Cultural Techniques of Mirroring from Lecanomancy to Lacan

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Not long ago, after a trying railway journey by night, and much fatigued, I got into an omnibus, just as another gentleman appeared at the other end. 'What degenerate pedagogue is that, that has just entered,' thought I. It was myself: opposite me hung a large mirror. The physiognomy of my class, accordingly, was better known to me than my own.

Ernst Mach, *Contributions to the Analysis of the Sensations*[1]

I can report a similar adventure. I was sitting alone in my *wagon-lit* compartment when a more than usually violent jolt of the train swung back the door of the adjoining washing-cabinet, and an elderly gentleman in a dressing-gown and a traveling cap came in. I assumed that in leaving the washing-cabinet, which lay between the two compartments, he had taken the wrong direction and come into my compartment by mistake. Jumping up with the intention of putting him right, I at once realized to my dismay that the intruder was nothing but my own reflection in the looking-glass on the open door. I can still recollect that I thoroughly disliked his appearance. Instead, therefore, of being *frightened* by our 'doubles', both Mach and I simply failed to recognize them as such. Is it not possible, though, that our dislike of them was a vestigial trace of the archaic reaction which feels the 'double' to be something uncanny?

Sigmund Freud, The "Uncanny"[2]

The tip of my nose and the contours of my eye sockets are all that I see of my own head. I can, of course, see my eyes in a three-faced mirror, but these are the eyes of someone who is observing, and I can barely catch a glimpse of my living gaze when a mirror on the street unexpectedly reflects my own image back at me. My body, as seen in the mirror, continues to follow my intentions as if they were its shadow, and if observation involves varying the point of view by

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[1] Ernst Mach, *Contributions to the Analysis of the Sensations,* trans. C. M. Williams. (Chicago: Open Court, 1897), 4.

[2] Sigmund Freud, "The Uncanny," *New Literary History* 7, no. 3 (1976): 645.

> holding the object fixed, then my body escapes observation and presents itself as a simulacrum of my tactile body, since it mimics the tactile body's initiatives rather than responding to them through a free unfolding of perspectives.
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> Maurice Merleau-Ponty, *Phenomenology of Perception*[3]

Introduction: Recursion as Object and Method

First Encounter: Mirrors and Modernity

In the encounters above, real and imagined, mirrors operate as interfaces between the general and the particular, the conscious and unconscious, and the observer and observed: like sonic booms and slips of the tongue, mirrors are also "threshold phenomena."[4] Each narrative, however, also problematizes the techniques of self-recognition that appear to locate a "self" in the mirror. Mach demonstrates that under certain conditions, and perhaps under all conditions, the individualized self as it appears in the mirror is the aftereffect of recognizing a generalized symbolic representation of *type*. Genus precedes species in his account: he argues that the physiognomy of his class is better known to him than that which is uniquely his own. Mach reverses the common-sense logic that says I recognize myself prior to the sundry symbolic attributes that "characterize" me as belonging to this or that social group.

Freud's encounter with the mirror (expressed, like Mach's, in a footnote, drawing attention to textual thresholds) uncannily doubles Mach's experience, and in doing so reverses Mach's reversal. Freud calls his experience "uncanny," associating it with the return of a repressed mnemic trace. If Freud's cathexis (his "thorough dislike") to the image he sees in the mirror is to have any significance at all, it must mean that he *unconsciously* recognized the image as himself and then expressed this recognition *consciously* as dislike for the stranger he beheld. Unconscious recognition of himself as an individual precedes his conscious dislike of the general other, hence the "vestigial trace" of an "archaic reaction" associated with his double. Freud can only dislike this

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[3] Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Donald A. Landes (New York: Routledge, 2012), 94.

[4] Umberto Eco, *Semiotics and the Philosophy of Language* (London: MacMIllan Press, 1984), 203. Research into cultural techniques often focuses not only on "techniques of identity and self-identification" (see Thomas Macho "Second-Order Animals: Cultural Techniques of Identity and Identification" *Theory, Culture and Society* 30, no. 6 (2013): 30-47), but also on thresholds (see, for example, Bernhard Siegert, *Grids, Filters, Doors, and Other Articulations of the Real*, trans. Geoffrey Winthrop-Young (New York: Fordham University Press, 2015)). Mirrors have the advantage of being implicated in both of these functions.

anonymous representative of his class because he has at another level already recognized him as himself. In short, to experience the uncanny reaction to his *double*, he must have already unconsciously registered that the figure he beheld was Freud.

Merleau-Ponty also unexpectedly encounters a mirror while traveling, allowing him to reverse Freud's reversing of Mach's reversal. The mirror in his account transforms the mirrored body into a shadow and simulacrum, an object that is *neither* ego nor alter. I can never observe myself as I am when I am not observing myself, he argues: in a mirror, I can at most recursively observe myself observing myself because mirrors do not have the capacity to record. Only recording (as in photos or film) offers the temporal delay necessary to produce a situation in which I could approximate observing myself as others observe me (often an uncanny experience). Mirrors, then, only provide the possibility of second-order observation, meaning that they do not afford, but actually foreclose, the possibility of seeing oneself. For Merleau-Ponty, the body is the always-present condition of experience, and in "resorting to the mirror's image," one is only ever referred back to that condition, to the body which is "prior to every act of seeing."[5]

Each of these mirror-encounters enters its discussion through a moment of breakdown. Fatigue, turbulence, surprise, and the unfamiliar contexts of travel interrupt the seemingly uncomplicated and immediate process of self-recognition, foregrounding the perceptual techniques involved in reflection. Even though the accounts differ significantly, they do not contradict or invalidate one another. Rather, they refract each other by reversing and rotating around a common set of questions. This returning again and again to moments of confrontation with the intimate stranger in the mirror is also recursive.[6] It attests to the ritual concerns associated with a particular technical regime of the mirror. Gods, ghosts, and goblins will never appear in these mirrors. It would make no sense to ask if sacred inscriptions on the mirror's obverse instruct one in its proper use. Mach, Freud, and Merleau-Ponty treat mirrors as purely optical devices that are detached from the symbolic worlds they occupy. Why are there so many mirrors on trains and in the streets? One reason, seemingly, is to initiate inquiries concerning what constitutes a self, as if this were a question one could ask in isolation from techniques and technologies of identity and

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[5] Merleau-Ponty, *Phenomenology of Perception*, 94.

[6] It is reminiscent of one of the principal images of recursion: being caught in a closed-loop maze so that no matter which way you turn you end up in the same place, treading endlessly over the same territory. M.C. Escher and Borges are well known for playing with this image of recursion, but Freud also reminds us, in the story he tells about finding himself again and again in the red-light district of a provincial Italian town, that this form of recursion can also be uncanny.

identification.[7] But it matters (and one can assert the following without having seen the mirrors in question precisely because there is no mention of their material composition) that these are silvered, plate-glass mirrors whose specific depth of field, range of light absorption, and minimally-distorting reflection are suited to the production of uncanny doubles and phenomenological recursions. The proliferation of glass mirrors in the everyday spaces of modernity constitutes a cultural-technical standard of the media ecological milieu.

In fact, it is difficult not to detect a common protagonist in all of these stories who is something of a flâneur, the archetypal figure of modernity, strolling in public spaces, primed for philosophical reflection and moments of depersonalized reverie and open to the aesthetic possibilities of modern networks of travel and trade. The flâneur himself, Baudelaire writes, "may also be compared to a mirror...to a kaleidoscope endowed with consciousness....an ego athirst for the non-ego."[8] As we will see, cultural techniques for using mirrors are intimately tied up with their construction in terms of the material from which they have been made and the culturally dominant design choices that guide their production. Benjamin noted as much in his *Arcades Project*, where he found it worth identifying a technological *a priori* to the Paris Arcades: "So long as the plate glass was produced solely through expansion of a glass cylinder blown with the mouth at the end of the pipe, its dimensions had a constant and relatively confined limit, one determined by the lung power expended in the blowing. Only recently was this replaced by compressed air. But with the introduction of the casting process...in 1688, these dimensions were immediately and significantly increased."[9] Not only were blown glass mirrors limited in size, they were also typically convex, leading to distorted images of what they reflected. The entire set of functions of mirrors in the Paris Arcades—endless repetition of the crowd, extension of city space, and, most importantly for Benjamin, the confusing of interior and exterior spaces—simply wouldn't work with thousands of small, convex mirrors producing a schizophrenic funhouse of distorted shapes. Baudelaire's flâneur, "athirst for the non-ego," quenches himself in an infinite recursion of anonymous doubles, human and nonhuman, that proliferate in city spaces: "Where doors and walls are made of mirrors, there is no telling outside from in, with all the equivocal

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[7] I am indebted to Thomas Macho's work on techniques of self-identification for inspiring my interest in this subject. See Macho, "Second-Order Animals."

