PLACE

Psychoanalysis Los Angeles California Extension

Topology-Analysis 2011-12

School/Clinic

Part I-

Topological Workshop For Children And Adults: Challenging Brilliance

ABSTRACT - Short pre-print introduction to a topological workshop(cartel) at PLACE. We begin by summarizing the standard instructional-therapeutic programs, then show how a topological and analytic reorientation provides the basis of a return to the Greek origins of the *mathemata*, *symptomata*, and *axiomata.* Leaving for a later study a more exhaustive etymological study, our aim here is to follow their lead to set up the groundwork for a combined analytic-topological approach.

Robert T. Grome - res1d6qq@verizon.net

1- Beyond The Segregations Of Instruction/Therapy: The Differential School-Clinic

Today our public and private educational institutions begin with a continuum of segregations: first, there are those children deemed to be brilliant and 'gifted'; second, there are those that merge into the 'one size fits all' norm; thirdly, there are those others: the socially, intellectually, behaviorally, emotionally, and developmentally challenged.

(1)Brilliant (2) Norm (3) Challenged

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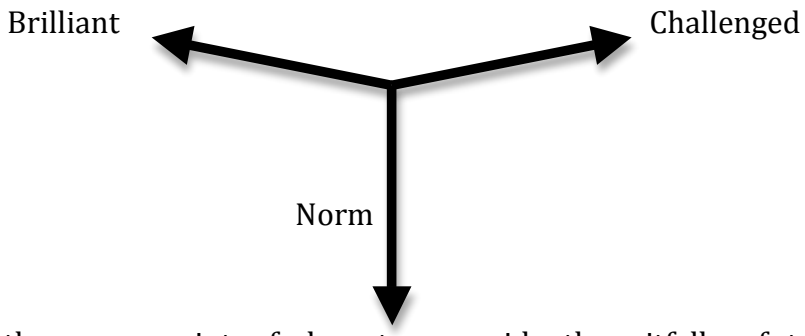
----------> Therapy

Instruction <----------

progression regression

If the first two categories are specifically oriented towards *instruction*, the latter category is that of *therapy* defined as modes of removing and overcoming whatever is blocking the student from achieving a set of skills, knowledge, or normed mentality. Left at this level, instruction naturally merges with therapy the moment a difference in the continuum – an obstacle, ignorance, or blockage – is viewed along a single developmental line going from (1) progressive to (3) regressive and vice versa.

At PLACE we have designed an educational and clinical program that begins otherwise: not confusing the segregation of people or 'mentalities' along a continuum, we introduce a structural differential within the school itself so that it is possible to depart in three directions at once instead of developing linearly:



Here, then, our point of departure avoids the pitfalls of today's therapeutic education ('no child left behind', 'job reform education', etc.) and educational therapy(CBT -cognitive behavioral therapy) .

Instead of putting the focus on the continuous development of knowledge and skills where difference only emerges as a rupture, regression, or 'scholarly' failure that one would like to overcome, we view the 'obstacle' structurally from the beginning as three (at least) different orientations presented in the formation of any educational program.

The rest of this short introduction aims to outline the pedagogical benefits that such a reorientation produces for those who have become 'blocked' by the standard linear educational system.

Reorienting Pedagogy: Teaching Methods Versus Transitional Object

It is important to note that such a reorientation changes the student's and professor's relation to knowledge: no longer needing to suppose the student or the teacher is someone who is only supposed to know, a 'challenged' orientation introduces a certain ignorance into the transmission from the beginning as productive and not merely a blockage to be overcome or effaced. It has often been noticed, for instance, that the introduction of a 'slow' learner into a classroom can have the effect of causing the 'gifted' students to examine and critique the presuppositions of their speech that were taken for granted in the transmission of their 'ideas'. Such a critical approach is, no doubt, a lot 'slower' but inevitably leads to results that may not have been foreseen if the class had remained at the level of the 'talented'.

The standard pedagogy of *instruction-therapy* places the focus on the individual and the ideals of competency – not the problems of structure that any pedagogy poses. As a consequence, such educational-therapeutic programs reduce the didactic problem posed by any transmission of knowledge to a normative psychology of the child. Ultimately, such psychological 'evaluations' are nothing more than manners of

