

# Inversion Geometry as Primary to Topology

Don Kunze

What is the negative formula? According to a form that carries, and in many languages, *omnis homo non mendax* can suffice. I mean that *omnis homo non mendax* means that of every man it is true that he is not a liar. However, for clarity, it is the term *nullus* that we use, *nullus homo mendax*. This is what is usually connoted by the letter, respectively A and E, of the universal affirmative and the universal negative. What will happen at the level of the particular affirmatives? Since we are interested in the negative, it is in a negative form that we will be able to introduce them here.

—Jacques Lacan, *Identification*, p. 54

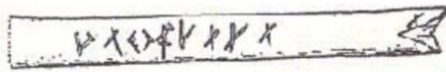
Alireza Taheri has recently emphasized<sup>1</sup> the curiously simple account for the emergence of the subject, the “symbolic animal,” from the biological animal, what some (notably Agamben) have characterized as the succession of *zoē* from *bios*. It is not clear whether or not Lacan subscribed to the idea of “raw life (*bios*) but he was clearly an advocate of the distinctiveness of the relation between the subject and signifier in relation to *lack*, which he characterized in multiple ways. As Taheri emphasized, the difference is sickness, and it is interesting to note that Lacan, the medical doctor turned psychoanalyst, professionally embodied the necessary relation of the two paradigms of dealing with sickness. If Freud’s turning point was to understand how, in the clinic of Jean-Martin Charcot, what seemed to be clearly organic afflictions could be revealed to be psychological, but that the effective treatment would need to wait on a foundational understanding of the signifier as more than an indicative reference, assigned by convention, to some object or condition in physical reality. That difference would come to depend on the subject’s creation and use of suppression and the unconscious, which Lacan would develop in new and distinctive ways. The lack, Lacan argued, could not be theorized without reference to topology, and this position was present (I argue) long before he officially declared topology to be a major component of his thinking (1961). It was present as soon as there was the master signifier, a force that depended not on presence but absence and privation.

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<sup>1</sup> Alireza Taheri, “On Femininity,” Teaching Session 7, *LacanToronto* (1 December 2024).

Lacan’s interest in *negative form* goes beyond the standard consideration of the role of the negative in dreams (where time and death are ignored), everyday speech, charade, sexuation, the uncanny, and the analytic session. Lacan takes negation to the “essential argument” between Russell and Gödel over whether logic is foundational to mathematics or mathematics is primary for logic. Like Gödel, he is attracted to finding an unexpected middle term to answer the question.<sup>2</sup> For example, when Lacan heads directly into the question of the logical distinction in *Seminar IX, Identification*, he takes up the issue of the logical square, with its doubled binaries of universal-particular and positive-negative, by sidestepping — geographically as well as rhetorically — to the collection of antiquities at the National Museum of Antiquities in Germain-en-Laye one hour’s drive west-northwest of Paris.

Digression was a part of Lacan’s style, but the role of place here constitutes a kind of ekphrasis by which Lacan opens up an argument in order to install a viewer who, like the god Janus, is able, by focusing on some small detail, to look in all directions. What Lacan sees in a



**Idéogrammes incisés sur os. Magdalénien. Le Placard**

glass case is the bone of a type of deer hunted in Magdalenian times, engraved with little X’s. Each X marked a hunter’s successful kill.

Each was, Lacan argued mathematically, a 1 before there was counting. Each 1 was a “one of 1,” a return to a starting point, a time where time refreshed itself and started over.

This was nonetheless a kind of counting before there were natural numbers that we designate as “counting numbers,” and therefore Lacan’s question was “what was there, before counting, *counting*?” More basically, what counted before there were numbers to count with in the way that would be officially recognized once numbers were “desensitized” from their magical associations?

For anyone puzzled by Lacan’s methodology of hopping in his Citroën DS<sup>3</sup> to admire the contents of a glass case in La Salle Piette in the National Archaeological Museum might be way of solving the Russell-Gödel debate, his proposal was no less astounding. It involved cutting away one corner of the square of oppositions, the “E” or universal negative, out of the AEOI

<sup>2</sup> For an interesting and understandable introduction to Kurt Gödel’s approach, I recommend Marcus de Sautoy, “Gödel’s Incompleteness Theorem, *Numberphile*; <https://www.youtube.com/watch?v=O4ndIDcDSGc&t=53s> (accessed 2 December, 2024).

<sup>3</sup> Jamieson Webster, “Riding in Cars with Jacques Lacan,” *The New York Review*, August 21, 2019.



Honoré Daumier, *The Chess Players*, 1867.

square, to be precise,<sup>4</sup> as a precondition for setting the other corners (AO and I) in a motion Lacan would describe in other permutations as a “dial.” The rather complex story behind this sudden “wager” involves, as Pascal’s famous wager involved, defining the stakes of the game in terms of the existence or not of a master signifier that could exert its considerable powers only by not existing. Clearly, this was a type of negation that was not a matter of presence or absence, true or false, but rather a “truth of truth.”

