Fig. 1—in the basic setup of the learning theatre, the control-unit *(left—iPAD docked to goose-neck)* is separated from the display-unit *(right—the projector directed to the wall)*. The two work-units (the table & the wall) are at the opposite ends of the space. The semiotic domain marks causal connections: **truth —> [agent —> other] —> impact**. The scopic domain marks sensorial connections: **$ —> [S₁ —> S₂]—> a** (**$** = subject; **S₁** & **S₂** = signifiers; **a** = punctum/exit is the desiring stop/final cause).

The cartographic turn in 'foundation-studies' occurred once the *learning theatre* was determined as an experimental transposition of a *bidirectional* group-homomorphism in space: featuring an *operative* and a *distributive* domain at opposite ends of a room, with rows of seats connecting the two, interpolated as a *mapping* domain. The operative domain is structured by *object*-perception. The distributive domain by *image*-perception. The seating-area constitutes a mapping-domain resulting from the generative process of communicative interaction: a space for note-taking and analysis.

When this basic premise is brought to bear on the broader scope of work involving computers, the question is *what it is* that clearly is facilitated, enhanced and amplified by the *use* of computers that does *not* take place inside the computer but in the *learning theatre*: defined as a contingent space for mapping facilitated by the specialised and focussed use of computers in that space. In one aspect, the learning theatre is an optical device. In another it is a parliament. It asks of the attendance to both observe and participate: to watch out, contribute… and (the point of this) interpolate.

What calls for interpolation is the following: (1) the **truth** and **impact** of a presentation that crosses the room—between rows of participant observers—at some point, needs to be lodged in a *situation* where the event of the presentation calls a *subject* **$** *to be*, and at some point to *exit* (**a**). That is, to take the positional value of the signifiers **S₂** and **S₁**. Likewise, (2) the subject **$** called to be and exit (**a**) needs to be lodged in the *event* of the presentation, to take the positional value of the **agent** and the **other**. The point is that interpolation is fundamentally *contingent*: alongside semiotic & scopic.
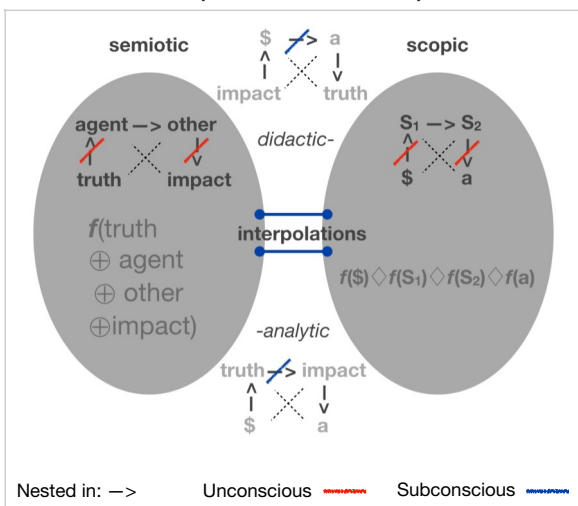

Fig. 2—in the semiotic domain, the parameters (truth, agent, other, impact) are functionally integrated (operative); while in the scopic domain, the parameters ($, S₁, S₂, a) are functionally disseminated (distributed). In the semiotic domain the **truth** and **impact** are unconscious. In the scopic domain it is the subject **$** and the desiring stop **a** that are unconscious. The two interpolations, didactic and analytic, result from that what is unconscious can turn to be emergent/subconscious: that is, the insight that the **impact** on the subject **$** may be *nested in* the causal trace of **a** in **truth** at the subconscious level (and is didactic insofar I can intercept it); and similarly the investment of the subject **$** in **truth**—"it is true because I feel it"—may be nested in the presence of the **impact** as a resident of **a** (and is analytic insofar I realise that *I am driving*). The two interpolations, didactic and analytic, determines the *mapping* as the contingency in this model conceived as a *homomorphism*.