[8] Charles Baudelaire, "The Painter of Modern Life," in *Modernism: An Anthology of Sources and Documents*, ed. Jane Goldman, Vassiliki Kolocotroni, and Olga Taxidou (Edinburgh: Edinburgh University Press, 1998).

[9] Walter Benjamin, *The Arcades Project*, trans. Howard Eiland and Kevin McLaughlin (Cambridge, MA: Belknap Pr. of Harvard Univ. Pr., 2003), 539.

illumination. Paris is the city of mirrors" (537). Thus, the flâneur "gains his image more quickly here than elsewhere and also sees himself more quickly merged with this, his image. Even the eyes of passersby are veiled mirrors, and over that wide bed of the Seine, over Paris, the sky is spread out like the crystal mirror hanging over the drab beds in brothels" (537-538). The "equivocal illuminations" of modern plate-glass mirrors that repeat with minimal distortion seem to decenter the strolling subject, promoting a kind of "dissociative identity effect" in which the controlling ego is displaced. Benjamin echoes Job in his invocation of a mirrored sky (see below), but he resorts to a very different sentiment: He does not marvel at the mystery of God's greatness, but instead sighs at the spiritual flatness of the scene: the highest and the lowest are indistinct in a world where everything is illuminated.

Second Encounter: Cultural Techniques and Media Archaeology

This article begins to untangle the ways in which mirror technologies have, through their material composition and design, operated as nonhuman agents in cultural techniques of identity formation. The concept of cultural techniques, writes Siegert,

> always comprises a more or less complex actor network that includes technical objects and chains of operations (including gestures, among other things) in equal measure. Humanness and the power of agency typically ascribed to human beings are in this regard not taken as always already given but as constituted in the first place through cultural techniques. In this sense cultural techniques allow both the being human and the being inhuman of the actors, and they reveal inversely the extent to which the human actor has always already been decentered onto the technical object"[10]

Cultural techniques, then, are also always recursive in the sense that the "humanness" and "agency" of the user are conferred in the execution of cultural techniques that seem to require human agents to execute them. Cultural techniques are often techniques of hominization[11] that guide a culture's symbolic distinctions between humans and other entities like animals and machines (See, for instance, Siegert on doors and gates,[12] Macho on cave paintings of handprints,[13] or Vehlken on swarms[14]). These distinctions achieve a concrete materiality in objects and practices that encode

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[10] Bernhard Siegert, "Doors: On the Materiality of the Symbolic," trans. John Durham Peters, *Grey Room* 47 (2012): 7-8.

[11] Bernhard Siegert, *Cultural Techniques: Grids, Filters, Doors, and Other Articulations of the Real* (New York: Fordham University Press, 2015), 14.

[12] Siegert, "Doors."

[13] Macho, "Second-order Animals."

[14] Sebastian Vehlken, "Zootechnologies: Swarming as a Cultural Technique," *Theory, Culture and Society* 30, no. 6 (2013): 110 – 131.

them in the social field. However, upon making this point we are immediately confronted with a question of priority: Do culturally dominant concepts of self promote the design and manufacture of particular kinds of mirrors, or do particular kinds of mirrors promote culturally dominant concepts of the self?

The answer to this question in cultural techniques research is both and neither. Rather, technologies, techniques, and concepts accrete in concrete situations of practice, as Macho writes in a well-known definitional statement of the field:

> Cultural techniques—such as reading, writing, painting, counting, making music—are always older than the concepts that are generated from them. People wrote long before they conceptualized writing or alphabets; millenia passed before pictures and statues gave rise to the concept of the image; and until today, people sing or make music without knowing anything about tones or musical notation systems. Counting, too, is older than the notion of numbers. To be sure, most cultures counted or performed certain mathematical operations; but they did not necessarily derive from this a concept of number.[15]

The development of a mathematics that relies on concepts like "number" can thus be understood as a formalization of the cultural techniques of counting that preceded it. The formalization of mathematics as a system of concepts then allows further development of techniques for working with the concepts that were generated as part of that formalization process. Winthrop-Young makes the point succinctly: "the study of cultural techniques aims at revealing the ontic operations that underlie and give rise to ontological distinctions which are then liable to take over thought."[16] Vismann exemplifies this recursive process with reference to a specific cultural technique: "To start with an elementary and archaic cultural technique, a plough drawing a line in the ground: the agricultural tool determines the political act; the operation itself produces the subject, who will then claim mastery over both the tool and the action associated with it."[17] We find here a clear repetition of the primordial act of self-identification according to Lacan, the *aha-erlebnis* of the infant in the mirror: a tool makes it possible for the infant to encounter an image it (mis)recognizes as itself, which sets the infant on a trajectory whereby it will retroactively postulate the self it first encountered in the mirror as always-already having been there as the basis for

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[15] Qtd. in Geoffrey Winthrop-Young, "Cultural Techniques: Preliminary Remarks," *Theory, Culture and Society* 30, no. 6 (2013): 8.

[16] Winthrop-Young, "Cultural Techniques," 10.

[17] Cornelia Vismann, "Cultural Techniques of Sovereignty," *Theory, Culture and Society* 30, no. 6 (2013): 83 – 93.

the experience of self-recognition.[18] Whether we're talking about ploughs, mirrors, or mathematics, a logic of recursion is at work that is the means by which human beings tend to the ongoing reproduction of identity.

Recursion is a key word for cultural techniques and the closely-related field of media archaeology to which the present collection is dedicated. The relationship between media archaeology and cultural techniques research is so close it's sometimes tough to unbraid them. Among other similarities, they share media (broadly defined) as their objects of study, they both originate with German academics who travel in the same intellectual circles, and they are both theoretically founded in the archival methodologies of Foucault and Derrida that seek out the hidden or forgotten discursive margins which give shape to the whole. Their practitioners tend toward a radical interdisciplinarity, they draw linkages between the very old and the very new, and they are characteristically playful in style. The only truly generic distinction between them that I have seen is Wolfgang Ernst's argument that media archaeology should be limited to modern electronic media[19]. However, this distinction isn't widely accepted in media studies, likely because it territorializes the object spheres of researchers in a way that feels limiting.

Another way of distinguishing between media archaeology and cultural techniques that might be more productive is to take an inductive rather than a prescriptive approach to understanding what they do. Those who do media archaeology tend to focus on anomalies, curiosities, and even "imaginary" media.[20] Zielinski, describing what he calls a "variantology" of the media, writes: "Instead of looking for obligatory trends, master media, or imperative vanishing points, one should be able to discover individual variations. Possibly, one will discover fractures or turning points in historical master plans that provide useful ideas for navigating the labyrinth of what is currently firmly established."[21] The media archaeologist's historical objective is to operate as a cartographer of cultural imaginaries who uncovers the ways in which a range of options and solutions condense and eventually sediment into cultural and technological standards. They are stories, as Parikka puts

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[18] Jacques Lacan. "The Mirror Stage as Formative of the I Function as Revealed in Psychoanalytic Experience," trans. Bruce Fink. In *Ecrits*, 75-82.

[19] Born writes, "Ernst proposed reserving the concept of media strictly for the study of modern electronic technology and adopting the concept of cultural techniques for the study of premodern mediality" (110). Erik Born, "Media Archaeology, Cultural Techniques, and the Middle Ages: An Approach to the Study of Media before the Media," *Seminar: A Journal of Germanic Studies* 52, no. 2 (2016).