This ties the search for the “knowledge” that integrates subjectivity so thoroughly with signification to the game of truth-or-dare, where the rules of the game evolve as the game progresses, inverting the causal order. If vicissitude can be the basis of its own cause, then Lacan’s methodology of *après coup* — asking of anything what must have happened before, in order for it to be *this way* and not *that way* — is a game worth playing as long as we accept the idea that rules are invented as we go along.

This implies that the boundary between the game and the rules of the game is inversive, that as things change on one side, there is an equivalent although not necessarily intuitive change on the other. Lacan’s theoretical wager was that, on either side of a boundary he used to mark cases of *extimité*, there would be conformity: things would appear differently but their structure would remain the same. This is Lacan’s revolutionary innovation, one that, I would claim, precedes and logically grounds the “official” historical appearance of his interest in topology. In other words, the *après coup* question Lacan asks of numbers, subjects, art, and ideas applies also to himself. His own theory is a matter of *extimité*, where every thought, every conjecture, begins with the question “What must have been going on before this?” As his conjecture moves along, it finds the past it requires, either through serendipitous discoveries or inventive re-interpretations.

There are two cases where Lacan could have applied this reverse-order discovery method to his advantage but didn’t. I would call this Latent Lacan: the Lacan that is yet to be articulated but which, if added to the official *œuvre* would clarify and extend Lacanian psychoanalysis. This

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<sup>4</sup> The E of the AEIO square is the position of “No S are P.” Lacan relates this to the corner of the related quadrant pertaining to the Cretan Liar Paradox as *nullus homo non mendax*.

presumes the existence of a kind of Lacanian algorithm, a way of thinking that lies beneath all of Lacan's articulations. There are only a few thinkers to whom this kind of claim might be made, but they are all typically identified as "great thinkers." In the Wittgensteinian sense of family relations, we might be presented with an array of statements and asked to guess the author. Whatever might lead to a high score in this game would be the way that a thinker, to be great, generates not thoughts but a way of thinking, a way that can be learned in the same way a style can be copied.<sup>5</sup>

## Unfinished Business: Prisoners' Dilemma and Apollo and Daphne

The two cases are the Three Prisoners' Dilemma, a puzzle that Lacan heard over a dinner table convened in 1937,<sup>6</sup> and the story of Apollo and Daphne, taken from Ovid's *Metamorphoses*.<sup>7</sup> The evidence shows that Lacan did not present the evidence that requires, in the Prisoners' case, the warden to have known that his offer of freedom was perversely flawed — that only three prisoners could "win" by simultaneously discovering the "truth of the truth." The crux of the matter, "again" (although this would make it "the first time") fall under the heading of the unary trait: what, in this puzzle, constitutes a 1, not the "one who shall win" but the "1 who *must*, as 1, win."

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<sup>5</sup> I am aware of the relation of this conjecture to the phenomenon of Large Language Learning models of artificial intelligence. I do not support the idea that truly critical thinking "can be reduced to" stochastic reproductions. Rather, I make the reverse argument, that thinking such as Lacan's, where consistency has been favored over completeness, and where incompleteness itself has been incorporated into methodology, is itself a Large Language Learning model, even before the advent of modern computing. It is here that I would point to Lacan's own explicit interest in cybernetics and his curious relationship to Norbert Wiener's "forgotten" chapter addressing the issue of cybernetic suicide: the implicit tendency to complexity in the avoidance of contradiction that eventually results in "system failure." See Aaron Schuster, *The Trouble with Pleasure: Deleuze and Psychoanalysis* (Cambridge and London: MIT Press, 2016, 37–38).

<sup>6</sup> This is the basis of Lacan's well-known essay, "Logical Time and the Assertion of Anticipated Certainty," *Écrits: The First Complete Edition in English*, trans. Bruce Fink, Héloïse Fink and Russell Grigg (New York and London: W. W. Norton & Co., 2006), 161–175. The warden pins three out of a collection of two black and three white dots on the backs of three prisoners to whom he offers early release if they can but guess the color of the dot on their back without speaking to each other. The warden has used only the white dots, and the solution lies in the two "pauses" when prisoners mutually realize that there cannot be any black dots.

<sup>7</sup> Ovid, "Apollo and Daphne," *The Metamorphoses of Ovid*, Book I, trans. Allen Mandelbaum (New York and London: Harcourt & Co., 1983), 20–25. Daphne discovers that she is inside an inversion circle, i.e. that the space of escape and the space of asylum are the same. Paralysis is a feature of inversion circles that Lacan notices in the "Injunction of Popilius," in *Seminar XII, Crucial Problems of Psychoanalysis*, 68, 310 and elsewhere.



The unary trait figures also in Lacan's retelling of Ovid's story of Apollo's love for

Daphne and Daphne's simultaneous hatred of the sun god, but Lacan omits the first part of this story, Apollo's joking insult of Eros' bad archery skills (only the wrong people seem to fall in love with each other) and Eros's subsequent witty revenge, involving making two arrows into one or at least two flights of arrows into a unary injury, so that Daphne and Apollo suffer from *one and the same wound*.

