

Jeff Wall. *Milk*, 1984.
Photographic transparency
in light box.



Curve, Line, Circle, Slash, Cross: A Diagram of Liquid Intelligence

MATTHEW C. HUNTER

In the opening line of his four-paragraph essay “Photography and Liquid Intelligence,” photographer Jeff Wall directs the reader’s attention to *Milk*, his light-box-illuminated Cibachrome transparency of 1984. A study in planarity, *Milk* poses a man crouching at street level before an architecture of bricked mensuration. The figure grasps a carton of milk concealed in a paper bag. His forearm is taut, jaw clenched; an outstretched, sockless shoe is stripped of laces. From the container’s unfolded spout, white liquid spurts upward to describe a half arc of interrupted, curving form against the bricks’ relentless geometry. What has caused this explosion? The grasping hand holding the carton gives no sign of the compression required to create the spray, nor does the figure’s right arm betray motion. For Wall, the image’s inexplicable action becomes part of an allegory for photography itself. The optical spaces of the photographic camera and enlarger make the stuff of modern visuality: a “technological intelligence of image-making, with the projectile or ballistic nature of vision when it is augmented and intensified by glass (lenses) and machinery (calibrators and shutters).”¹ But, registering in *Milk*’s furling flows are the dark-room’s shadowy pools of developers, fixatives, and washes required for chemical photography’s visual activation. “I think of this sometimes,” Wall writes, “as a confrontation of what you might call the ‘liquid intelligence’ of nature with the glassed-in and relatively ‘dry’ character of the institution of photography.”² Where the stasis of *Milk*’s tectonic planes is activated by fluid eruption, so photography in this telling emerges as the yield between two opposing modes of intelligence: dry and liquid, modern and ancient, knowing and unknowable.

A dry, ballistic intelligence of technological modernity might seem abundantly familiar to readers of *Grey Room*. What of “liquid intelligence”? Contemporary prompts for sounding it are found easily enough. Before any talk of drip or pour paintings, liquid word pictures, the abject viscosities of the *informe* and other art-world stalwarts, the phrase could call to mind the “liquid modernity” used to denote our deracinated, deregulated era.³ The melting of

solids prophesized by Karl Marx and Friedrich Engels has been held in suspension, according to the late Zygmunt Bauman, for the exercise of “increasingly mobile, slippery, shifty, evasive and fugitive power.”⁴ Mobilizing the digital age’s ubiquitous palette of the liquid crystal display, some technophilic campaigners have called for a “liquid democracy” to replace representational politics with referendum-based interventions.⁵ If various forms of fluidity and plasticity can be traced through the choppy currents of post-Lacanian feminism, deconstruction, and cognitive neuroscience, then the rising sea levels, melting ice caps, and desolation of the oceans’ biosystems—environmental catastrophes signaled, too, in Wall’s pithy essay—will soon make practical recourse to liquid intelligence matters of urgent necessity.⁶

But Wall’s essay also opens away from the present. An “archaism of water, of liquid chemicals,” liquid intelligence

connects photography to the past, to time, in an important way. By calling water an “archaism” here I mean that it embodies a memory-trace of very ancient production processes—of washing, bleaching, dissolving and so on, which are connected to the origin of *technè*—like the separation of ores in primitive mining, for example. I think that this “prehistorical” image of photography—a speculative image in which the apparatus itself can be thought of as not yet having emerged from the mineral and vegetable worlds—can help us to understand the “dry” part of photography differently.⁷

What would it mean to imagine a broader genealogy of liquid intelligence informed by the expansive technical history Wall evokes? Wall has hardly been alone in exploring alternate prehistories of photography, but this special issue proceeds from the proposition that liquid intelligence *has already been unconsciously afoot* in recent histories of the arts and architecture of early modernity.⁸ So, how might that congealing conversation be shaped? And what does it tell us? This introduction sets the table with “Curve/Line/Circle,” an allurements that bleeds between recent historiography and historical materials to diagnose the slippery ways in which figurations of the fluid are with us now. Moving with Gaston Bachelard’s alignment of water and dreams, “Slash/Cross” frames the stakes of the inquiry in chiaroscuro textures of nightmare. Yet, as bathos, too, can be ground for action, a concluding diagram sets out the special issue’s program and its prospects in firmer terms.

