

A Rather Long Footnote about “Mean and Extreme”

In Seminar XIV, Lacan often uses the term “mean and extreme.” What is the exact meaning of this? Is it simply a way of indicating a point inside the interval defined as the Big Other, A, and the little a positioned outside the interval? The answer is more interesting.

The expression “mean and extreme” has a precise meaning in mathematics. It is derived from the idea of analogy, A:B::C:D, meaning “the relation of A to B is equivalent or comparable to the relation of C to D.”

If we write this as a comparison of fractions, the “:” becomes the — and the :: become the equal sign.

$$A : B :: C : D$$

$$\frac{A}{B} = \frac{C}{D}$$

The specific elements are named. The “means” are the interior terms, B and C, the “extremes” are A and D.

Means and Extremes of Proportions

$$\frac{a}{b} = \frac{c}{d} \quad a, d = \text{extremes}$$
$$b, c = \text{means}$$

extreme \rightarrow 5 \leftarrow 21 \leftarrow mean \rightarrow 3 \leftarrow extreme

mean \rightarrow 7 \leftarrow extreme \rightarrow x \leftarrow mean \rightarrow 4 \leftarrow extreme

$$\frac{5}{7} = \frac{15}{21} = \frac{3}{x} = \frac{4}{12}$$

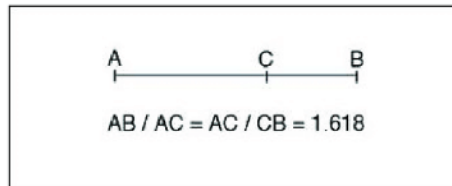
As the fraction-style of writing indicates, the means and extremes actually can be calculated by cross multiplication. In the above example on the right, x is multiplied by 4 and 12 by 3, giving $4x = 36$, or $x = 9$.

But, the more interesting relation is to the idea of the harmonic mean, which is found by taking the inverse of the average of the inverses of terms, taken as “instances” (numbers you want to average). In the case of 1, 4, and 4, there are three instances (samples) and to find the arithmetic average you add $1+4+4$ and divide by 3. To find the harmonic mean you first use the inverses of the instances: $1^{-1} + 4^{-1} + 4^{-1}$ and divide that by 3 ($1/1 + 1/4 + 1/4$, added and divided by three (1.5), *but take the inverse of that, $3/1.5$, or $2/1$.*

Why is the harmonic mean important? When Lacan refers to the mean and extreme, it is clear he's talking about the harmonic mean, because he refers, in almost the same breath, the Golden Mean.

This equal proportion, applied to linear geometry, corresponds to what Euclid called the Division in Extreme and Mean Ratio (DEMR) or the Golden Proportion: "A straight line is said to have been divided in extreme and mean ratio, when the ratio of the whole line to the larger segment is the same as the ratio of the larger segment to the smaller segment." The Golden Proportion, also known as the Divine Proportion, is the irrational number 1.618 which is represented by the Greek Letter Phi (Φ).

From the same website, https://www.researchgate.net/figure/The-Division-of-a-straight-Line-into-Extreme-and-Mean-Ratio_fig1_330445311



The ratio of AB to AC equals the ratio of AC to CB

This looks familiar!

The calculation of the harmonic mean, the division of a line segment, and the involvement of inverses (negative powers of 1) — all aspects of the mathematical idea of the mean and extreme — are used in Seminar XIV at one time or another, but I would suggest that the original formulation, $A:B :: C:D$ is also relevant. This is the classical definition of metaphor, which Lacan takes issue with in his critique of Perelman, in "The Metaphor of the Subject," Translated by Bruce Fink in *Écrits, The first complete edition in English*, pp. 755–758. Perelman's "standard" definition is that metaphor is an analogy with one term missing. Lacan's formula for metaphor looks a lot like the mean and extreme's "fraction-style" version but is different on several critical counts.

$$\frac{S}{S_1} \cdot \frac{S_2}{x} \rightarrow S\left(\frac{I}{s''}\right)$$

On the left, one signifier (S) replaces another, S_1 which is suppressed. To the right of the multiplication sign, \cdot , "the same signifier" is converted into something belonging to the mean: S_1 . The "extremes," S and x, enclose the mystery of this second numerator, which is constructed, Lacan says, of metonymies. He's thinking of Freud's famous "parapraxis," where Freud forgets the name "Signorelli" but remembers it in fragments that seem to be linked. The linkages are metonymic because only *part* of each word that reminds him of Signorelli is involved, and the other parts couple with other word-reminders: Botticelli > Boltraffio > Trafei The metonymies

can even be divided by the context. Freud has seen “signor” in “Signorelli,” something that only a foreigner could do. He has *not* repressed Signorelli, according to Lacan, but *signor*, the equivalent of the German *Herr*, which allows him to also involve *Herzegovena*.