These supplements would clearly have benefitted Lacan, but he did not take advantage of them. They are theoretically *déjà vu* questions: "What must have happened before, in order for Lacan to have used parts two and three without mentioning part 1?" Was Lacan so meticulously an artist of the *mi-dire* that he thoughtfully left the best part of these stories for his followers to discover? Was he so generous that he allowed his guests to have the last sip of his best cognac? I would not encourage a "magical realism" interpretation of these omissions. Lacan could not have



understood the solution to the Prisoners' Dilemma without knowing that the Warden was dissimulating, nor could he have re-told the Apollo-Daphne story without knowing how it began. Curiously, both puzzles involve the topology of projective geometry; but even more curiously, both stories show that projective geometry is secondary to inversive geometry — Lacan's fundamental thesis of *extimité*. Both stories depend on the suppression of the "one of 1" and a "repurposing" of the 1 as a *fifth cause*, a cause based on passivity rather than active

agency; or, more accurately, the *agency* of passivity.<sup>8</sup>

For Lacan, the audience is a necessary supplement to his thinking. The reader takes the place of the audiences of his seminars and lectures. What connects them is not necessarily Lacan's appealing lecture style, which apparently ranged from amusingly provocative to intentionally

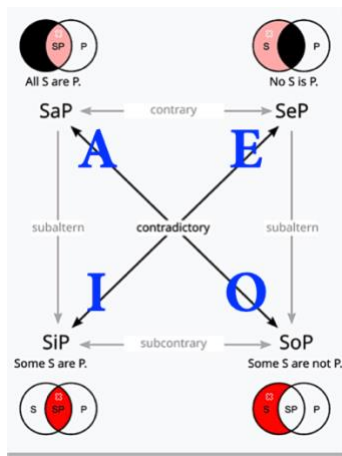
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<sup>8</sup> This argument depends on Lacan's criticism of Aristotle's material cause, which he argued had underestimated and misrepresented the role of passivity. Lacan felt that there should be a cause based on the effectiveness of the passive (basically, this is "instrumental convergence"), a project undertaken by Slavoj Žižek in a podcast on "The Reality of the Virtual" (2004); <https://www.youtube.com/watch?v=RnTQhIRcno> (accessed December 2, 2024).

frustrating. The audience is not present to offer the satisfaction that the speaker's thoughts have value and interest. Lacan saw the audience as not just an accessory to thought but an implicitly functional, critical component. His *mi-dire* style was a design developed with increasing precision, in the spirit of Socrates' impertinent questioning of his self-certain circle of intellectuals. Both are, in effect, cynics ("dog philosophers") whose claim of knowing nothing aims, from the very first moment, to address the issue of the cynic knowing at least one thing. The nothing and the one, or 1, holds the key to Lacan's method of incompleteness. Since he cannot say everything, Lacan says, he must at least be consistent. It seems that once Lacan realized that this was not a free choice but rather a *forced choice*, an inevitable consequence of Gödel's incompleteness theorem. He seems to be asking the obvious question of the theorem: incomplete in what way?

The "way" has to do with the style implicit in *mi-dire*, the necessity of the reader-theorist of Lacan to take up matters where Lacan has left them off. If the unary trait holds the keys to the Prisoners' Dilemma and the failed love of Apollo for Daphne, it leads to explicit conditions of inversion that call for further theorizing and, at least, some basic plan for addressing the issue of the conversion of inside and outside, within the self-evolving protocols of "some kind of game."

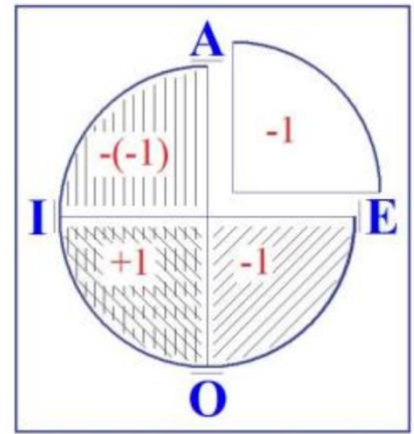
## The Generative Role of the Unary Trait



Lacan connects AEIO of the logical square of oppositions to the RSI of the Borromeo rings by subtracting E as the unary trait and then seeing IO, the particulars, as functionally transformed by the Euler circles' condition of symmetrical difference. This is traced back to the "Real" of the "minus minus one,"  $-(-1)$ , of the universal affirmative, made possible by the detachment of the unary trait of E,  $-1$ , which relates to the position on the fundamental polygon of "I don't think" and "I am not," and is associated with the demand of the Subject to the Other in the form

of repetition. The psychotic position is the Real that occurs outside the Symbolic on account of its LACK of the name of the father; inside the Symbolic the subject must act-out in the presence of the father, or at least the name of the father.

These two positions are particular, and the judgment of who is inside and outside is the first question of the Analyst, since treatment itself inverts from one to the other, Real or Symbolic. The mutual exclusion of R and S use the Imaginary as a go-between, but that is a barrier in the L-schema, where the *objets-a* of the subject and Other are exchanged — an exchange that leads to their mutual “bars,” the / of the \$ and the / of A.