Curve/Line/Circle

Guided by interdisciplinary currents of a “new thalassography,” a point of entry to liquid intelligence might plausibly be found

at the greater confluence of the Mediterranean and Black Seas in the fabric of the Hagia Sophia—its architecture acting as a giant acoustic resonator to meld human voices into an oceanic murmur; its book-matched marble pavements simulating a vast expanse of water as a “horizon on which human finitude is set between lucid firmness and umbrous chaos.”⁹ Yet, outward from *Milk*’s curving streams, a tale could equally be told in diagrammatic terms, moving first from line to circle.¹⁰ After all, the edifice of northern Renaissance image-theology was built, by Joseph Koerner’s reading, on the backs of unctuous figures: miraculous pictures dragged off the surface of ponds or the *sudarium* (sweat cloth) pulled from the face of Christ by St. Veronica in the contact relic that would take her name.¹¹ Found not fabricated; made without the intervention of human hand, the moist imprint of Christ’s face gave theological sanction to figural depiction in an era increasingly suspicious of graven images. And working in the medium of oil paint that Jan van Eyck had mythically invented in the early fifteenth century as he turned from the sun that ruptured his drying pictures to the dark, controllable spaces of “alchemy and distillation,” Albrecht Dürer audaciously replaced the *sudarium*’s holy face with his own visage, the human face of a Christ-like painter.¹² Koerner traces this line as a volte-face, “a kind of Copernican revolution of the image.”¹³

Fluids brought into line by a virtuosic self could thus move away from Michel Foucault’s orders of similitude to draw the bounds of Renaissance intelligence anew.¹⁴ In Michael Cole’s reading, Benvenuto Cellini is neither the paragon of Jakob Burckhardt’s *uomo universale*, nor was his training as a goldsmith merely some perfunctory prolegomenon for entry into Giorgio Vasari’s arts of *disegno*. Instead, Cellini’s command of the technics and poetics of poured, molten metals amounts to a “goldsmith’s intelligence,” which ensnares rivals working in subtractive media while elevating the art of cast bronze.¹⁵ By scriptural tradition, the casting of metals had been redolent with an animism materialized in nothing less than the ur-idol of the Golden Calf. “I threw it into the fire, and out came this calf!” (Exodus 32:24)—so Aaron protests to Moses after gathering and liquefying the Israelites’ golden jewelry. By contrast, Cole’s Cellini moves with the “artisanal epistemology” through which command over materials earned by bodily blood, sweat, and tears came to rival textual learning as a legitimate source of natural knowledge.¹⁶ Arrogating the capacity to create and not simply replicate nature’s forms, this tradition could figure the artist’s brain as “a moist organ, in which the movement of fluids propelled the creation of thoughts and the recollection of memories.”¹⁷ Such brawny intelligence would find an organizing theme in what Cole calls “the control of liquids.”¹⁸

Channeling flow into line also meant parsing—policing—liquid intelligence from deluding, deceiving waters. Faced with the challenge of Caravaggio’s so-called naturalism and the serial replication augured by the printing press, Nicolas Poussin looked to fluids in the mid-seventeenth century. With their watery pools dumbly doubling figure and sky, Richard Neer claims, Poussin’s mythological landscapes stage the imminent danger: “Just as mechanical reproduction is the ‘sepulchre’ of painting, just as pictorial realism turns artists into animals, so . . . the sterile mimicry of Narcissus and Echo results in the loss of both life and humanity.”¹⁹ Consigned to the narcissistic order of death that Poussin called “aspect,” watery reflection stands in counterpoint to the reasoned order of “prospect” and a generative, emulative mode of allegorical imitation that the painter figures around the rebirth of the wine-god Bacchus in a moist grotto. In *Paradise Lost* (1667), John Milton’s Eve first wakes to gaze upon Eden’s waters: “Smooth lake, that to me seemed another sky.” Staring down into that fluid world, she sees “a shape within the wat’ry gleam . . . with answering looks / Of sympathy and love.”²⁰ Like Poussin, Milton’s Adam seeks to break liquids’ specular spell. He identifies “that smooth wat’ry image” with Eve herself and contrasts it to a fluid order he will install. “Follow me,” Eve recalls Adam charging, and “. . . thou shalt bear / Multitudes like thyself, and thence be called / Mother of the human race.”²¹ Inseparable from the pretensions of a hereditary nobility, a parsed, purified line of genealogical descent distinguished from the deluding, diluted pool would reach an apex in rituals of absolutist statecraft.²² From the octagonal space of his *grande laiterie* within Versailles’s 1660s menagerie, Meredith Martin argues, Louis XIV poured milk and offered dairy consumables to a politically gelded nobility. Attesting to the purity of the Bourbon bloodline and his own fructifying force, Louis’s performances claimed “women and gardens as raw materials for his own (male) production. The *grande laiterie* took up where these female allegories left off, as a womblike space that he could utilize to transform the red blood of war into the white milk of peace.”²³