This accounts for the *communication* that takes place in the learning theatre as a particular form of *exchange*, in which emergent *contents* can surface as *matters of transaction*; with an output of *mapping*, that no longer has the function *only* to orient, but also to *found*. That is, a foundation-study for theory development, through procedures that arguably initiate what we call *design*: (1) pathfinding [*disegno* as drawing], and (2) goalseeking [*disegno* as purpose]. Intuitive as they may be, their explication in the *learning theatre* gives them an analytical possibility and opportunity.

That is, interpolation as articulated above defines mapping in analytical terms: which is something we are entitled to expect from a proposition asserting the relevance and application of *homomorphism*, as a mathematical concept. The mathematics, at this stage of the learning theatre, is predictably pledged to the effort of using symbols *and* diagrams *conjointly*, in a focal effort to create a framework for the articulation of more detail and nuance, even when this threatens the availability of immediate clarity and overview: the

possibility to anticipate & postpone clarity and overview, to open learning for *the work of time*.

The *learning theatre* nests the computer in 'a parliament of mediations' that supports the above *latency* (the work of time). Thus integrated, the computer can act as a *bridging* entity between the learning restricted to the *theatre* (**Fig. 1**) and what lies *outside* this space: moving from a restricted to a broader application. Which essentially why it is called the *learning theatre*: the learning theatre is a restricted space with the computer as a special entity, that allows the transposition of the assignments in the learning theatre, to a broader field of application (also called fieldwork).

In this aspect, the *learning theatre* develops a cartographic explication of the foundations for theory development under fieldwork conditions: modelling immersive working conditions, in which theorising hatches from the *learning theatre*. But when modelling becomes an assignment with a logged output—featuring in a logbook—the yield is a foundation study of a cartographic kind. In its development based on several iterations at KHiO, the expanded field of the learning theatre has evolved to hatch a *specific design* involving group-work: working in groups of 4 (the **QUAD**s).

The group-work locked into a pattern—i.e., jointly operative and distributive—when *3 registration points* were established, all involving a set of *operative* instructions and *viewing* protocols conjointly (essentially reproducing the two constraints that define the learning theatre): **(1)** the **QUAD** meetings *prompt*, feed back/feed forward and *pitch* ideas to work on a logbook-entry; **(2)** the **QUAD** meeting as a *staged* activity in the master-class, aiming at harvesting feedback according to the DASart method; **(3)** the **QUAD**s writing a collective e-mail with an *open question* to the presenters.

If we assume that this *3-point registration* is what it takes to expand from the assignments in the learning theatre—as a restricted space—and make them applicable in a broader space, then the computer has won its place as the *special entity* (in Felix Klein's terminology/Erlangen programme) with the function of ensuring that the properties of the restricted/principal system are preserved and implemented in the wider system: that is, used as a model of *learning*. Moreover, it is a model of learning that, when generalised, will make *3-point registration* operate between semiotics/optics.

Which means that if we have a set of instructions addressing the *operative intelligence* (OI), a viewing-protocol addressing the *distributive intelligence* (DI), then there is a *third* set of instructions which we can understand as a definition of an *algorithmic intelligence* (AI): the point with an algorithm—defined as an 'effective procedure' (Minski)—is not that the computer should do it, but that the computer can support it. Artificial intelligence may be a misnomer, since all of the above—DI, OI and AI—are artificial. In sum, the attempts at tethering intelligence to the computer has little to do with intelligence, and alot to do with corporate interests. The ambition of claiming legal rights of ownership to intelligence, is no less striking than rights of ownership to water.

What is of scientific consequence, on the other hand, is the success of the *learning theatre* at moving from the creative reductions that come with mapping a territory, to the less obvious impact from *the existence of a map* on time and space. If the computer is a cartographic device, then nesting its usership into the spatiotemporal conditions of learning, will not only affect spatiotemporal displays but also spatiotemporal affordances: basically, our environmental repertoires. In a handout explicating the fundamental problem of operative and distributive intelligence—staged in the learning theatre—the menu for the dinner (w/a desert generated with AI) is interpolated into the text, which is an invitation to attend and discuss (**Fig. 3**).

Fig. 3—The learning theatre features the principle of interpolation at a basic level: this is visible in the lower diagram in which the learning theatre is interpolated between the table and the wall. The dinner is also an interpolation.