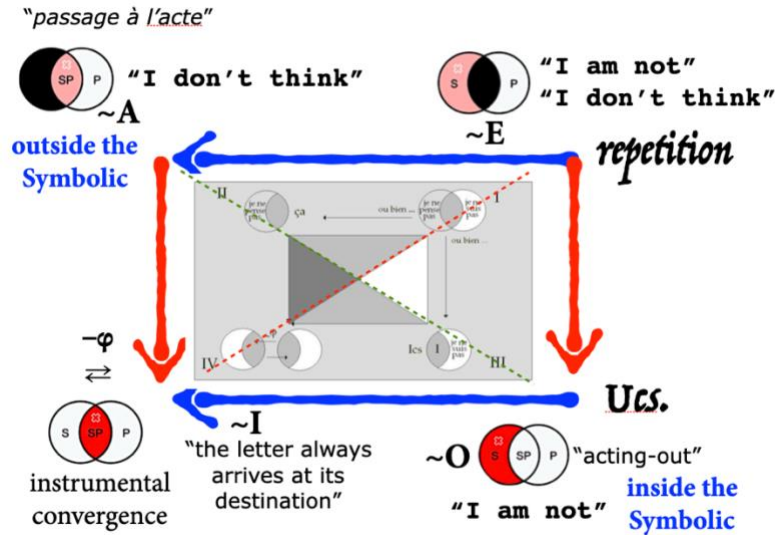
The exchange of a’s is shown on the L-schema as the Imaginary *BAR* preventing the passage (to the act) of the Unconscious. The L-schema seems very much like the fundamental polygon, so the role of the interior-8 in the “inside/Janusian” structure of the torus, the double cut (180°/360°), seems enough to justify looking at other 1:2 ratios. This indeed is what happens when Lacan’s tabular arrangement of traits connecting the Symbolic Father, the Real Father, and the Imaginary Mother through three versions of the three “privations” or Lacks (LLL) into three concentric dials, like Lull’s wheels in his *Ars Magnus*.<sup>9</sup> The three dials are arranged to suggest how inversive geometry creates a concentricity that allows for a determinate structuring to take place under the greatest possible variety of combinations. It is both a combinatorial generator and a cipher



machine, the former for the Analysand, the latter for the Analyst, who must LISTEN to the cipher since its “message” is all about ciphers that are too loosely or too tightly packed, or require re-arranging (reverse ordering).

From Lull we must go to Lacan’s particular relation, his personal *Ars Magnus*, James Joyce’s *Finnegans Wake*. The *Wake* is particularly Lacanian since it takes transformation down to the level of the letter, the *phasis*, within the whole, *the lexis* or “vertical reading” of the relation of particulars to universals. Is this what Lacan means when he converts from the logical square of oppositions to the dial where, by isolating

<sup>9</sup> Lacan’s consolidation of conditions of lack (privation) in relation to the Real Father, Symbolic Father, and Imaginary Mother are presented in *Seminar IV, The Object Relation*, trans. A. R. Price (Cambridge, UK, and Medford, MA: Polity Press, 2020).



The fundamental polygon of the 2-d torus is often mistaken as a set of folding instructions for the 3-d torus. Lacan correctly uses this conventional notation for figure in the real projective plane by noting that the blue and red vectors diverge *simultaneously* from the corner labelled as “repetition” (whereas many commentators, including Michael Friedman, have the blue vectors combine to create the tube of the 3-d torus, then close the ends with the red vectors). Lacan labels (again, correctly) the corners of the fundamental polygon to correlate it with the AEOI square, but he inverts Descartes’ *cogito* so that “I think therefore I am” becomes “I think not” and “I am not.” The torus is structured by the interior-8, which culminates in the point of (instrumental) convergence, ~I, where “the letter always arrives at its destination.” The diagonal connecting ~A with ~O constitutes a *phasis*, or “appearance.” The diagonal connecting ~E with ~I would then indicate *lexis* moving from divergence (chance) to convergence (necessity).

and suppressing the unary trait, the universal negative of E, the other three elements are left to correspond to the RSI and thus become “circular.”

The torus shows the same detachment of the unary trait if we align it with the repetition of demand. The key issue is, what is it that is being repeated in repetition? This is the “cipher” that the Analyst listens for, what makes the torus also a kind of enigma machine as well as a generator of variety within the Imaginary. The torus embodies non-orientation at the level of particulars ~I and ~O, which, if we write them in the form of Type One and Type Two Errors, we generate a near-infinite variety of dramatic conditions, since “the wrongly accused” and “the unpunished wrong-doer” constitute popular tropes in every culture.

With the translation of the AEOI square into the fundamental polygon of the torus, an ethnological relation to divination becomes clear. Strictly performed rituals in early cultures are always performed in a segregated space, secured by secret codes and repetitive sequences, ~E, to



guarantee the insulation of the results of divination, the first cultural forms of the unary trait. Divergence of the vectors to  $\sim A$  and  $\sim O$  also relate to the evolution of legal principles by defining who and what is considered within the Symbolic and outside it. The  $\sim I$  corner of instrumental convergence is the place of both the legal concept of justice and a dramatic coincidence of accident and fate, religion's spin-off of the dramatic arts of comedy, tragedy, and farce.<sup>10</sup>

and the evolution into laws and cultural institutions obliges us to examine closely the role of crime and punishment in the varieties of signifying chains. And, since guilt and shame vary greatly from culture to culture, also do their spatial and temporal dimensions. This, if anything, also obliges us never to speak of a space without time, and *vice versa*.