[20] Jussi Parikka, *What Is Media Archaeology ?* (Cambridge: Polity Press, 2016).

[21] Parikka, *Media Archaeology*, 51.

it, of how things "could have been otherwise" (13). Why did the radio turn out to be predominantly a commercial broadcast device for consumers? Media archaeology is suited to tracking down the alternative pathways the development of radio might have taken by cataloging real and imaginary media that contributed to the articulation of radio's place in the symbolic order. Cultural techniques, alternatively, is typically more interested in discovering what needed to be in place for a cultural practice or concept to take hold or "stabilize." Marcel Mauss' influential description of "techniques of the body"[22] is instructive here. In his discussions of the techniques of walking, shoveling, swimming and the rest, he demonstrates that body techniques are not simply biological capabilities, nor are they simply imposed on the body by technologies, nor are they mandated by culture. Rather, the generalization Mauss draws from his studies "is not to redraw the boundary between nature and culture in favor of the latter, but to redefine it as a zone of constant exchange that has no predetermined location."[23] Thus, the cultural techniques perspective operates from the "bottom up." As Geogehagen writes, "Rather than starting with an already-organized technology, research on cultural techniques commences with an inchoate mixture of techniques, practices, instruments, and institutional procedures that give rise to a technological set-up....This is not *media archaeology* but rather an archaeology *of media.*"[24]

In shorter form, both media archaeology and cultural techniques research are interested in technical standards, codified techniques, and stabilized codes, but they often start from different places and ask slightly different questions: the former asks how else a medium could have been made or how else it could have stabilized patterns of use and communication in a social field by examining archival alternatives that highlight the contingency of the culturally given, while the latter asks what necessary material and symbolic constituents needed to be in place for the standard or stabilized symbolic code to take hold. My characterization of media archaeology and cultural techniques no doubt shaves off some nuance in the interest of emphasizing their capacity for mutual catalyzation, but, in the context of this special issue that in part seeks to "refresh" our understanding and practice of media archaeology, I submit that focusing on the potential of media archaeology and cultural techniques to augment (and even recursively nest inside) one another will prove much more fruitful than territorializing around objects and techniques of study or particular critical

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[22] Marcel Mauss, "Techniques of the Body," *Economy and Society* 2, no. 1 (1973).

[23] Winthrop-Young, "Cultural Techniques," 10.

[24] Bernard Dionysius Geoghegan, "After Kittler: On the Cultural Techniques of Recent German Media Theory," *Theory, Culture & Society* 30, no. 6 (2013): 69-70.

informants. Friedrich Kittler, the *pater familias* of these sibling modes of media research, called for a "recursive history" (as opposed to linear history) of media "where the same issue is taken up again and again at regular intervals but with different connotations and results."[25] The "recursive history" Kittler called for needs both media archaeology and cultural techniques to develop a robust understanding of any aspect of a discourse network. The oldest meaning of "recursive" is simply to describe something that recurs, that returns again and again to the same place—but hopefully, as Kittler indicates, "with different connotations and results."[26] We might then imagine media archaeology and cultural techniques as vehicles that allow us to return over and over to the same place—recursively, uncannily—in such a way that we might draw more complete pictures of how media, techniques, and concepts stabilize and destabilize in diverse cultural fields.

The present examination of mirroring techniques takes an approach that has more in common with a cultural techniques perspective because it asks how historical examples of mirror technologies worked to stabilize cultural meanings of mirrored reflections through the standardization of a manifold of elements: raw materials, production techniques, shape and size, inscriptions on the mirror's obverse, implementation in cultural ritual (from morning ablutions to burial rites), and even the ways that rigid metaphorical employments in medieval "self-help" literature helped codify the meanings of reflective media. In this way, it is closer to the style of cultural techniques; however, it is not difficult to see how a media archaeology of mirrors in general—of their historical trajectories as fire starters, weapons, signaling devices, and decorations for instance—is also crucial to the medial history of mirrors.

The ubiquity of mirrors is a pervasive social fact like indoor plumbing or mechanized mass agriculture, and, just as our infrastructures of waste removal and food production circumscribe our techniques of hygiene and eating, so do our technologies of self-identification guide our cultural techniques for being a self. In all cases—not just for mirrors, but for writing, photographs, film, social media, and myriad other technologies around which selves condense—technical standards for the material production of technologies of self-identification are prior to and circumscriptive of the cultural availability of specific selves. I understand the self here

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[25] John Armitage, "From Discourse Networks to Cultural Mathematics: An Interview with Friedrich A. Kittler," *Theory, Culture & Society* 23, no. 7-8 (2006): 33.

[26] Huhtamo's (2011) concept of "media archaeology as topos study" resonates here: "Identifying topoi, analyzing their trajectories and transformations, and explaining the cultural logics that condition their "wanderings" across time and space is one possible goal for media archaeology" (28). Erkki Huhtamo, "Dismantling the Fairy Engine: Media Archaeology as Topos Study," in Huhtamo, Erkki, and Jussi Parikka. *Media Archaeology: Approaches, Applications, and Implications.* Berkeley, CA: University of California Press, 2011.

as always-already embedded in a culture that defines what a self is through the stabilization of symbolic distinctions in material practice. The reflection that appears on the surface of a mirror is not an ontological fact, a given, an ahistorical absolute. Rather, mirror technologies and their associated practices contribute to the production of a stable reality in which the figure of a unified human self can persist through time. This is another meaning of recursion: the mirror is required to produce a certain kind of self which then stabilizes by identifying itself as a "user" of the mirror. As Siegert says, "We are not interested in the difference between subject and object. We are interested in the operations that first create this distinction and see it as an unstable process."[27]

This paper investigates how mirrors have contributed to the production of a stable reality and a stable sense of what a self is as part of that reality by standardizing certain symbolic distinctions with the proviso that no trajectory of stabilization is ever complete or closed. To this end, I have sought out examples of mirror techniques that highlight the agentive capacities of objects in a variety of ways. This is not a linear history: its style is recursive as are its objects of study in the sense that it returns again and again to the same issue of the relations between mirrors and selves, but each time with "different connotations and results." The effect may be jarring, as when some degenerate pedagogue bursts unannounced into your omnibus cabin, but it is the style, I believe, most appropriate to the subject matter and most illustrative of the thesis that the selves we find in mirrors are complex, contingent phenomena that only achieve a potential for stabilization by way of cultural techniques for self-identification.

Ancient Mirrors I: Earth and Sky

"Hast thou with him spread out the sky which is strong, and as a molten looking-glass?"[28] Elihu asks Job, urging him to consider the opaque omnipotence of god. Elihu, a young man whose divinely-inspired words mirror those Yahweh delivers in the subsequent chapter,[29] addresses Job after the speeches of his three wise friends fail to reveal a satisfying explanation for Job's suffering. One cannot discern a logic of justice

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[27] Winthrop-Young, Geoffrey. "Material World: An Interview with Bernhard Siegert." Artforum.com. June 01, 2015. Accessed July 13, 2018. https://www.artforum.com/print/201506/material-world-an-interview-with-bernhard-siegert-52281.

[28] Job 37:18

[29] Seow points out (Choon-Leong Seow, "Elihu's Revelation" *Theology Today* 68, no. 3 (2011): 253 – 271) that Elihu is sometimes depicted as the mirror image of Yahweh in Byzantine illuminated manuscripts.

in Yahweh's acts, Elihu argues, for his motives are undiscoverable: "Behold, God is great, and we know him not."[30] Yet, by beholding his works—the clouds, the light, the winds, and the rain—his greatness, if not his rationality, may be revealed. Elihu's God is not subject to the symbolic order of the human world, and Job's other interlocutors, fixated on the question of justice, have been mistaken in their attempts to discover him there. Yahweh's greatness is not found in the attribution of reasons to his works, but rather in the silent reception of their sublimity: in the understanding that "the balancings of the clouds" are utterly beyond comprehension. As G.K. Chesterton writes, the "great surprise" of the story is that Job is "suddenly satisfied with the mere presentation of something impenetrable."[31] Yahweh tells Job nothing, but Job feels "the terrible and tingling atmosphere of something which is too good to be told....God will make Job see a startling universe if He can only do it by making Job see an idiotic universe" (22-23). Elihu asks Job to behold nature as a mirror not to repair Job's alienation from God but to force Job into recognizing His irreducible otherness. The mirror, here a metaphor for the sky, thus serves as a technique of self-identification and self-management, but by showing the viewer only what is *excluded* from the realm of imaginary (mis)recognition.