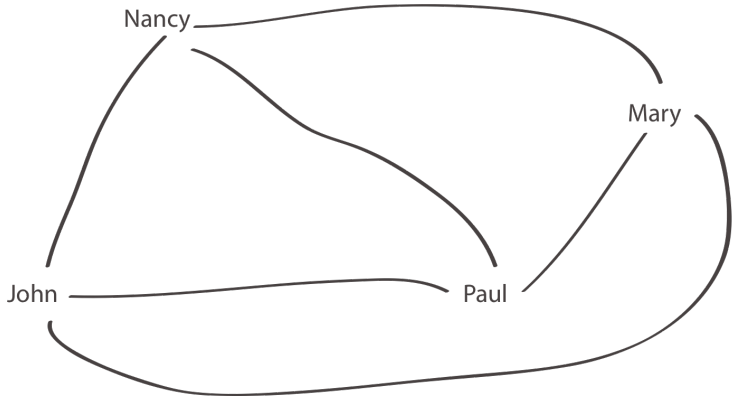
segregating the child according to a continuous scale of norms: one child only being different by degrees from other children so that the only differences that emerge are 'distinctions' – hierarchic at the level of grades and competency – and 'discriminations' horizontal segregations along the line of regressive/progressive. It is this one-dimensional student that is ultimately distinguished and discriminated against in the standard educational programs.

At PLACE we begin with difference as such. First, we address adults and children from a wide range of socio-economic, intellectual, and developmental levels. Thus, we start by asking "who are you?" not on the basis of evaluations of competency in a transmission of methods and skills, but on how the person confronts an obstacle – or *what does not work* – and how she or he can assume, construct, and transform this obstacle into a problem or object.

For example, take the situation where four people meet on the street and want to shake hands. The problem can be posed around an obstacle:

Can any two people shake hands without the possibility of bumping into or crossing over the outstretch hands of any other couple shaking hands?

Given the collection M of four people {John, Paul, Mary, and Nancy} the obstacle and problem may be made clear in the use of a diagram:



A graph in which the people in the graph are vertices and an edge connects two people if they have already shaken hands.

It is easy to inspect the graph to see that no line crosses another one so that all four people can shake hands without the fear of interrupting the other.

However, an obstacle emerges with five people. We leave it as an exercise to draw a graph diagram with five people and determine whether they can all shake hands without the possibility of crossing or bumping into someone else shaking hands.

For the moment, we will assume you have done this and you have discovered that no matter how you draw the diagram there must always be an obstacle where one line crosses another. We will also assume that you may have noticed that if you redefine the context into which the graph is placed – or embedded – by punching a hole in the paper and go around the other side you can then connect 5 points without crossing lines.

Though the teaching of methods – here diagrams and lettering – may tell us how to set up and resolve a problem, not all problems are resolvable, while the formation of obstacles are not themselves merely something to overcome, but singularities that produce problems to begin with.

For example, instead of beginning with the normative assumption of psychology that *'1apple +1apple = 2 apples'*, we may very well encounter a primitive tribe or perhaps some 'challenged' person who would present an obstacle to the group and insist on counting 'one' apple with the number name of 'two'. Thus, this challenged counter could insist on saying that *'2apple + 2apple = 4 apples'* in referring to the same set of apples as the normative counter. The result is a problem of translation '*2=4'* between the normative and primitive counting of apples and not a psychological problem of evaluating aptitudes[1].

Indeed, any didactic problem can be posed as the transformation of an obstacle into a problem of translation and construction and not the mere memorization of formulas, events, and codes that standardized educational programs and testing arranged under the rubric of conventional knowledge.

Excellence of Transmission Through Mathematics

At PLACE we begin with the obstacle and difference: that is, with a problem not of normative psychology posed as teaching disciplines, but with a transmission that may be called mathematics in the ancient sense of the term *mathemata*: defined as both *what teaches itself with excellence* and *learning what you already know*. So much is mathematics not necessarily subordinate to number that whole treatises on number theory may be written today that contain not one number, but only letters or algebra. Moreover, if mathematics is defined as '*learning what you already know'* then it is a lot closer to hearing rumors than the ideals of form that a too philosophical and academic approach may take. Indeed, if mathematics may be defined *as learning what you have been waiting for all along*, then the difficulty of any mathematical teaching is how to receive a certain *non-thought* or *obstacle* that begins to emerge in things that you had once thought familiar. It is this uncanny relation to the mathematical that not only situates it as a discipline that poses the most difficulties in a school setting, but at once isolates what may very well be called

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[1] It may be noticed by anyone who has played around a bit with numerals and numbers that this little story is nothing more than modulo arithmetic where (2≡ 4mod2).

a *symptom*[2]. It should be clear though that the term *symptomata*, within the Greek origins, has always been a mathematical, if not geometric, term that isolates precisely an obstacle or *accident of form* that is not limited to the field of medicine or therapy.

By introducing the *mathemata* in a classroom something brilliantly challenging occurs: each person is invited – or challenged – to construct a *symptom*, problematize it, then search for its *cause* in what poses an *obstacle* to *'what you know already'*. The solution (if there is one!) arrives in the invention of a method (not simply memorizing methods and copying) much as one would 'get' a rebus in a play of words. In the five-person graph exercise above, the *symptom* is the graph of singularities – the vertices and edges – that occur as *'accidents of form'* at the place of a *cause* which is nothing other than the obstacle denoted by the crossing of lines. It should be noted in the shaking hands with five people graph that the cause of the *obstacle* is two fold: (1) the conditions stated in ordinary language of the problem and (2) the context – or dimension – into which the graph was embedded: that is, by adding a *hole* to the surface the *obstacle* is overcome.