Space+Time equals parallax, and the question of fight or flight, another way of formulating anxiety, which Lacan says "never lies" because it is not a truth but a "truth of truth" (a phrase that Gallagher sometimes botches). This is about the existence of "that which eludes the question of existence," either God or the warden of the Three Prisoners' Dilemma. One speculative definition of the inversion circle would be the non-orientation of the wager and the stakes in any game, or (geometrically) the non-orientation of the inside and the outside of the *extimity* circle, in the face of the proposed (forced?) equality of inside and outside.

These issues cannot be resolved mathematically; they must be resolved ethnographically. We must be able to see the inversion circle as the local logic of stories such as Castor and Pollux (two sons with two fathers), Œdipus (the husband and son of the Imaginary Mother, thanks to the rivalry with his father, thanks to misidentification, etc. ... all summarized by the boundary monster in her riddle,<sup>11</sup> which is also an inversion circle), the story of Apollo and Daphne in

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<sup>10</sup> The torus can help explain highly contested dramatic works such as *Alcestis*, long characterized as a tragedy but structurally and thematically a comedy. The general theme is that of a rescue of a woman (Queen Alcestis) from Hades and her return disguised as a gift to her husband Admetus, who had promised never to re-marry following his wife's sacrifice (Admetus was granted eternal life if he could find someone to take his place in the underworld). The torus uses instrumental convergence to perfect the irony of Alcestis's return as a "new bride" in a scene of Admetus' humiliation, broadening this term to include the full range of accidents and consequences that had led to Alcestis's sacrifice. Inversion creates a topsy-turvy that Mozart was to copy in *Le nozze di Figaro*. The universal-particular order of *lexis* is superseded by the unary. With Alcestis as a case of Type One error (the innocent who is punished/confined) and Admetus as the free-ranging miscreant, the detachment of  $\sim E$  (denial of Alcestis's sacrifice) sets in motion the mechanisms leading to Admetus' existential negation. The final scene involves, as Lacan would have predicted an exchange of *objets a* between the barred subject and the (comically) barred Other, in the mystery of marrying (again) the wife who had departed the Symbolic at the same time her husband acted-out.

<sup>11</sup> My colleague Alireza Taheri notes that the ~~woman~~ does not play a role in the story of Œdipus, but I would suggest that the Sphinx, guardian of the boundary of Thebes, reveals the not-all nature of the inversion boundary that

Seminar VII, or the more modern story of *Young and Innocent*, which has all of these themes in ordinary dress of 1930s Britain.<sup>12</sup>

Abstractly, we have the torus, in both the form of its cuts (the Villarceau cut *et alia*) and interior-8s as well as its fundamental polygon, which takes the place of the square of oppositions and the AEOI of contradiction. We have the interior-8 that relates the torus to the double-torus and the exchange of *objets a* between the subject who demands and the Other who desires, an exchange that leads to the barring of both subject and Other, shown in the Graph of Desire.

Abstractly we have the permutations allowed by projective geometry that are forbidden by Euclid, the move from inside to outside in the cross-cap that we cannot visualize, and the misleading belief that we can visualize the twist in the Möbius band and the intersecting neck of the Klein bottle. There is always an observer in the 3-d cases, always a conversion of the Pascalian wager's three "moments" into the sagittal dimension. There is always a double frame not because Žižek has a spectacular flash of insight at a boring conference<sup>13</sup> but because the wager and the stakes of any game are non-orientable, and each stage of a game (corresponding to the RSI in the order of ISR) has an inverse that is not chiralistic (mirror reversed) but *chiastic* — *retroactively* symmetrical. This temporalized space and spatialized time condenses into a "localization" of non-orientation, each localization being the nucleus of a potential ethnological formation, an "ethno-topology."

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Œdipus must cross in order to play out the second part of his tragedy. Just as the riddle itself is a spatialization of the temporal process of aging, converting Hegel's "sickness" (= mortality) theme into motility of the monster who walks on four legs in the morning, two at noon, and three in the evening, monstrosity visualizes sickness as parataxis, unmediated juxtaposition. What is missing in this not-all femininity of the Sphinx is the middle term, and the restoration of this for the riddle translates directly to the woman-beast, causing her to commit suicide. Œdipus in effect tries to make her a *particular* woman, not the principle and power of her function as an apotrope insulating Thebes. This was a late version of the function of all civic boundaries, namely to supply the middle term as a "restoration of health" does not cure the Sphinx of her "sickness" but, rather, negates her power as an apotrope, an insulation of Thebes structured by inversion. The useful insulation of such "monsters" protects cities by requiring knowledge with a password function, as a "cost of admission." That this involves "the truth of truth" is proved by the story of the French soldier required to sing the second verse of *La Marseillaise* before being allowed to pass, but when he admits he does not know it, is greeted with an enthusiastic "Pass, Frenchman!" Only an imposter would have bothered to learn the second verse.