The King James Bible's mistranslation of the Hebrew כִּרְאִי as "looking-glass," the word for mirror, exemplifies the ease with which media tend to "disappear" once they have reached a stage of technical standardization. By the time the King James Bible was published in 1611, minimally-distorting glass mirrors had been a European technical standard for almost a century (though Benjamin's rolled plate glass was still several decades away). At the time of the Book of Job's authorship (c. 6th century B.C.E.), however, looking-glasses were not available technologies, and they would not be for about 1,500 years. Mirrored surfaces were limited either to those that occurred naturally or to small, polished bronze plates. The handheld metallic mirrors with which Job's author would have been familiar were linked to his cosmology, in which the sky was not a reflective surface, but was, rather, a solid parabolic vault similar in structure to the typically-curved brass mirrors of the time. The standard cosmological theory that the heavens were a solid bowl supporting a heavenly store of water (an explanation for rain) prevails throughout the Book of Job,[32] which is what makes the brass mirror analogy apt. The glaringly obvious metaphor the King James translation misses is that brass mirrors were the most brilliant technologies of the time and the

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[30] Job 36:26

[31] G.K. Chesterton, "Introduction to the Book of Job" in *The Book of Job, with an Introduction by G.K. Chesterton.* (London: C. Palmer and Hayward, 1916), 6.

[32] *The Dictionary of Biblical Imagery*, eds. Leland Ryken, James C. Wilhoit and Tremper III Longman. (Downers Grove: InterVarsity Press, 1998), s.v. "Cosmology."

only objects that could transmit a light that would burn one's eyes like the sun.[33] The role of the mirror in Elihu's metaphor had much more to do with its brilliance and shape than it did its capacity to reflect one's face. The lesson of the Book of Job is that identification with God is impossible, and Elihu's mirror metaphor, properly understood, supports that lesson. Man does not see his own special uniqueness or God's care for him reflected in the vault of the sky; he sees only an idiotic universe, indifferent to his suffering and his existence. For the sky is not a mirror that reflects, it is a mirror that shines, which is a crucial cosmological distinction obscured by the King James translation's failure to discern the technical differences between silvered glass and polished metal mirrors.

Cast bronze mirrors were found throughout the fertile crescent, having likely originated in ancient Egypt several millennia prior. As in Elihu's time, Egyptian mirrors were closely associated with women and were typically toilette objects.[34] Lack of evidence makes it difficult to determine whether they served as anything other than a means to study one's own face prior to the Late Period (after 720 B.C.E.), even given their ubiquitous presence in burial contexts (11). There is clear evidence during the Late Period, however, that mirrors were important ritual offerings to the gods of the sun and moon, which suggests mirrors were tied to such ritual function as far back as the Archaic Period (c. 3200 - 2700 B.C.E.) (11). At least as early as the Middle Kingdom (c. 2000 - 1600 B.C.E.) mirrors were typically inscribed with scenes of funerary rites, and such rites were tied to the god Osiris, lord of death, the past, and, significantly, the Nile (11). Harold Innis explains, "With Ra, [Osiris] shared supremacy in religion and reflected the twofold influence of the Nile and the Sun. Night and day were joined as complementary—Osiris, yesterday and death; Ra, tomorrow and life. Funerary rites invented by Isis were first applied to Osiris. Conferring immortality, they have been described by Moret as 'the most precious revelation which any Egyptian god had ever made to the world.'"[35] The complementarity of Ra and Osiris was reproduced in mirrors whose brilliant face reflected Ra, the sun and life, and whose dark obverse depicted Osiris.

A picture begins to come into focus that helps demonstrate why Egyptian mirrors were inscribed with funerary rites: the mirror, which reflected light on its

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[33] Later translations also often replace "molten" with "cast," which makes more contextual sense. "Cast bronze mirror" is even more preferable than "molten looking-glass" given Job 37:21, which explicitly notes the difficultly of staring directly into the sun: "And now men cannot look on the light when it is bright in the skies, when the wind has passed and cleared them."

[34] Robert Steven Bianchi, "Reflections of the Sky's Eyes," *Notes in the History of Art* 4, no. 2/3 (1985): 11.

[35] Harold Adams Innis, *Empire and Communications* (Oxford: Clarendon Press, 1950), 21.

face, was "a symbol for both the sun and the moon, celestial bodies that illuminate the earth and overcome darkness." [36] The reflective surfaces of mirrors were thus symbolically linked to the triumph of life over death, and were understood to be "suitable symbols of aspired resurrection and…appropriately interred with the deceased" (15). The funerary rites on the obverse, instructions for attaining immortality that were associated with Osiris, complemented the reflective surface associated with Ra: as the face of the sun is reproduced in its reflection on the surface of the Nile, so the living face of the mirror's owner is reproduced in a bronze surface whose obverse is inscribed with rituals for treating the deceased. Life and death, sun and moon, sky and Nile, water, light, and darkness, are all quilted into the mirror to reflect both a cosmological structure and the place of the mirror's user in that structure. In this way, the ephemeral rays of light caught by Egyptian mirrors symbolically reflected the cultural obsession with conquering the ephemerality of life. As was the case with Elihu's mirror, the symbolic articulation of the object is intimately tied to its real material properties.

Connections between mirrors, holy fluids, and spiritual systems can be seen with striking clarity in Mesoamerican cultures from about 1500 B.C.E. to the Spanish conquest. Obsidian, a black volcanic glass, was an essential substance for ancient Mesoamerican peoples both economically and culturally, as it was used for the production of tools, weapons, and spiritual artifacts. Obsidian functioned as a "bridge between symbolic and physical realities"[37] that sustained "a metaphysical association of obsidian, its sources and local inhabitants, in ways which enabled the material to become a metaphorical embodiment—a reification—of cosmic and earthly identity" (222). Obsidian has been likened in importance for Mesoamerican peoples to that of steel for modern industrialized nations. [38] Its unique economic property is its characteristic conchoidal fracture, which makes it available, like flint, for the production of sharp tools. Obsidian can also be polished into brilliantly reflective surfaces, making it (since it is a true glass and not a crystalline form) the first glass mirror.

These two functions—sharp tools and reflection—coalesced into an "enduring Mesoamerican aesthetic" in which those involved with the collection of obsidian and its working into tools became associated with "cosmic forces."[39] The aesthetic reached

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[36] Bianchi, "Reflections of the Sky's Eyes," 14 – 15.

[37] Nicholas Saunders, "A Dark Light: Reflections on Obsidian in Mesoamerica," *World Archaeology* 33, no. 2 (2001): 221.

[38] Robert H. Cobean, Michael D. Coe, Jr. Edward A. Perry, Karl K. Turekian, and Dinkar P. Kharkar. "Obsidian Trade at San Lorenzo Tenochtitlan, Mexico," *Science* 174 no. 4010 (1971): 666.

[39] Saunders, "A Dark Light," 224.

its apotheosis in *Tezcatlipoca*, the central Aztec deity whose name means "Lord of the Smoking Mirror." *Tezcatlipoca* was typically depicted with his foot replaced by an obsidian mirror, and observed the world in a magical obsidian mirror that he kept in his shrine, the "House of Mirrors" (224). *Tezcatlipoca* also invented human sacrifice, an innovation connected to his association with the sacrificial obsidian blades used to offer human hearts to the gods. Obsidian, the "heart of the earth" (and also the meaning of the name for *Tezcatlipoca's* jaguar alter-ego *Tepeyollotl*), thus also bore a symbolic connection to that most precious of human organs—the motive force of the sacred bodily fluid that, like obsidian, could function as a natural mirror: "It was [*Tezcatlipoca's*] body, manifested as obsidian blades, which were the agents of sacrificial death, and which yielded the shiny rivers of blood known as 'precious water'" (232-233).

