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TOPOLOGY AND THE INSCRIPTION OF THE CLINIC

Perhaps the most pressing challenge for anyone who attempts to construct an analytic practice with the material and means of mathematics is to justify the relation the two fields share with one another. Put otherwise, what exactly does topology have to do with psychoanalysis? This special issue of *S* responds to this question with essays by individuals who have, since Lacan's late seminars, established analytic practices and advanced a theory of topology in one of the few places left where suffering is still addressed, the clinic of psychoanalysis. This introduction attempts to isolate the clinical significance of these essays by responding to this question with a non-sardonic, though curtly punctuated, "nothing whatsoever." Topology and analysis bear a non-relation whose disjunction refuses any mimesis between clinical problems and topological objects, exposing the clinic to a real that reorients the approach to the symptom from a therapy of treatment to work of inscription.

But still, why topology? How, for example, may Lacan identify psychosis in something so seemingly un-psychoanalytic as the trefoil knot? The practice of reading and writing that topology requires uncovers an impossibility of identifying this clinical structure with the smallest non-trivial knot through the perception of a similarity of properties. That is to say, if one attempts to identify psychosis through an intuition, then he may find himself looking at the object for a very long time. For the trefoil and psychosis quite literally and actually look *nothing alike*. Indeed, the work of topology cuts through such a stare by requiring a material intervention on the part of the participant in order read and recognize the structure of the knot before presuming to locate that structure in something so complicated as psychosis. Whether or not such an identification between psychosis and the trefoil is possible, it is important to note that a perseveration of structure between the two cannot be mapped out by an intuition of likeness and similarity. Topology, if anything, demands a more precise work of analysis than one carried out by imitation.

Already then the analytic effects of working with things like knots, links and locks would seem to occur outside of an aesthetics secured by mimesis. Topology is supported by a materiality whose plasticity functions according to the matheme, and whose legibility neither reduces to a concept of the beautiful, as determined by a *sensus communis,* nor becomes upended in the incalculability of the sublime. Though many of these figures are aesthetically pleasing and perhaps captivating, it is important to recognize that topology is not, in its final instance, a matter of aesthetic appreciation. Whereas aesthetics secures its principles and objects of inquiry, at least in the Kantian program, through an agreement within a community, topology is a mathematical field whose practice is secured by discourses such as algebra, graph theory, group theory, category theory and topology. And here is one of topology's chief analytical purchases: its transmissibility is confirmable or deniable. Whereas one may agree on the aesthetic value of an object through a *doxa*, topology demands for the classical and Platonic shift to *episteme.*

This special issue of *S* addresses these issues with texts authored by three individuals who have worked with Lacan and one another in small groups, cartels and seminars throughout the late 1970s and early 1980s. Both Jean- Michel Vappereau and Robert Groome continue analytical practices: Vappereau helped found *Topologie en extension* in Paris and Buenos Aires; Robert Groome has established P.L.A.C.E., an analytic association in Los Angeles. Michel Thomé, who co-edited Soury's three-volume work from which the included articles are excerpted, continues to present his topological achievements at analytic associations in Paris. By way of introduction, then, I limit my focus in a somewhat arbitrary manner on three places in these authors' works where I believe a simple clinical problem may be provisionally articulated.

This issue begins with an essay by Vappereau titled "A Method of Reading a Knot." Excerpted from his book *Noeud,* Vappereau aligns his project with the work of interpretation carried out by Freud in his book on dreams. While this eventually allows for a writing within the clinic, Vappereau is careful to emphasize the importance of reading at the beginning of an analytic practice. "A Method of Reading a Knot" proceeds much like, as I would suggest, the work of primarily narcissism, by taking an object as the first step in beginning to work with structure. Vappereau places the object within a planar surface where it presents one of its most basic and legible features, the crossing. If a crossing may be naively defined as a place where an object's curve crosses over another curve, be it the very same thread, as in knots and tangles, or another component, as in links and locks, then an immediate problem of reading presents itself: how can such a crossing be marked as distinct from other crossings in such a manner as to confirm that there is some alternation, and that the object being read is one of topological significance and not merely a mean looking tangle? Without a minimal alternation of crossings, three for a knot (trefoil) and two for a link (Hopf), the object would not hold together and would eventually come undone in to one or more unknots.