<sup>12</sup> In this 1937 Hitchcock thriller, a wrongly accused man and a police chief's daughter uncover a murder mystery. The daughter, burdened with a motherly role in her family, navigates a complex admiration for two father figures: her authoritarian father and the innocent fugitive. This duality deepens the film's tension as her growing affection for the fugitive challenges her loyalty to her father (ChatGPT, 3 December 2024).

<sup>13</sup> Slavoj Žižek, *The Frigate of Real Tears: Krzysztof Kieślowski between Theory and Post-Theory* (London: British Film Institute, 2001), 5–6.

The RSI thrown into perspective can happen only with the geometry of Desargues and Pappus, i. e. projective geometry, which to date no commentators besides Joan Copjec have acknowledged as Lacan's particular brand of topology.<sup>14</sup> The Real of topology are the points of negation, such as the vanishing point and viewing point, where the "doubles rule" operates and where the imagination must paper over the gap, as in the case of the "strut" of Copjec's vision or the "spandrel" of Žižek's architectural mediator.<sup>15</sup> These are both correct examples of the Imaginary in relation to architecture's Real and Symbolic, what Vitruvius called the *firmitas* or structure and the *utilitas* or usefulness. The Real, *venustas*, is always open to variety and interpretation; this is the place where Type One Error, the wrong man in prison, and Type Two Error, the traitor among us, become popular literary and cinematic tropes.

But, we must go further. In Copjec's case, she did not have the illustrations that would appear later in the *Staferla* editions. Gallagher short-changed her and limited her argument. In Žižek's case, he does not use the proper terms for things like sorites, which would allow him to bridge between an anecdotal Symbolic and a topological Real. Copjec and Žižek have implicated inversion geometry but never identified it by name or learned its rules, although both authors are expert at describing its effects. Neither has anyone (apart from my colleague Iraj Ghoochani) realized the relation of one of the Brunnian braids of the Borromeo knot as an inversive transform into an "urbis et orbi" circle and cross, or the relation to the vesica pisces that Joyce used in *Finnegans Wake*, the Euler circles in the position of symmetrical difference.<sup>16</sup>

It is lack's three forms that makes symmetrical difference both a cipher and exchange machine employing the void, the unary trait drawn as a lozange and symbolized as the *poinçon* of  $\$ \diamond a$  and  $\$ \diamond D$ , a mark that Lacan recognized on the rib-bone of a Cervid in a glass case in the National Archaeological Museum in Saint-Germain-en-Laye northwest of Paris. All those little X's on the bone must have made him think about Freud's famous parapraxis, where his failed attempts to remember the name Signorelli were actually ciphers for remembering something else more important, namely the willingness to die rather than give up sex, which itself led back (self-intersection in the best fashion of Escher) to the "Teachings of the Anti-Christ," the mural that

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<sup>14</sup> Joan Copjec, "The Strut of Vision: Seeing's Somatic Support," *Qui Parle* 9, no. 2 (Spring/Summer 1996): 3–21.

<sup>15</sup> Slavoj Žižek, "Architectural Parallax: Spandrels and Other Phenomena of Class Struggle," *Epoché: A Journal for the History of Philosophy* 8, no. 1 (Fall 2004): 51–74.

<sup>16</sup> Jacques Lacan, "La Troisième," in *Autres écrits*, ed. Jacques-Alain Miller (Paris: Éditions du Seuil, 2001), 45–89.

Freud was so impressed with, showing the anti-Christ in the same position behind Christ as the painter had placed himself in relation to Fra Angelico, the former painter who had been given this chapel to decorate.<sup>17</sup>

The use of the subtracted element, the forgotten name, created what Lacan said was Perfect Memory, because what was really remembered completed the full circuit on the dial of traits that replaced the logical square. Perfect Memory is what happened in Joyce's *Finnegans Wake* and Lull's *Ars Magna*. It is the creative force of negation, and to theorize it we need to see it topologically, "ethno-topologically," so that we can connect things like the interior-8 to the torus, Möbius band, and so on, but also use structural diagrams like the fundamental polygon to explain why the letter always reaches its destination.

Lacan's real talent lies in his consistency. From the 1930s on, he seems to be of one mind. We cannot historicize topology by giving it the start date of Seminar IX, 1961. It is already present in the Prisoners' Dilemma, with its two pauses and final *passage à l'acte*. This is a square turned RSI circle thanks to the FRAME that has both cut and folded the game and been the key to identifying a fifth causality, passivity or instrumental convergence, and crediting Lacan for theorizing it. Without convergence, the prisoners would have never realized the Real of their situation, the parallax inside the parallax of binary inmates. Here it is obvious that Type One and Type Two Errors are involved, because we are dealing with the Imaginary animation, some would say automatization or even ciphering, of guilt in relation to being set free, which has made us forget if the prisoners might not be wrongly imprisoned, or how this might have motivated the warden to offering them release. We also forget that the game is impossible if the rules are followed. There is only one possible winner, but this One is a collective, the prisoners as a trio, a *single* trio. The defective warden, *A*, compares to Pascal's use of a game to throw into question God's existence. His conclusion is that God's existence should be negated. Stochastically and theologically, "it doesn't matter" and so the wager should ignore God because the stakes are the same with or without Him. This is the Prisoners' conclusion, as they turn from the Imaginary to the Symbolic to the Real of escape. They retroactively realize that the warden was lying, that the only solution revises their conception of what it means to be "one," and that their sequence of I

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<sup>17</sup> Sigmund Freud, "The Psychopathology of Everyday Life," in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, vol. 6, trans. and ed. James Strachey (London: Hogarth Press, 1960), 1–239.

to S to R is chiasmically the warden's own metamorphosis from an Imaginary force, to a rule-giver, to a Real that is Real only thanks to a subtraction, a parapraxis.