Mesoamerican obsidian mirrors hosted a number of associations that were derived from its material properties: that it is a natural substance, that it was the primary material used to make sharp tools, and that it can reflect images clearly (yet darkly) are material conditions that guided the symbolic fit between the substance and its cultural meanings. The tightly wound knot of meanings attached to obsidian promoted a recursive articulation of the human body and the landscape as reflections of one another. The mountain's sacred heart and precious water (its obsidian cache in arteries of cooled lava) were mapped onto the human body's heart and blood. The social and the natural were depicted as structural repetitions of one another that could be grasped in the ritual employment of the culture's mirror technology, a connection sustained by the chief deity. The mirror reflected a contiguity between the structural organization of the body and the topography of the earth that operated as the basis for an enduring cosmological system. The imaginary and symbolic territorialization of the body that coagulates in this mirror stage relies not only on the presence of a mirror, but on the materials and manufacturing techniques involved in mirror production.

These examples, taken together, begin to demonstrate how cosmology, technical production, and daily affairs are woven together in cultural techniques of mirroring that help to sustain the character and meanings of space-time in cultural imaginaries. In this sense we can understand mirrors as media that affirm certain social facts concerning the self in its social and cosmological contexts. Mirrors not only reveal the spatiotemporal biases of the cultures that produce them, they also contribute to the reproduction of those biases. Further, because they are linked to reflection, mirrors characteristically participate in a logic of recursion: whether brass, gold, or glass they are technologies of repetition, and they are often symbolically integrated into a cultural milieu as a technology that symbolically *repeats* wider

cultural assumptions. The reflective quality of the mirror lends itself to other spatiotemporal recursions: the mirror is an object that reflects light, but also, in its symbolic articulation as an important cultural artifact, it performs a secondary function whereby it also symbolically reflects cosmological notions. In doing so, the mirror thematizes reflection in addition to its capacity to reflect: elements of the mirror's design symbolically situate the cultural meanings of what can and should be found on its surface. The potential for self-recognition emerges in a world in which reflection, as an attribute of a specific mirror, has specific cultural meanings attached to it. Mesoamerican mirrors were endowed with a set of rules of execution that guided the user to find in them a subject of a particular cosmological-cultural system, just as Egyptian mirrors did.

Mirrors emerge from these examples of Hebrew, Egyptian, and Mesoamerican mirrors not simply as tools for reflecting an image of the bearer, but as *technologies of the self* that reflect an image of a self in a *world*, producing and confirming him as a subject of systems of cosmological and cultural law. While water and obsidian may be functionally equivalent in the sense that they both reflect rays of light that strike their surfaces, it presumably makes a difference whether an ancient Aztec catches a glimpse of himself in a basin of still water or studies himself in the petrified blood of *Tezcatlipoca*. These ancient mirrors gathered together the symbolic coordinates of cultural life, functioning as magical objects that narrated and legitimated the common sense of the cultures that produced them. For these reasons, they can be counted as cultural techniques, or chains of operations involving humans, things, and ways of doing that encode the real in the symbolic order.[40] The natural constituents that make culture possible in the first place (such as sun, water, plants, animals, people) are mapped in symbolic relations to one another, and these relations always include the selves who sustain the relations in symbolic ritual. Characteristically, such relations operate according to a principle of reflection or recursive repetition between the individual, culture, and environment. Humans exhibit the qualities of sacred animals; the landscape is a mirror of the heavens; the cosmos repeats itself over and over again at different scales, and the mirror links these scaled repetitions to one another.

Ancient Mirrors II: Water and Fire

Mirrors, especially natural ones, have not always been excluded from the sender-receiver model of communication, as they have often been used as channels for making

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[40] Bernhard Siegert, "Cultural Techniques: Or the End of the Intellectual Postwar Era in German Media Theory," *Theory, Culture and Society* 30, no. 6 (2013): 60.

contact with supernatural realms. For the ancient Greeks, divination held an important place, ranking as the second most esteemed *technai* Prometheus supplied to humanity.[41] The Greeks practiced many forms of divination, and among the most valued were extaspicy (reading animal entrails) and augury (reading the flights and sounds of birds). Because mirror divination did not require costly animal sacrifice, it was a "poor-man's technique," and was less reliable than extaspicy, which brought the seer into contact with the liver, the organ Plato called "the seat of divination." Thus, catoptromancy (mirror divination) is never mentioned in tragic drama, although it makes an appearance in Aristophanes' comedy *Acharnians* where a divinatory image appearing in Lamachus' oiled shield is absurdly juxtaposed with another that appears in honey poured on a cheesecake.[42] The *mania* Plato describes in the *Phaedrus*, which he links to *mantis*, the ancient Greek word for "seer," was not required for mere mirror divination. As a minor form, it belonged to the class of "technical" divination, distinguished from the more esteemed forms of "natural" divination. As Cicero notes in *De Divinatione*, those who become possessed by divine spirits are endowed with the gift of natural divination, while those who predict the future by "diligently investigating and committing to memory all such signs and the traditions of our ancestors concerning them…produce an elaborate system of that divination which is termed technical."[43] The Oracle at Delphi was, of course, of the former class, while less elite seers, who often travelled door to door, tended to be of the latter.

Reflecting pools of water were not only the first mirrors but also some of the earliest media for the divination of spiritual visions. The practice of scrying (looking into a transparent material to produce visions) was widely known and practiced in ancient Greece and took a number of different forms. One of the most common—the one to which Aristophanes refers above—was called "lecanomancy," in which one divined visions by inspecting a basin filled with water with an oil poured on top of it. According to the *Magical Papyrii*, one contacted heavenly gods with rainwater, gods of the underworld with seawater, and dead ancestors with spring water.[44] Fantastic as

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[41] Michael Flower, *The Seer in Ancient Greece* (Berkeley: University of California Press, 2008), 8. Medicine was the foremost form of technical knowledge for the Greeks. Significantly, medicine also required skill at reading signs, as the primary role of the physician was to discern whether a patient would recover from a sickness or not.

[42] Aristophanes, *The Acharnians*, trans. William James Hickey (London: Henry G. Bohn, 1853), lines 1128 – 1130.

[43] Cicero, "On Divination," in *Treatises of M.T. Cicero*, trans. C.D. Yonge. (London: Henry G. Bohn, 1900), 197.

[44] *The Greek Magical Papyri in Translation, Including the Demotic Spells,* ed. Hans Dieter Betz. (Chicago: University of Chicago Press, 1986), 48.

the process of lecanomancy seems, some aspects of it are repeatable in practice, as demonstrated in several psychological studies that have produced gods and ghosts with striking regularity. In a recent experiment, fifty individuals were asked to stare into a mirror in a quiet, dimly lit room for ten minutes at a time. The descriptions of what the test subjects saw are strange to say the least: facial deformations, parents, strangers, ancestors, animals, and monsters populated the mirror surface. These images were accompanied—for all test subjects—by an emotionally intense "dissociative identity effect."[45] There thus seems to be a link between the physiological characteristics of visual information processing and reflective surfaces that, since ancient times, has been recognized and augmented by developing techniques to intensify potential visual effects. Lecanonmancy is but one example: at the Oracle of Demeter in Patrai, mirrors were lowered into a pool of water so that the reflecting surfaces would play off of one another.[46] Such early associations of water and mirrors with visual hallucinations eventually coalesced into the familiar fairy tale tropes of crystal balls and magic mirrors. Distorted or hallucinated visions in mirrors were not understood as mere tricks of the eye; they were recognized as meaningful communication from another place.