The problem raised by Vappereau as to how alternating crossings may be read is anything but easy. In fact, if one were to begin at a crossing of a closed curved object like the trefoil knot and mark it, per convention, "plus" and next precede to the remaining crossings in the object, designating them "minus" and "plus" alternately and respectively, then upon returning to the initial crossing one would be forced, according to this naïve algorithm, to mark it "minus" and continue to reverse the previous labeling. At any given place in this knot, the same crossing would be marked doubly as "plus" and "minus"—a contradiction, if the object's crossings alternate. This naïve approach would, in short, render the knot unreadable, unsecure its identity and fail to recognize the structure of the object that makes it it. One would be forced to understand this object as a "trefoil" only through a visual inspection, the force of a name or (perhaps worse) hypnosis. If analytical practice is concerned with transmitting its material through different means, then already in this simple example of marking crossings does a clinical problem arise: how can a method of reading and writing be developed in order that the structural legibility and identity of something as seemingly simple as a trefoil knot may be rendered transmissible beyond subjective intuition and manipulative speech?

It is important to note that a clinical problem already presents itself here in the problem's description, which remains at a purely rhetorical register, unanchored by any graphic demonstration and mathematical calculation. Merely reading—and indeed writing—*about* labeling a trefoil's crossings inadequately exhibits its structural significance. The reader is therefore encouraged to sketch out a trefoil knot, label it, and confirm (or not) the claims made in the above paragraph, rather than rely on the imagination's capacity to adequately present the failure of this naïve approach to labeling. While this problem is not especially complicated, it does require a material support to secure its transmission, a support I leave out in order to show this clinical issue of transmission by way of a negative example. As each of the essays presented in this volume show—quite literally given their many diagrams and constructions—when it comes to topology and a work of analysis, one does not expressly "see" what is meant.

Against such an "intuitive" approach, Vappereau proceeds to a coding of crossings that he calls "Freudian," and then on to perhaps the most topologically significant work of his text, where he develops a subtle reading of the spanning surface of an object named the "Knot of 23 July 1993." Care must be taken with this object, as it is not immediately clear—again, at least by a mere glance—whether it is a one component knot or a tangle, or whether it is a composition of multiple components. Vappereau is careful to set up an algorithmic process of knot-reading that will only fully be developed in the course of his book. In this first part, however, he develops an elegant reading of a topological object's spanning surface that is capable of distinguishing a knot from an unknot.

Of especial interest to readers who remain unconvinced by topology's purchase for analytical work—and again, given the non-relation between the two fields, one has very good reason to proceed with suspicion—is Vappereau's reading of the permutations of the dream of the butcher's wife as recounted by Freud and further interpreted by Lacan. The significance of Vappereau's intervention is not his unique contribution to the interpretation of the dream, but rather the method he takes in reading the dream's many layers in conjunction—or perhaps disjunction—with the algorithm he develops in reading the spanning surface of the "Knot of 23 July 1993." It remains up to the judgment of the reader, after having worked through Vappereau's text, to determine what analytical effects there may be in the decoding of a knot.

If Vappereau's text stresses the importance of reading in the analysis of a knot, Robert Groome's "Elements Of Analytic Knot Theory" extends the function of the signifier further into a practice of inscription. Groome's text recognizes the material implications of reading and writing and argues for the non-triviality of the diagram when constructing a topological theory that, as marked in the title of his essay, is worthy of the qualifier "analytic." The clinical significance of the diagram for knot theory or psychoanalysis is neither intuitive nor trivial. Indeed, given a long theoretical and philosophical tradition that eschews the image for the thing, a tradition that Groome locates in Plato's Republic, it would seem that the diagram of a topological object would function within a secondary or even tertiary register, subsumed under the formal requirements that regulate both the object and its representation. Groome undertakes a heresy of the best kind and places the dream of the cave not within the unenlightened souls of the slaves, but in the project that wants to awaken those bounded prisoners and force them to understand the image as a formal derivation. "Elements Of Analytic Knot Theory" presents something of a reverse Platonism by insisting on the constitutive function of the topological diagram. Importantly, this insistence does not deny such a formal approach, but rather incorporates the material practice of diagrammatic construction and refuses to relegate it to a representational order in service of a theory, whose principles and object precede any writing and reading.