The linked reminders are like pins in the map of Freud’s travels across the Adriatic landscape. He has conversations with fellow travelers about Turks, who are very polite to their physicians, *always calling them Herr Doktor*, and who are famous for preferring death to a life without sex. Then he hears of a former patient who has committed suicide in a small town, Trafei, in *Bol-zano* Province. As with a dream, the two dynamics are displacement and condensation; metaphor and metonymy. Lacan’s adaptation of Freud’s metonymic “cloud” conversion shows that he thinks it is precisely related to metaphor:

$$\frac{X}{\text{Signor}} \cdot \frac{\text{Signor}}{\text{Herr}}$$

The X is the signifier that has taken the place of what Freud sees in the name Signorelli, but which no native Italian would see. But, *nothing* has taken the place of Signorelli! Freud has suppressed it! Therefore we see the X on the other side of the “extreme terms,” beneath the Signor numerator on the right. The X is algebraic: the value of an “unknown” that can be *substituted* by any alternative value. These are the series of words and stories Freud forms when he tries to remember the name, or when he hears a story that “rings a bell,” such as the stories of the Turks and the ex-patient who has committed suicide.

The two interior terms, “Signor,” would seem to cancel out when Lacan “solves” this equation with $S(I/s)$, sometimes written as $S(1/s)$. The I or 1 hints that the “endless search for new metonymies” is brought to a conclusion, *s*’, by the function of the unary trait. This seems to be the same way the Golden Ratio, \emptyset , brings the mean and extreme to a final “point” or “moment” along the line that Lacan calls a slide-rule. “Bringing to an end” has the sense of “finding the purpose or guide” to a dynamic process. In the slide-rule analogy, a lateral movement is formed by arranging the powers of *a* into even and odd values to the left and right of the value of \emptyset . I would suggest that \emptyset and *s*’ play the same roles here: terminal points that work like a vanishing point in projective geometry: something that can be brought into the plane of argument even though it still has the function of being at infinity.

This is the “intimate object” Lacan elsewhere calls *extimité*. The intimacy has a temporal sense. In Seminar VII, *The Ethics of Psychoanalysis*, Lacan notes that Daphne forms her own trap at the very moment she wishes to flee the embrace of Apollo. This “as soon as” idea is also present in the relation of the two interior (“mean”) terms of Freud’s parapraxis, the two *Signors*. Cancellation mathematically is something that Lacan seems to enjoy as a “lucky break.” As soon as Freud suppresses the *Signor* of *Signorelli*, he sets up a charged ground for the metonymies that will link in the same line that his travels take. The metonymies will be like pins on the map, marking points where some connection is made between his forgetting and a word he recalls or a story he hears.

Here is direct evidence that Freud's travel is *authenticated* by the metonymic line of signifiers that approximate the form of his lost meaning.

Elsewhere, Lacan refers to the root meaning of *purloin*. Originally a French word, *purloin* means to "run alongside." The purloined letter of Poe's short story sits in a space that "runs alongside" of the space the police search in vain to find it. Parallel positioning is important. Vico calls this the "Lesbic line" because carpenters in Lesbos make adjustable curves using the extremely pliant lead found only on this island. It allows them to follow in great detail an irregular curving profile. It allows them to duplicate what we could generalize as a metonymic chain, a "purloined" series of signifiers that reside in a *separate space running alongside* of the events and places of Freud's travels.

I think this is significant because it is only in "running alongside" that we notice the effect of *cathetus*, the way the vanishing point seems to attach itself to the viewing point. We notice this when we move and look to the side, where things in the distance seem to move slower than things in the closer field. Extrapolating, we see how the vanishing point at infinity is completely in synch with our moving viewpoint. *Cathetus* implies *conatus*, the ability of a point to be the same and dynamic at the same time. Vico expands this as the idea of the metaphysical point in his work on the contronymic meanings of ancient terms, which corresponds, interestingly, to Freud's study of contronyms, "The Antithetical Meaning of Primal Words."

Conatus and *cathetus* are Vico's version of Lacan's slide-rule analogy, in that lateral motion reveals an "interior infinity," the value of \emptyset . The "mean and extreme" are used temporally, as a resolution between a *palintonos harmoniē* and a *palintropos harmoniē*. By the same token, we should be able to recover a "Vichian sense" in Lacan's mean-and-extreme analogy and the supportive visualization of the slide rule.

Why is this important? Lacan's interest in topology aims to establish the immediacy — the intimacy — of a kind of space "where things get done." This is a virtuality of effectiveness, which Žižek has addressed in a video about "The Reality of the Virtual," 2004. Lacan makes an effort to prevent projective geometry from becoming a speculation about a "space out there," associated with a mysterious "fourth dimension," an escape from Euclidean entrapment within a perspectival chamber. It is just the reverse. Lacan shows how Euclid promises incontinence, with his idea of an impossibly distant vanishing point, and a universal method for dividing and describing all space. Projective topology is, instead, about the way "traps" are formed inside this Euclidean incontinence. Traps are, after all, about containment, continence.