In so-called "technical divination," the production of visions by strict adherence to ritualized *techné*, the medium is indeed the message. In ancient Greek culture mirrors were not *metaphors* for sustained introspection—they were, foremost, a technical medium by which one could study the appearance one presented to others. Appearance was not a façade to be opposed to the truer, inner psychic life of the atomic individual. It was a reliable index of moral character, and thus attending to one's appearance was a form *sophrosyne*, the techniques of self-management "directed toward moderation and control of the social behavior of the individual."[47] In non-divinatory domestic settings, mirrors were widely understood to be technologies of self-improvement. As the Narcissus myth indicates, mirrors certainly represented the dangers of vanity and self-obsession, but if one wanted to obey the Delphic commandment to "know thyself," one place to start was often to look into a mirror.

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[45] Giovanni B. Caputo, "Strange-face-in-the-mirror Illusion," *Perception* no. 39 (2010): 1007 - 1008. Caputo points out that the experimental conditions for producing mirror illusions are quite flexible, although if you wish to try this body technique for yourself, the ideal situation seems to be backlighting yourself with a 25W bulb so that the bulb itself is not directly visible in the reflection and placing the mirror about 0.4 m in front of your face.

[46] Sarah Iles Johnston, *Ancient Greek Divination* (Malden, MA: John Wiley & Sons, 2008), 98.

[47] Shadi Bartsch, *The Mirror of the Self: Sexuality, Self-Knowledge, and the Gaze in the Early Roman Empire* (Chicago: University of Chicago Press, 2006), 25.

In Plato's *Alcibiades I*, Socrates illustrates the Delphic commandment to know thyself with an image of an eye that sees itself looking in the reflection in another's eye, noting that there is "something of the nature of a mirror in our own eyes."[48] The curious thing about the image is that for us, modern subjects of precision optics, it threatens to unravel in a *mise en abyme*, to cast the self into a trajectory of infinite recursion that undermines the fundamental distinction between essence and appearance that seemingly validates the oracular commandment. Socrates asks: "Did you ever observe that the face of the person looking into the eye of another is reflected as in a mirror; and in the visual organ which is over against him, and which is called the pupil, there is a sort of image of the person looking?" Alcibiades replies in the affirmative, and Socrates continues: "Then the eye, looking at another eye, and at that in the eye which is most perfect, and which is the instrument of vision, will there see itself?"[49] Alcibiades fails to ask what is to prevent the reflecting eye from seeing itself reflected once again in the reflection of the reflection. The only thing that arrests this bad infinity of eyes seeing themselves in others' eyes is a biological constraint to resolution: philosophy runs up against a hard limit imposed by the biological constraints of visual information processing.

Metaphorically, one sees oneself reflected in the eyes, the face, and the speech of another, but insofar as the limpid pools of human corneas offer a surface that reflects light, they are also real technologies of reflection. Plato's insight is subject to this technology: to the non-metaphorical reflection that it is possible to see captured in another's pupil. An eye that sees itself in another eye can suppose that the other eye also sees itself. Were the reflecting surface much larger, had it a deeper visual field and a wider reflective spectrum, the technical conditions for producing a metaphor for dialectical identification would not be available. Instead, an infinite recursion effect would forbid the recognition of any essential and unique entities such as souls. In Plato's *Republic*, a different mirror technology serves just this purpose, standing to illustrate, alternatively, the falsity of appearances. Here, Socrates devises a primitive film apparatus, a revolving mirror that, turned round and round, "would soon enough make the sun and the heavens, and the earth and yourself, and other animals and plants, and all the other things."[50] Yes, his interlocutor Glaucon responds, but these are not the things themselves, they are only appearances. Mirrors are thus intimately implicated in the distinctions between essence and appearance that underwrite the Western metaphysical tradition, and not in exclusively metaphorical ways. The

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[48] Plato, *The Dialogues of Plato*, trans. Benjamin Jowett, vol. 2 (Oxford: Clarendon Press, 1892), 504.

[49] Plato, *Dialogues*, vol. 2, 504-505.

[50] Plato, *Dialogues*, vol. 3, 308-309.

natural mirror of the eye, a product of the divine, reflects truth; the metallic mirror, created by man, contains only imitation: the devices themselves provide rules of execution that are not under the user's control.[51]

We thus find that for the Greeks mirrors were quite diverse in their uses and meanings. They were divinatory devices, they were lures for narcissistic fixation, and they were technologies of the self[52] in the full sense of the term that Foucault explored. Not only did ancient mirrors retain broader communicative capabilities, but they also afforded a means of substantive self-improvement. Foucault postulates a philosophical bifurcation that makes the latter function unavailable and banishes many techniques of self-transformation to the realm of superficiality. The role of the mirror in care of the self is demoted in passing through what Foucault calls the "Cartesian moment," a moment which coincided with the revolutions in optics that produced telescopes, microscopes, and the first silvered, plate-glass mirrors, in which transformations of the subject were firmly distinguished from phenomenal knowledge about the world.[53] For Foucault, modernity means that one can have access to truth without passing through what the ancients recognized as a necessary change at the spiritual level of the subject's being.[54] Formerly, one had to suffer for knowledge of the self, and this suffering could be recognized and carried out in reflective practices such as dialectical exchange and intense self-study in the mirror. The perspectival depth offered by large, plate-glass mirrors, absent from handheld polished metal and stone mirrors, is a lure in which the scopic illusion of depth replaces access to the full being of the subject that mirrors formerly offered. This is why the literature of the double only arises with

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[51] Phrasing adapted from Cornelia Vissmann, who writes, "Whether the matter at hand is a body of water or a spear, a computer or an architectural object like a door or a table, all media and things supply their own rules of execution. Such 'material' instructions of operation come from a place that is not under the agent's control." Cornelia Vissmann, "Cultural Techniques and Sovereignty," *Theory, Culture and Society* 30, no. 6 (2013), 87.

[52] Foucault's definition of technologies of the self includes those things "which permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfection, or immortality." Michel Foucault, "Technologies of the Self," 18.

[53] "I think the modern age of the history of truth begins when knowledge itself and knowledge alone gives access to truth. That is to say, it is when the philosopher (or the scientist, or simply someone who seeks the truth) can recognize the truth and have access to it in himself and solely through his activity of knowing, without anything else being demanded of him and without him having to change or alter his being as subject" (Michel Foucault, *The Hermeneutics of the Subject: Lectures at the College de France 1981-1982*, ed. Arnold I. Davidson, trans. Graham Burchell (New York: Palgrave MacMillan, 2005), 17.).

[54] Foucault, *Hermeneutics of the Subject*, 17.

modern glass mirrors[55]: it is only after passage through the Cartesian moment, when the self becomes a material phenomenon that bears knowledge in the way that a body bears clothing, that one can confuse the image of oneself *with* oneself. The self itself had become an image, and thus the image in the mirror could itself, conceivably, also be a self.

There are two qualities of ancient mirrors that are absent from the one hanging above your bathroom sink. First, ancient mirrors had robust technical capabilities that allowed them to participate in interpersonal and interdimensional communication. Second, these capabilities were clearly determined by the materials from which the mirror was produced. We see in Plato and in other Greek texts that the material composition of a mirror directs what it is possible to find on its surface: an interlocutor's eye, a basin of water, a sheep's liver, and a polished metal plate all share the capacity to reflect light, but they are not confused with one another when it comes to what kinds of messages they can communicate. These examples illustrate the complexity of cultural techniques by highlighting that agency does not lie completely with either the technical object or the human being: a cultural technique is, rather, a "zone of constant exchange"[56] that is penetrated on all sides by other cultural techniques and conditioned by the material and conceptual constraints of its context. The variety of ancient mirror techniques, taken cumulatively, highlights the idea that mirror images—and all techniques of self-identification—are embedded in cultural systems of symbolic meaning that determine the coordinates of what a self is.

Medieval to Modern Mirrors

As Herbert Grabes finds in his study of mirror-imagery in titles and texts of the Middle Ages and English Renaissance, the employment of mirror metaphors between 1550 – 1650 occurs with "especially marked frequency" in literary texts, titles of books, tracts, and pamphlets.[57] In the medieval world of the 12th – 16th centuries, the truest

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[55] "[I]f the old mirrors produced a magic of transformation, distortion, refraction, transmission, combustion, reduction and magnification, the new mirrors (beginning in the second half of the 17th century) made possible a magic of doubling, deceptive resemblance, reproduction and representation. If the deception in the case of an old mirror produced the appearance of an object in distorted form and at the wrong place, the deceptive effect of a new mirror yielded an object in its natural form and at the right place, except that it appeared in a symmetrically reciprocal, that is, inverted, space." (Macho, "Second-Order Animals," 38 – 39).