But, a liquid intelligence in seventeenth-century conception could not bend only to linear circumscription. Anatomizing an ark of serpents, frogs, snails, dogs, and pigs, royal physician William Harvey pursued the motion of the heart’s ventricles to a new geometry of blood, “a movement, as it were, in a circle.”²⁴

Below: Benvenuto Cellini.
Perseus and Medusa,
ca. 1545–1554. Cast bronze.

Opposite: Michelangelo Merisi
da Caravaggio. *Narcissus*,
1597–1599. Oil on canvas.



Frédéric Cousinié commensurately envisages “a general economy of fluids characterized by mobility, convertibility, and reciprocal exchange” at the heart of seventeenth-century French painting.²⁵ In that age of fen draining and corporate water supplying, such circulatory models might equally be seen as paradigmatic to the political anatomy of intelligence.²⁶ Oxford-based physiologist Thomas Willis (father of our “neurocentric age,” as one writer puts it) excavated the eponymous, cerebral “Circle of Willis” to disclose a fluid infrastructure of thought’s pulsing movement.²⁷ With “the Fountains of the Primary Spirits . . . placed in the top it self of the Body,” so Willis argues with terms taken from chemical instrumentation, the brain distills animal spirits off from the blood, which then cascade down through the corporeal frame “as it were by Bills and Pelicans placed here and there, into all the inferiour parts” to be cycled back up again.²⁸ For Willis’s understudy Robert Hooke that circulatory pattern was as much social as it was physiological. True philosophy, Hooke claims,

is to *begin* with the Hands and Eyes, and to *proceed* on through the Memory, to be *continued* by the Reason; nor is it to stop there, but to *come about* to the Hands and Eyes again, and so, by a *continual passage round* from one Faculty to another, it is to be maintained in life and strength, as much as the body of man is by the *circulation* of the blood.²⁹



Knowledge could not simply be handed down in a vertical line from professor to student; it could grow in vitality only as it circled between capacities and social stations.³⁰

Nowhere would that force of the circle and its movement beyond the order of the line become more ubiquitous than in Enlightenment conversations about political economy. Literary historian James Thompson identifies a key double movement in the period’s conception of money: shifts from bullion value weighed to nominal value to be read *and* from stable treasure to be hoarded into capital increased by movement.³¹ For Thompson, the campaign of philosopher John Locke to restore England’s corrupted coinage to its Elizabethan

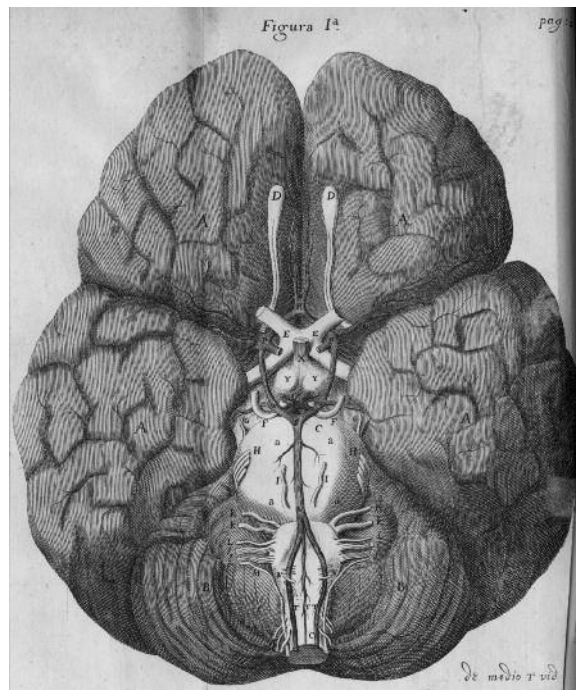
weight-values exemplifies a materialist, conservative “law of continuity: that material substance is the same from moment to moment. . . . [which] is, of course, the most cherished principle of landed aristocracy—that the paternal estate is bounded by the same hedgerows through the centuries.”³² By contrast, a nominalist, capitalist vision that consolidated throughout the eighteenth century would figure circulating currency as means for nourishing economic growth as a river does parched earth.³³ From a grounding in land to the fluids that replenish it, money in Adam Smith’s *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) is “a sort of waggon-way through the air; . . . [enabling] the country to convert, as it were, a great part of its highways into good pastures and cornfields, and thereby to increase very considerably the annual produce of its land and labour.”³⁴