Groome's essay subtletly anticipates Vappereau's in that where the latter begins with a diagram, Groome's recognizes a problem already in the mapping between a topological object in space and its graphic equivalent on the planar surface. This recognition of the surface underscores the significance of the mapping between these two dimensions. In order to understand how building a theory of the knot in such a way is "analytic," I return to the simple problem of the crossing addressed above. Even before one can approach any crossing as a proper crossing, where one thread's intersection with another strand may read as "over" or "under," the principles by which a three-dimensional object's projection onto a two-dimensional surface must be articulated. Groome's work denaturalizes the conditions where such a mapping occurs. For if one were to read, materially and literally, the intersection of any two threads inscribed onto the planar surface, then one would be forced, strictly speaking, to account for the gap in the lower thread's passing underneath the upper as a literal blank rather than an example of three-dimensional depth. Of course this blank on either side of the upper thread is obvious enough: it is a well-established, conventional use of traits meant only to represent the over/under passing that actually occurs one dimension up. But the insistence of Groome's essay demands that such conventions never be assumed and much of his essay is dedicated to the meticulous work of writing the categorical theoretic conditions by which the mapping between object and diagram take place. And here Groome's work punctures convention and makes a place where the conjunction of analysis and topology invite a meaningful work. For is it not the work of analysis to articulate how the conditions in which a convention—be it mathematical, social or other—is established and rendered functional?

This issue closes with two short pieces authored by Pierre Soury from his three-volume work *Chaines et noeuds* and selected especially for this issue by his long-time collaborator, Michel Thomé. Soury's essays are unique in that they attempt to articulate an analytical practice out of a work of topology. *Chaines et noeuds* documents Soury's mathematical results of knots, links and locks along with a number of algebraic results on the topological objects that are painstakingly constructed and drawn out. Especially important is Soury's work on the generalized Borromean and the fundamental group of the lock, whose property of holding—what Lacan calls its consistency—poses a problem for many conventional ways of reading links and knots. It is important, therefore, to keep in mind that Soury's "A year in the company of knots" and "Topological objects and the current state of mathematics" are written in the wake of a rigorous mathematical work of topology and are not mere speculative essays on the analytical purchase of topological work.

"Topological objects and the current state of mathematics" nicely summarizes Soury's theory of topology and the attention that theory gives to defining its object. Soury takes issue with what he calls the "general" trend in topology that reduces its objects to a finite set of points whose specific and finite combinations become meaningful only within an infinite set—call it "space." Such a theory, Soury claims, establishes a distinction between finite objects and the massively infinite spaces that support them, reducing this complex relation to a mere question of "interiority" and "exteriority." What's especially concerning about this approach, according to Soury, is its failure to distinguish the object from its complement, which in turn overlooks the structurally significant feature that makes the object different—that its, its hole.

Attending this critique of the conventional approach to the knot is Soury's lamenting the lack of drawing—"good" drawing, he says—within the field of topology. The so-called general approach to the topological object confines the object to a series of points and leaves out the plastic dimension of the work. Interestingly enough, each page of Soury's Chaines et noeuds is printed on only half of the available space, so that on every page of his work the reader is presented with Soury's results and an empty leaf on which these results may be confirmed through an act of writing on the part of the reader.

And if this introduction began with a critique of the aesthetic approach to topology it ends, prompted by Soury's work, with an invitation to advance its theory through the practice of its materiality, to open up a blank in each of these texts and expose and inscribe the places where a transmission does and, equally important, does not occur.