[56] Winthrop-Young, "Cultural Techniques," 10.

[57] Herbert Grabes, *The Mutable Glass: Mirror-imagery in Titles and Texts of the Middle Ages and English Renaissance,* trans. Gordon Collier (Cambridge: Cambridge University Press, 1982), 12.

knowledge of reality became accessible through language that corresponded to the signified as closely as possible. Because the fallible language of humanity is not the infallible Word of Christ, all knowledge was thus understood to be imperfect and partial, just as mirrors of the time objectively, but imperfectly, reflected what was placed in front of them. Christian teachings often revived the apostle Paul's invocation of the dark, distorting glass to demonstrate that perfection was not of this world, and, according to John Crowley, "The virgin's purity was that of a 'spotless mirror,' precisely because no human could make one."[58] After Gutenberg's invention of the printing press, spurred by the insights into inverse imaging he gained as a producer and purveyor of polished metal mirrors for Christian pilgrims,[59] mirror metaphors became much more common, although the ways in which these metaphors were deployed changed significantly.

Mirror metaphors of the mid-sixteenth century most often implied instruction, as in *Myrroure for Magistrates*, *Myrrour for Man*, *Mirrour of Mirth and Pleasant Conceits*, or *Mirror of Treue Honnour and Christian Nobilitie*.[60] All of these date from right around 1580, not long after glass mirror-making in Venice had been "perfected" in terms of eliminating distortions and blemishes. Gold leaf was often embedded into Venetian mirrors to give them a peculiar sparkle and made them highly desirable aesthetic objects. Grabes notices a puzzling distinction in the use of mirror metaphors in literature at this time: a division occurs in which "mirrors" in titles come to signify positive models of conduct and the use of a "looking-glass" signifies satire or negative models of conduct, as in *Looking-Glass for Drunkards*, *Looking-Glasse for Women, or, a Spite for Pride*, and *Looking-Glass for a Covetous Miser*. The new mirrors, which in the seventeenth century were also being produced in England, recoded what "mirror" meant. Finely made Venetian-style glass mirrors did not produce distorted reflections of truth. They revealed what was best in those reflected on its surface. Looking glasses, however, revealed flaws, distortion, and corruption. Only closer investigation of the semantic distinctions between mirrors and looking glasses during this period will confirm the thesis that this metaphorical division was the product of a technical one that preceded it.

During this same period, the role of mirrors in philosophy also changed. After Descartes, knowledge is understood, according to Richard Rorty, on the model of the

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[58] John E. Crowley, *The Invention of Comfort: Sensibilities and Design in Early Modern Britain and Early America* (Baltimore: Johns Hopkins University Press, 2001), 123 – 124.

[59] Mark Pendergrast, *Mirror Mirror: A History of the Human Love Affair with Reflection* (New York: Basic Books, 2003), 38.

[60] Grabes, *The Mutable Glass*, 33.

mirror. Descartes conceives of the mind as "a great mirror, containing various representations...capable of being studied by pure, nonempirical methods." [61] Knowledge is thus no longer the accurate *imitation* of the world (as in the Middle Ages), but the accuracy of a rational deduction of the *essence* of the world, since the mind, as immaterial substance, exists apart from material being. Francis Bacon, writing just after the revolutionary innovation in Venetian mirror production, when large, distortion-free glass mirrors were still rare in England, modeled his image of the human mind on the mirror, writing, "God hath framed the mind of man as a mirror or glass, capable of the image of the universal world, and joyful to receive the impression thereof, as the eye joyeth to receive light."[62] The mind itself had become a mirror that could reflect the truth of the world, a trajectory that culminates in Leibniz' extension of the mirror metaphor, where he writes that monads are mirrors: "connexion or adaptation of all created things to each and of each to all, means that each simple substance has relations which express all the others, and, consequently, that it is a perpetual living mirror of the universe."[63] In addition to the trajectory along which mirrors come to be associated with proper conduct, they also become associated with the distinction between truth and falsity, and even with the metaphysical structure of reality, at the precise moment when technical innovations achieved full-length, distortion-free mirrors. The mirror becomes a predominant metaphor in philosophical arguments that the mind can produce and contain a clear and accurate understanding of nature. Plato's manmade mirrors that could only lie were replaced by mirrors that could only tell the truth—although modern mirrors also came to lie in new ways: not by distortion but by doubling. For what is the lie of the double but a kind of excessively accurate representation, a lie that is a lie because it is too truthful?

A few decades on either side of the turn of the 20th century, after industrial mirror production had taken hold and littered social and domestic spaces with cheap glass mirrors to the extent that people like Mach, Freud, and Merleau-Ponty were frequently running into them willy-nilly, one finds a renewed interest in the double. Intensifying this interest, of course, was the growing prevalence of recording media like the photograph, the phonograph, and film. Kittler makes much of the fact that the printing press, and later these other recording technologies, were from their innovative moments associated with death. These associations, however, must draw

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[61] Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton: Princeton University Press, 1979), 12.

[62] Francis Bacon, *The Major Works* (Oxford: Oxford University Press, 2008), 123.

[63] Gottfried Wilhelm Leibniz, *The Monadology and Other Philosophical Writings* (Oxford: Clarendon Press, 1898), 248.

from older associative traditions that pair death and the soul with the doubles found in reflections, as Freud recognizes in his "archaic reaction" to his double.[64] The distinction between ancient and modern doubles resides in the fact that doubles have historically most often been recognized as *others*, and not, as they came to be in the modern period, as avatars of the *self*.[65] One can divine in mirrors only when one understands them as devices capable of receiving transmissions from another place.

The self in the act of looking is, like the constituents of the supernatural world, a thing that the unaided eye cannot see, and thus mirrors afford an associative link between the material and spiritual realms. Following Descartes' project of radically doubting empirical observation in favor of pure reason, which had the effect of moving the foundational locus of truth claims from the outside world into the inside of human individuals, the project of modern psychology similarly sought to reconstruct understanding of the phenomenal world in terms of the psychophysiological machinations. In investigating the experimental reproducibility of ancient practices of mirror hallucination/divination, Max Dessoir writes what could be a thesis statement for psychological investigation near the turn of the century:

> It is a remarkable trait of human thought, however, that it first endeavors to trace all phenomena back to external facts before it seeks the cause of the same within itself: the child of nature sees in all his thoughts the inspiration of good or evil spirits, and even the modern believer finds the source of all extraordinary enlightenment not in himself but in another—the Highest Being. A very high degree of culture is requisite for man approximately to comprehend what marvelous forces slumber within him, and to what a great extent, in the truest sense of the word, he is the creator of his own perceptions and emotions. And thus it was that throughout the long space of three thousand years people did not clearly discover that in the case of magic

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[64] Friedrich Kittler, *Discourse Networks 1800/1900,* trans. Michael Metteer (Stanford: Stanford University Press, 1990). Following Kittler, it may make sense to class mirrors among the primary technologies of what he calls "Discourse Network 1900," not because there was any major modification of the technical standards of mirror design but because during that period industrial production had greatly inflated their numbers.