I realize that these interpretations of Pascal's Wager, the Prisoners' Dilemma, and Freud's parapraxis are slightly kinky. Although I must take full responsibility here, these slightly deranged interpretations are the result of *returning the inversion circle* to its properly central position, where the formation of chiasmus in the case of the Wager and Dilemma and the creation of a "toroidal" anamnesis (in keeping with Lacan's claim, that Freud's forgetting was actually a case of perfect memory) push these cases to the point where they merge together under the heading of a "universal ethno-topology."

The cut between the warden side and prisoners' side is an inversion circle. It is a hinge, a section cut like the architectural or painting's section, which mediates an inside of the Imaginary and the outside of ambiguous inspection. We know this is an inversion circle because artists have treated it as such, in unambiguous ways that do not require our interpretive subjectivity. All we need is to see how the unary trait has been removed or suppressed in order to produce the Imaginary illusion, and what Symbolic puzzle has been imposed on this section cut that is the picture plane. We also know that's Freud's parapraxis was an invention of artificial memory in the tradition of Simonides of Ceos, whose story also involves chiasmus.<sup>18</sup>

In this final example of Lacan's relevance to ethnology, let me repeat the story of Simonides. Although this story is given as an account of his invention of the art of artificial memory, the 5c. poet must have already practiced the method of "memory places" before he was invited by the local politician Scopas to present an encomium on the occasion of his victory in wrestling. Scopas was throwing a *setesis*, a formal banquet to honor a community hero, but Scopas's self-celebration was cause for Simonides to insert, within the contracted poem, a passage about religion. Appropriately, he chose the subject of the twin gods, the Dioscuri, thinking it a witty image of Scopas' own recent contest.

Scopas was not amused at this insertion, by which the poet had hoped to avert the evil eye from the self-celebrating host. Scopas refused half the fee, saying that Simonides could as well "go to the gods" (i.e. "go to hell") to get the rest. Taking this rebuke in his stride by settling into

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<sup>18</sup> Cicero, *De Oratore*, trans. E. W. Sutton and H. Rackham, Loeb Classical Library 348 (Cambridge, MA: Harvard University Press, 1942), 2.351–360. See also Don Kunze, "Cloud Nine: A Lover's Guide," in *Ceilings and Dreams: The Architecture of Levity*, ed. Paul Emmons, Federica Goffi, and Jodi La Coe (London: Routledge, 2019), 9–18.

the banquet's luxurious fare, he got word that two men were waiting outside of the banquet hall wishing to see him. When he went out, however, the streets were empty; there was no evidence of the two mysterious strangers. This Macguffin element proved to be fortuitous. Before Simonides could return to his place at the table, the banquet hall suddenly collapsed. All inside were killed, with the poetic implication that Simonides' rejection of the poem about Castor and Pollux had brought bad luck, and that Simonides had been spared by the mysterious call outside.

The bodies of the guests and host were crushed beyond recognition. Simonides, however, had memorized each guest's name in relation to his place at the banquet table. The distressed families, doubly terrified by the idea that, if they could not carry out a legal and proper burial, their ancestor would haunt them forever, were understandably grateful to Simonides and more than compensated him for Scopas' original short-sell.

Simonides original "art of memory" was nothing more than a technique of place-for-name. But, of course, we have here the occasion to think of the Names of the Fathers in relation to the chiasmic form of the story, where halves are matched in their forward and backward progression: the half-poem dedication to the gods, the theme of twins, the refusal of half the fee; the breaking of the story into two parts; then, the recall of the poet mirroring his exit just before, the returning of the names *to* the places, the restoration of his full fee (plus gratuities), then the blessing of the twin gods, as the true art of memory is revealed in the very chiasmus of the story, hinging at a circle of inversion where the inside converts to an outside (the building's collapse) and then the outside is restored to its death-dependent symmetry.

Fathers, Lacan says in *Seminar IV, The Object Relation*, come in two flavors: Real and Imaginary. Castor and Pollux's two fathers certain did (Zeus and Tyndareus), with the result that Castor was the "Imaginary" twin and Pollux was the "Real" twin. But, after Pollux's deal with Hades following Castor's premature death, they took turns, as good Lacanian fathers must. The lower corner of the fundamental polygon, where we find the  $-\emptyset$  alternating across a void,  $\Leftrightarrow$ , tunes this alternation to the logic of symmetrical difference: what one gains, the other must lose, on an annual cycle.