Daphne forms her own trap simply by wishing to escape — *conatus*. Her *conatus* immediately engages a *cathetus*, something that, though at infinity, follows her around, folding her space around her. The instantaneousness of this formation, and its subsequent resistance to the temporality of her flight, make *conatus* equal to *cathetus*, and find an *internal* vanishing point akin to Lacan's determination of \emptyset on the inside of the interval, A , which he identifies with the numeric 1. The 1 allows the values of a^n to be smaller and smaller, *internal* to the 1, the Big Other. By being internal, they can be arranged into odd and even "sides" and set to "vanish" at the point of \emptyset , which is Lacan's *cathetus*.

As Jacques-Alain Miller has claimed, the idea of *extimité* permeates all of Lacan's thinking. At the same time, Mladen Dolar has claimed that anamorphosis does the same thing. I suggest we make a leap of faith and equate anamorphosis and *extimité* not as identical but as *reaching the same end*. Anamorphosis is about the relation of two incommensurable spaces, *extimité* is about the "impossible" way the inside connects to the outside. Both, it seems evident, can claim a relation to projective geometry because both are (1) self-intersecting and (2) non-orienting. Like the Möbius band and cross-cap, space folds around itself. As with Lacan's heavy investment in the "reference polygon" of the torus, what seems to be a rectangle is in fact a relation between two voids.

Lacan's idea of mean and extreme is dramatically broad and encompassing. It involves his theory of metaphor, his idea of the relation of demand and desire, his definition of the Big Other and *objet petit a*, his idea of the Unconscious as an *act* of suppression that can be "unlocked" only by another act, the act of Analysis.

At the same time, Lacan's project seems itself to have a "purloined" program, that of Vico's. Vico's theory of metaphor is breathtakingly similar to Lacan's. If one reads Lacan's formula aloud, if one *narrates* it, it reads like Vico's *New Science*, in his description of the formation of the "imaginative universal" of the first (Cyclopean) humans. It has to be said that architecture theorists have no conception of Cyclopean culture or its relation to idempotency (the Promethean prohibition against moving the hearth) or the relation to the practice of divination. In this sense, architecture theory will forever be unable to connect to the human use of boundaries and the relation of buildings and settlements to these boundaries. There is no point in "trying to teach" architectural theorists about the metaphor that Vico called the *universale fantastico* because they will resist the idea of the "purloined" space of effectiveness and see projective geometry as an enemy rather than a universal key. This means that those of us who count as architectural theorists must turn in another direction to extend our speculations. With the impossibility of relating Vico/Lacan's idea of metaphor, the necessity of centralizing metaphor's means-and-extremes logic must be extended to architecture as it is encountered in life and ethnography. This will be an entirely new kind of critique.

I extend this harsh conclusion. Lacan's commitment to the continuity of his ideas means that he gives many different "causes" for any single effect. In the technique of *mi-dire*, he stops short in his presentations to allow his audiences to choose which among his selection of causes is the most productive and personally meaningful *for them*. Vico, in the same way, advocates this principle literally, and constructs *The New Science* using the same idea of a "menu of causes." The fact that both Lacan and Vico advocate the same research method, of taking up where they leave off, is added to the congruencies on other central matters, such as the "sorites" emergence of human laws, the structure of metaphor, and the meaning of fantasy. Never have two thinkers so accurately duplicated the other's thought without the least hint of collaboration or historical influence. It is possible to say that, anachronistically, "Vico must have been reading Lacan."

Perhaps Lacan was reading Vico "all along," as he drank his cup of Joyce, laced with Vico's undetectable elixir. The coincidence is otherwise inexplicable. However, the Vico/Lacan connection is valuable for architectural theorists who, abandoned by their own fields and alienated

from their own source materials, must strike out in new directions. Just as Vico was the odd man out at the University of Naples and just as Lacan was thrown out of the very groups he had formed, we have to recognize that official organizations and the search for truth do not mix. The authentication process must be appropriated by universities and professions in a way that is controlled by an invisible power-elite. It cannot be allowed to be a function of any “search for the truth.”

Simple phrases like “mean and extreme” may be dismissed at first as being vague or off the cuff, but Lacan seems always to have something in mind. In this case, we have related the slide-rule analogy and its involvement with the Golden Mean to metaphor, parapraxis, and the Unconscious. At the same time, we see that Lacan has arranged terms to create the “jagged edge” of the *tesseræ* that allow his theory to join (rejoin?) Vico’s. This idea of rejoining raises the intriguing question of “what were Vico and Lacan before they were Vico and Lacan,” and what was the original *union* of ideas that later separated into distinctively different and historically disconnected teachings. Perhaps this question is itself a case of means and extremes.

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