In the hands of Svetlana Alpers and Michael Baxandall, that positive potential for fructifying, circulatory movement defines eighteenth-century “pictorial intelligence.” Venetian painter Giovanni Battista Tiepolo moves a fluid aesthetics of lightness and mobility to the center of his project.³⁵ Studying the “freakish intermittent effect” of moving water reflecting off the ceiling designs that Tiepolo painted quickly into wet plaster *intonaco*, Alpers and Baxandall find pictorial programs built in collaboration with, not suppression of, complex interplays of light bouncing off the surfaces of Venice’s canals.³⁶ Where Tiepolo’s pictorial intelligence “postulates a mobile light and . . . a mobile viewer,” it positively chafes under constraints to its freedom. Inert illumination from infelicitous architecture or “paralysing” *quadratura* frames variously “straightjacketed” and “locked” its “fluid potentiality.”³⁷ Whether or not Tiepolo and his patrons could have subscribed to the tenets of Smith’s political economy, intelligent handling of the Enlightenment painter’s art had, by this account, come to entail negotiation with circulating patterns and the “free,” value-adding contribution of the beholder they imply.

By the lights of recent scholarship, then, it is not sufficient to say that eighteenth-century liquid intelligence modeled the beholder as a ship sailing under some “blue-water” policy.³⁸ Artists such as John Singleton Copley show how profoundly the venerable analogy of the painting-as-ship was then sounded when contemplating pictorial ontology itself.³⁹ By Jennifer L. Roberts’s reading, Copley “spent the first ten years of his life in his mother’s tobacco shop on Long Wharf, an immense pier jutting . . .

Below: Unknown maker after Christopher Wren. The “Circle of Willis,” from Thomas Willis, *Cerebri Anatome* (1664). Etching and engraving.

Opposite: J.M.W. Turner. *The Burning of the Houses of Lords and Commons, 16 October, 1834, 1835*. Oil on canvas.



a quarter of a mile into the center of Boston Harbor. Copley would have awakened each morning to a noisy, smelly, colorful panorama of merchant shipping activity.”⁴⁰ That embodied, multisensorial *nous* provided Copley with the logistical wherewithal to ship his *Boy with a Flying Squirrel* (1765) across the Atlantic to unknown exhibitors in London, but Copley’s understanding of the precarious nature of the attempted oceanic relay pervades the exported picture’s iconographic program and visual form. If modeled on the age of sail, Copley’s “parcellated, modularized, dehydrated, pickled, or pressed” pictures would soon be usurped by an intelligence calibrated not to water’s liquid form but to its gaseous state: to steam.⁴¹ This is the story Michel Serres tells around Joseph Mallard William Turner, “the first real genius of thermodynamics.”⁴² Serres opposes Turner’s obsessions with “the furnace, the water, the hot and the cold, matter in fusion” to the classical-mechanical world of applied geometries essential to wind-borne sailing ship’s calculations.⁴³ Where contemporary painter of the apocalyptic landscape John Martin would envision engineering schemes to recycle the Thames’s sewage into agricultural fertilizer, Turner turns liquid intelligence into the terms of a different physics: “*perception on a stochastic basis has replaced the drawing of form.*”⁴⁴

This sense of an altered regime between the eighteenth century and the era augured by thermodynamics is palpable in the work of Michael Fried, for whom liquid intelligence has been a direct object of reflection.⁴⁵ In the early decades of the eighteenth century, quiet scenes of concentrated attention on the everyday—scenes of “absorption” (a term not without fluid resonance)—as