Yet, this methodology of corresponding a *symptom/singularity* to a *cause/hole* is not merely a way to 'overcome' – or *cure* – an obstacle, but determines the causality or conditions for the formation of what has traditionally been called a *mental symptom*: the anorexic eats nothing in producing a set of symptoms, the obsessional does nothing in performing a lot of mundane tasks, the delirious sees nothing when something is there or sees something when nothing is there, etc.

Mathemata-Symptomata-Axiomata/Demand

No doubt, the mathematical problem, solution, and even method may seem to be something new, but with a tighter grip it may always be shown to be something you were waiting for, even if it presented a symptom. It is our conviction, however, that children can, by definition, never be 'bored' with mathematics, but are bored with the normative methods of *professing* maths that attempt to exclude the symptom in an *axiom* or *demand*: *'1+1=2 ' because I said so*! It is one thing to treat math as if it were a splendid axiomatic architecture only approachable by an elite, it is a wholly different thing to transmit math as a problem of constructing a symptom without falling into a therapeutic militancy of preaching it away: *'Don't you see? What are you suffering from child? ".*

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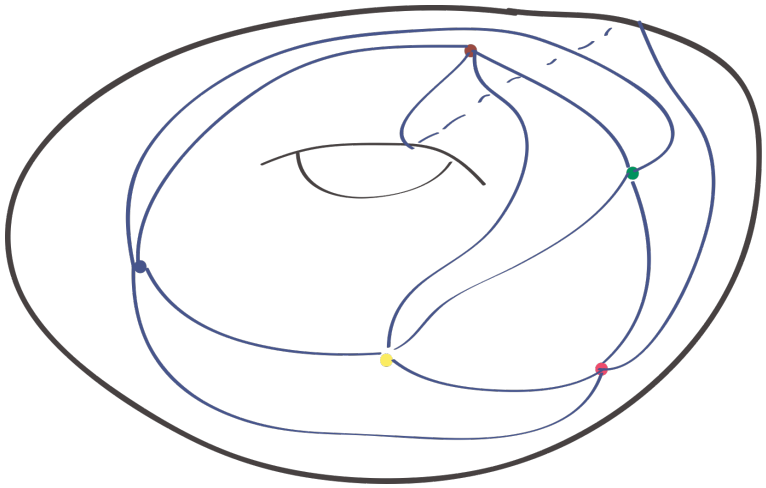
[2] The pedagogical organization of educational institutions in the U.S. into 'Grammar' schools' covering the first through the 6th grade had originally been called 'Mathematic' schools in Europe: the *mathemata* being the gage by which to not only segregate the student, but to establish levels of competency. Thus, at the turn of the 19th century the first grade was still called addition/subtraction, second grade, multiplication/division, and third grade, exponentiation/radicalization. Only in learning to master a certain mathematical skill – or pedagogical symptom – was one allowed to pass from one level to another.

What is important in a non-therapeutic and non-scholastic transmission of the *mathemata* is to address not merely the communication of a skill in a demand or axiom, but an obstacle and a problem so that it can be constructed in the class where there would not only be one or two of the so-called 'gifted' children who get it. Indeed, those who are habitually classified as 'challenged' by the standard linear criteria may emerge in such cases as particularly 'gifted' once the *symptom* of transmission is brought to the fore and the everyday communication of methods and sharing of ideas are no longer taken as the norm, but as something more like the construction of a rumor that contains its own misunderstanding.

In order to respond to this presentational problem what is required is the following: something that would facilitate a transmission yet not reduce to an expression of spoken or codified language; something that would be as supple and intuitive as the use of line and color in art, yet lend itself to the formation of concepts and rigor as in the use of mathematics.

Fortunately, the bridge between intuition and concept can be isolated and given a name within the mathematical tradition: *topology* defined as the logic (logos) of place (topos). Leaving here a landmark of topology, the five-person graph for the shaking hands problem can be embedded into a torus without a crossing[3]:



Part II - The Use Of Topology In The Differential School-Clinic

[3] J. Lacan has proposed that the sphere is the absence of topology, while the real problems begin with the introduction of something like the hole depicted in the torus diagram. Calling the torus – in French *tore* – the place of the *'se faire tore/tort'* (doing oneself harm), Lacan designates it as the fundamental space of neurosis: not a classification of people or mentalities, but a topological struture. See the *Identification Seminar* 1961-62, J. Lacan.

(to be continued)

Written For PLACE in the Spring of 2011

By Robert Groome
res1d6qq@verizon.net

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mark.lovasz@gmail.com