[65] McLuhan notes this dynamic in his rereading of the Narcissus myth, where he points out that the myth would make little sense if Narcissus did not mistake his reflection for another. He did not fall in love with himself, but with another who looked as beautiful as he. (Marshall McLuhan, *Understanding Media* (New York: McGraw Hill, 1964)).

mirrors the most important factor was the *person that saw*, and not the instruments of seeing.[66]

Dessoir, little appreciated today, was frequently referenced by Freud and was the major inspiration for Otto Rank's well-known study of doubles. The first to approach the mystical history of mirrors with a scientist's eye, Dessoir was a practicing magician and German psychologist historically and intellectually sandwiched between psychophysics and what would soon become psychoanalysis. Just prior to his 1890 essay on divination in reflective surfaces, Dessoir had published a book called *Das Doppel-Ich* (double ego) that theorized a division in consciousness between primary and secondary layers: the superconscious regulated our relations with the outside world, and the subconscious, which was not normally accessible, could become known in altered states such as dreaming, hypnosis, intoxication, and epileptic attacks. [67] Drawing on Fechner's psychophysical work on afterimages retained in the eye after staring at, for example, the sun, Dessoir theorized that the hallucinations arising from extended views of reflective surfaces (like those in the psychological experiment discussed above) are afterimages of observed events that have been retained in the subconscious. The hallucinatory images one finds in reflective surfaces are those that have been retained in memory but are inaccessible to consciousness, which is what gives them their strange, sometimes disturbing character. Dessoir's claim, which seems like a strange amalgam of Fechner and Freud, was that the "other scene" could be understood, and indeed accessed in a more or less direct way, by experimental variation of sensory stimuli. Dessoir, who coined the term parapsychology, had little interest in the psychophysical determination of sensory thresholds: he instead wanted to see what was *beyond* the threshold by summoning unconscious inscriptions in ritual séance, a fantasy that was still possible prior to Freud's identification of repression, an agency that forbade such transgressions (at least in terms of direct and transparent access of the type Dessoir thought he could produce).

A major transmutation in psychological understanding that takes place in the modern period is that the mystical other in the mirror ceases to be a transmission from another realm and moves inside the self as the expression of an agency alien to the ego that would, shortly after Dessoir's major period of output, come to be known as the unconscious. Religion and magic no longer granted access to the dimension from which visions emanated. Rather, one could catch glimpses of that dimension through the quasi-*techné* Freud introduced as "parapraxes": dreams, slips of the tongue, bungled actions, and forgetting became the means by which the sources of mysticism

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[66] Max Dessoir, "The Magic Mirror," *The Monist* no. 1 (1890): 87 - 117.
[67] Max Dessoir, *Das Doppel-Ich* (Leipzig: Ernst Gunthers Verlag, 1890).

slipped briefly into the world of human consciousness. It is no coincidence, of course, that at the exact same moment in the United States, Charles Horton Cooley and George Herbert Mead developed the theory of the "looking-glass self," a recursive theory of identity that posits one develops a sense of self by studying oneself from the perspective of another self who is studying oneself. Lacan's introduction of the "mirror stage" in 1936 is a culminating moment in the trajectory of mirror-inspired theories of identity.[68]

The first question many people ask, upon reading Lacan's mirror stage essay (if it is not "What the hell does any of this gibberish mean?") is: How did people derive the imaginary projection of the body called the ego prior to the invention of silvered, plate-glass mirrors and their placement in domestic spaces? From the perspective outlined here, this supposedly naïve question is actually the most important one to ask. Lacan later revised his theory of the mirror stage so that a third party—a caretaker to which the child had cathected—was required to validate the child's jubilation in recognizing herself in the mirror. The mirror stage thus became more focused on intersubjective networks of identification and the mirror as a necessary technical prop receded in importance. Nevertheless, it would seem that in its ideal form, in which the infant is granted a visual prosthesis of its body, the mirror stage was only possible for most people from around the late 17th c. at the earliest. Previously, mirrors were too rare, too small, too dark, too blurred, or too fleetingly encountered to operate as reliable technologies for catalyzing the emergence of an ego in the same way. But this is precisely the point: a world populated with silvered, plate-glass mirrors maintains a specific technical standard for self-identification that replicates cultural

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[68] It is an abrupt jump from Mead's Symbolic Interactionism to Lacan's psychoanalysis. In fact, Lacan positioned his thinking in direct contradistinction to that of ego psychologists, among whom we could class Mead. I treat them together here mainly because they both came up with theories of ego development based on a mirror metaphor at around the same time, and to neglect this confluence (especially given their continued influence in the humanities) would seem a dereliction of duty. Nevertheless, others have found reason to compare Mead's and Lacan's ideas about the development of a sense of self, notably Derek Hook, who writes: "We may conclude then that while Mead (1934) provides the basis of a nuanced engagement with subjectivity, his conceptualization remains primarily psychological in nature. Indeed, inasmuch as it is concerned with the development of attitudes, his generalized other remains largely within the horizon of the imaginary, an imaginary aggregation of the community. Lacan's notion, by contrast, is predominantly symbolic in nature; it is concerned with symbolic processes, the operation of the signifier and the functionality of language. Moreover, Lacan's concept involves desire...it is a desiring Other that the subject relates to in terms of their own desire and lack." (Derek Hook, *Six Moments in Lacan: Communication and Identification in Psychology and Psychoanalysis* (New York: Routledge, 2018)).

assumptions about identity that produced the technical object. Modern mirrors are a technical choice that affirms our dominant ideas about what a self is and about that self's place as an autonomous individual distinct from the natural world and the community. Mothers and mirrors are not coequal technologies; to obviate this distinction in an ahistorical theory of how identity works or how a sense of self coagulates and persists through time is willful ignorance. It is a form of conjuring—Lacanomancy, if I may be permitted a bad pun (which is fully within the spirit of Lacan himself)—that imagines there is no substantive distinction between the varied technologies that afford human beings the capacity to identify ourselves.[69] Any theory of identity and identification must *begin* with the techniques and technologies that confer, reproduce, and maintain identity in practice, because these are consistently tied to wider cultural assumptions about the world.

There is a renewed exigence for studying techniques of identity and self-identification in our present moment. This article began with a series of stories about philosophically-inclined travelers encountering their reflections in mirrors. The reason for this was, in part, to demonstrate the historical uniqueness of this experience: it is only after mirrors have become cheap enough, easy enough to produce, and part of a dominant cultural aesthetic that this experience becomes possible for Mach, Freud, and Merleau-Ponty. The insights they derive from their experiences are, in this sense, dependent on a cultural matrix of technologies and practices that preceded them, and these insights then feed back into the cultural meanings of mirrors and reflection. But what technologies and practices precede our insights today? The state of permanent innovation that characterizes every sphere of cultural life under conditions of the Great Acceleration includes a constant revision of techniques and technologies of identity. We encounter ourselves as biometric traces, as genetic sequences, and as voices and faces and fingerprints that can be "recognized" by our machines as uniquely belonging to us. I've lost count of the avatars of myself that I have curated on digital platforms, some of which I tended to carefully over the course of years before I casually abandoned them and never thought of them again. We molt into and out of digital shells that house the divergent metastases of our personalities which are all still somehow part of our sense of "self." As I write this I sit in a library, a modern building whose ceilings are pockmarked with the small, black half-globes of an anonymous surveillance apparatus. It is producing images of me that are percolating, presumably, into

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[69] Lacan himself—especially the early Lacan—would, I believe, agree that minimizing the role of technological media in constituting a subject's being is a mistake. Even a casual browsing of his first four seminars will demonstrate his deep engagement with technologies, especially those of communication. The perpetrators of Lacanomancy are rather those who would de-technologize Lacan.

ambient panoptic systems. Does it notice that I'm noticing it? My "data"—the sum total of all of my actions and attitudes that can be logged by digital agents—congeals in server farms to form homunculi from my desires that whisper back at me through targeted advertising. Is this who I am? Is this what I like? My hope is that this article contributes to the study of cultural techniques of mirror reflection and the broader area of techniques of identity by highlighting techniques of mirroring. In doing so, it tangles with the multifarious ways in which the material, technical, and symbolic dimensions of mirrors themselves exhibit agentive capacities with respect to the human beings they reflect. The perspective I have tried to outline, and that I believe is required for any substantive theory of identity that circulates in communication and media theory, is recursive in that it identifies the ways in which chains of ontic operations for self-identification and ontological notions about the self are inextricably bound to one another: they are mutually codetermining and conditioning of one another. It is only through this perspective that we might begin to develop a sense of the salient characteristics of identity that are stabilizing (or failing to stabilize) in our current moment because it assumes from the outset that selves are not ontologically given, but rather arrive as the precipitate of cultural techniques.

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