* be counted. That is, the marks of the real that can be counted in *both* ordinal and cardinal aspects. This is the basis for the *contingency-number*: that is contingencies resulting from the *order* of temporal succession of marks (whether recorded or replayed), but also the cardinal number of contingent *layers* are between the media and the mark.

The contingency-number is, in this sense, a *vector* with two coordinates: an *ordered pair* with an ordinal and a cardinal number. With the hyper-dimensional rotation, the number of vectors *multiply*, and the ones that already exist are *reversed*; owing to the nature of the sum when the rotation is complete. We move from an *ordinal* sum (i.e., the sum of the *elements*) to a *cardinal* sum (i.e., the elements of the *sum*). So, while in the *distributed* mode the sum is *ordinal*, the sum is *cardinal* in the *operative* mode: e.g. the geodesic grid above (Fig. 1) features an *ordinal* sum of vectors.

While the mounted polyhedron—in the example, a *disdyakis tricontahedron*—is not defined by a



Fig. 2—Here the disdyakis tricontahedron is folded, and the perspective is turned: from the hands to the work. In Fig. 1 the perspective is immersive. Here it is emergent. From this shift in the proximal space is derived the sense that the subject **S** is split (noted **§**).

series of ordered steps (since they go in all directions) but counts as a *thing*, or an instance of what we call a *disdyakis tricontahedron* (Fig. 2). It is a *cardinal* sum. What the two figures (Fig. 1 and Fig. 2) have in common is that they are placed in what I define as the *proximal* space: that is, the between-space connecting what is humanly *intimate*, with what is *removed* from us. The hyper-dimensional rotation therefore features a *change* of vantage point and perspective.

With this change of vantage point and perspective, also features a transition *from* an ordinal sum *to* a cardinal sum: which is why it is *hyper-dimensional* and *not* just a rotation. These basic practical notions are rich in consequences when applied to digital usership, because the rotation can here take place at two different levels, according to the mode of communication: in the primary mode of **S**₁ the communication happens within the control-and-display unit (mobile, iPad,

laptop etc.), while in the other mode it takes place at both ends (remote and intimate). In its distributed mode the intimate is orbital to the remote, while in the performative mode the intimate contains the remote: a secondary mode S_2 .

So, what we have (Fig. 3) is a relation between a *signifier* S_1 and the *signifier of the signifier* S_2 where the hyper-dimensional rotation is *located* in the proximal zone. And now a *new* rotation *between* the remote *and* intimate zone. These two rotations are *split* in the exact same sense as the subject S is split ($\$$). The two hyper-dimensional rotations are basically *split*, yet still in a relation of *contingency*. The challenge is to define a *digital usership* that does not lie about these things. This is possible at the cost of developing and maintaining some practices at the level of S_2 .

We are moving into the discussion on the *superposition* of the *actual* and the *virtual* in Bergson's philosophy (memory of the present and false recognition), that extends to *entanglement* and *intra-action*. With the secondary hyper-dimensional rotation which is unknowingly facilitated, multiplied and enhanced by digital technology as it is today, there is no *actual* exchange of forces as with the level the fulcrum and a heavy object in traditional physics. But there is yet an *implied* exchange of forces as digital usership oscillates between the distributive and operative mode, as in e-business.

This exchange is manifested in that there is a time for it to settle, and a time-limit to be on board (or, of expiry). The question, then, is how we manage the *two* hyper-dimensional rotations—*one* actual the *other* virtual—conjointly. Because as business ever wants to expand, the e-business wants *not only* to expand but to *contain* the first level, or local, hyper-dimensional rotation. Beyond a certain threshold, however, it makes us *expatriates* of the time and space that we initially considered our *own*. Moreover, we use cybernetic technology without care for how it affects us.

If the cybernetics between local spaces (in its proximal, intimate and remote dimensions) *cannot* be contained by the digital cybernetics, it means that we need some sort of vehicle to contain it. Which in the *learning theatre* has—up to date—been the function of logbooks. But not only. The arrangement of the space of the *learning theatre*, based some ground-principles (but with a varieties of alternative setups), is also a located/locational device, that keeps digital usership docked to a situation. Which means that we have a *media-archeological* approach to *digital* usership.

A way to work from here is *to keep track of digital footprints in non-digital activities*: taking interest in how *digital usership* (S_1) is contained by tasks, occasions and encounters shaped by superposition, entanglement and intraaction (S_2): reflecting a material turn, but informed by the *physics* of quantum mechanics. If computing is a contribution to *conjectural* knowledge, it does not belong to the mechanical world-view of Newtonian physics. And when it combines with the mechanical worldview, it results in *complication*: it becomes correlational, statistical, bureaucratic. So, why *speak* of quantum computing?

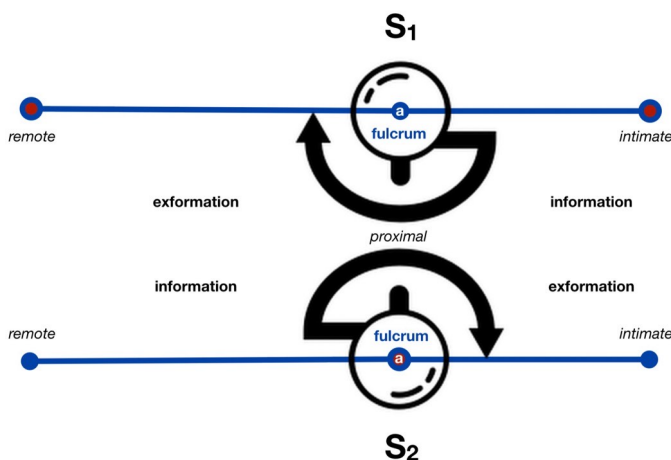


Fig. 3—a question concerning *exformation*: how can the trace of what has been removed (as with rubs and contingencies) be readable, as emergent information? It owes its existence to two hyper-dimensional rotations (HDR): one actual (Fig. 1 & Fig 2) the other virtual (here). If the first rotation has ordinal/cardinal coordinates, this rotation has actual/virtual coordinates. HDR 1: the imaginary is marked by the real. HDR 2: the actual is marked by the virtual.

If conceived as a gyroscope the hyper-dimensional rotations at S_1 and S_2 can contain a third element at its core: that is, *anaptúxis*—opening, unfolding, developing, understanding within the strictures of a narrow area in which the subject $\$$ is *not* split: an occasional alignment between S_1 and S_2 , where the subjects $\$_1$ of S_1 and $\$_2$ of S_2 , correspond. The fulcrum around which the two articulate—in passing and unstable equilibria—is called *a*, the *object a*, or *l'objet petit a*. It opens the question of how a special kind of triangulation, if indeed *a* is *anaptúxis*.

This serves to strengthen the point that *a* is *not* merely a stop, but *also* a shift.