The divine twins define an inversion circle as they alternate between life and death. What better time for an inversion circle could there be? The fact that all religions involve some version of an inversion circle should be more than enough to attract psychoanalysis to the topology of myths, rituals, folktales, and eschatology as well as dreams. In all of

these, the suspension of negation, the sabotage of the binary, produces *extimité* on the scale of the collective imagination, where anxieties must be exercised in order to return life to order, but order “on the installment plan.”

## **What Did Popilius Know that We Don't Know?**



Louis-Jean-François Lagrenée, *The Injunction of Popilius*, 1779 Palais des Beaux-Arts de Lille. Popilius sent as ambassador to Antiochus Epiphanes to stop the course of his ravages in Egypt. Popilius must have known about the Arab practice of kneeling to the ground and doodling in the sand while considering a critical matter (*katagraphien*). The amazing thing about this incident is that there were at least two “adults in the room” who knew the meaning of the inversion circle and how to respond to it. The self-evidence of inversion is that there is no privileged location on a sphere. Every point is surrounded by an equal amount of spherical territory; that by definition the inside of the circle is equivalent to the outside, that changing position or capturing territory does not change anything except the appearances (*phasis*) that record and reflect transactions across the inversive boundary. When Antiochus complies with Popilius’ Injunction he responds to a rhetorical mandate which has the effect of an apotrope, a “go-back” warning. This encounter makes no sense without taking inversive geometry into account.

My case for the primacy of inversive geometry over the topology of the real projective plane, the topology founded by Girard Desargues and Pappus of Alexandria, is only circumstantially a mathematical argument. Mathematics smiles on inversive geometry by making calculations straightforward and easily-mastered. With simple axioms concerning the fact that what is, inside the inversion circle, the center, will be, on the outside, the horizon stretching to infinity or,



rather, the very infinities that, with the line, seem to be on either side but are in fact the same point. The circle touching both perimeter and center of the inversion circle will be a straight line tangent to that circle, circles falling short of the center will remain as circles on the outside. This will be what allows Lacan to “restate” the Borromeo rings as a cross and circle, an “Urbi et orbi” (“church and the world”) knowing that this Brunnian braid version of the RSI will feature the Imaginary as the gravitational field within which the Real and Symbolic may play out their binary discomfiture.

There is no economical way to conclude this essay, since the cross and circle apply not only to the full field of psychoanalysis but to the human condition in general. I do not need to “make a case” for the inversion circle, I need only to recognize that, were we to realize its significance all at once we would be compelled, like the Sphinx of Thebes, to jump off the nearest cliff. The relation of the Real and the Symbolic, which is perfectly well expressed by the judgment Hades imposes on Castor and Pollux, that they must divide existence into halves that they can occupy only one at a time, is the complexity of contention at the level of particulars, O and I. These have been set loose by the subtraction of E, the unary trait, whose positive embodiment in the A, the universal affirmative, retains in its imposture as a master signifier, the emptiness and void of double negation, the  $\emptyset$  as  $\Leftrightarrow$ , as Lacan puts it at the lower left corner of the fundamental polygon of the torus.

Instead of further summarizing, might I employ my idea, that Shakespeare has thought of this all before, with the example of Titania’s speech to Oberon in *Midsummer Night’s Dream*:

These are the forgeries of jealousy:  
And never, since the middle summer’s spring,  
Met we on hill, in dale, forest or mead,  
By paved fountain or by rushy brook,  
Or in the beached margent of the sea,  
To dance our ringlets to the whistling wind,  
But with thy brawls thou hast disturb’d our sport.  
Therefore the winds, piping to us in vain,  
As in revenge, have suck’d up from the sea  
Contagious fogs; which falling in the land  
Have every pelting river made so proud  
That they have overborne their continents.  
The ox hath therefore stretch’d his yoke in vain,  
The ploughman lost his sweat, and the green corn

Hath rotted ere his youth attain'd a beard;  
The fold stands empty in the drowned field,  
And crows are fatted with the murrion flock;  
The nine-men's-morris is fill'd up with mud,  
And the quaint mazes in the wanton green  
For lack of tread are undistinguishable.  
The human mortals want their winter cheer:  
No night is now with hymn or carol blest.  
Therefore the moon, the governess of floods,  
Pale in her anger, washes all the air,  
That rheumatic diseases do abound:  
And thorough this distemperature we see  
The seasons alter: hoary-headed frosts  
Fall in the fresh lap of the crimson rose;  
And on old Hiems' thin and icy crown,  
An odorous chaplet of sweet summer buds  
Is, as in mockery, set; the spring, the summer,  
The childing autumn, angry winter, change  
Their wonted liveries; and the mazed world,  
By their increase, now knows not which is which.  
And this same progeny of evils comes  
From our debate, from our dissension;  
We are their parents and original.

“Parents and original” ... the Real and Symbolic in terms of the temporal irony, Lacan’s  
“negative formula,” of generation ... I can’t do better than this *phasis*! It is the woman’s song to  
the man, the not-all revisionary reading of the 1 as prior to the three. *Non omnis homo mendax*.