rendered by Jean-Baptiste-Siméon Chardin had spoken of what Fried calls “not . . . time wasted but of time *filled* (as a glass may be filled not just to the level of the rim but slightly above).”⁴⁶ The crisis of that “absorptive tradition” by the middle decades of the nineteenth century would be epitomized by the strange uses made of liquids in the art of Gustave Courbet. In Courbet, water figures “as a natural metaphor of continuity, of the spilling-over of the contents of the painting into the world of the beholder, and therefore of the incapacity or the refusal of the painting to confine its representation (to confine *itself*) within hard-and-fast limits.”⁴⁷ Welling, streaming, pooling into the nether regions of his portraits and landscapes, Courbet’s waters render his canvases just as inscrutable as the “boggy, soggy, squitchy picture” that vexes Ishmael at Herman Melville’s Spouter-Inn.⁴⁸ “The bottom edges of his paintings,” Fried writes, “have a problematic status unlike anything to be found in the work of any painter before or since.”⁴⁹ The proposition here is that Courbet could neither simply ignore the beholder before the painting nor sustain with drama the fiction of the picture’s self-enclosure to negate the force of a beholder’s presence. Where Chardin achieved absorption by rendering liquids in their brimming fullness, Courbet musters flows that carve out those soggy pictorial bottoms while figuring a flood of the painter’s own reciprocal movement into his painted world.⁵⁰ An ingenious solution to absorption’s crisis, Courbet’s circulating, colliding fluids ford what Fried labels “the ontological impermeability of the picture surface, by which I mean its standing as an imaginary boundary between the world of the painting and that of the beholder.”⁵¹ Liquidating the bottom edge and surging in, Courbet realizes himself not before his pictures but inside them. Overstepping the line, the circle is again closed.

Slash/Cross

Friedian sanction alone may be sufficient to sink, scupper, or slash liquid intelligence from the concerns of some readers. Those are not the only grounds for hesitation. In 1964, British-born psychologist Raymond Cattell (1905–1998) added to a mountain of research contributions—what would eventually become some fifty books, five hundred journal articles, dozens of testing protocols—an enduring bifurcation in the analysis of human intelligence. Cattell parsed general intelligence (*g*) into what he called “fluid” and “crystallized” intelligence (or *gf* and *gc*). By this account, fluid intelligence is expressed most clearly in situations demanding improvisation and adaptation, where skills learned by habit are of little avail. Cattell writes,

For any same-age group the nature-nurture variance ratio will be much higher for *gf* than *gc* on the hypothesis that *gf*

is directly physiologically determined whereas gc is a product of environmentally varying, experientially determined investments of gc. . . . However, although it is our hypothesis that gf is biologically and physiologically determined, as a function of total cortical cell count, this does *not* mean that one would expect anything like complete hereditary determination. For environment includes gestation period influences and later physical trauma and physiological change, all affecting gf.⁵²

Speaking to Cattell's larger contribution to multivariate factor analysis in the study of human personality, this bifurcation has had profound influence. "A landmark contribution, cited not only in every book on intelligence but also in numerous introductory psychology books," one recent interpreter notes, "the separation of fluid and crystallized intelligence has been one of Cattell's most enduring substantive contributions of psychology."⁵³

Multiple variants aside, heredity plays a forceful role in Cattell's thinking. Not only is the fluid more nimble than crystallized intelligence, but it also abides where crystallized, book learning decays, and is, in a sense, always already dead: "If the crystallized abilities are, as it were, a dead coral formation revealing by its outlines the limits of growth of the original living tissue, the crystallized abilities will show approximately the same intercorrelations as the original fluid abilities."⁵⁴ When correlating tabulated data of gf and gc, Cattell declines the possibility that these two modes of intelligence combine in some new form. Instead, they need to be read through "a single influence, which is fluid ability as it stood during the formative period of crystallized ability, [that] is causative to the present levels of both."⁵⁵ Living, physiologically inflected, and heritable, fluid intelligence describes a threshold of possibility that can be analyzed in the decaying crystallized artifacts of which it is itself a significant cause.

Cattell was a committed eugenicist.⁵⁶ As historian William H. Tucker argues, Cattell shared with mentors Charles Spearman, Cyril Burt, and William McDougall

the belief in the power of heredity as an article of faith necessary for justification of the eugenic agenda, more than as a scientifically demonstrable result. In 1938, discussing the deleterious social effects that would be caused by the disproportionate reproduction of the less intelligent, Cattell declared it an accepted fact that "mental capacity is largely inborn."⁵⁷

Even if, as he would write in 1964, that "does *not* mean . . . complete hereditary determination," the fluid capacity animating the crystallized intelligence derived from it is still significantly

informed by genetic transfer through sexual reproduction. It flows with the blood.

Wall is a bookish artist. While Cattell's name is largely unknown in the history of art (a field in which Wall pursued postgraduate work at London's Courtauld Institute of Art), the ubiquity of his fluid/crystallized dynamic makes a connection to Wall's copycat binary at least possible. Even without pressing on any direct linkage, though, the shadow of Cattell's ideas puts Wall's choice of *Milk* as framing image for "Photography and Liquid Intelligence" in a new light. Modeled by that lactic fluid prompted by mammalian gestation, Wall's conception of photography as product of wet, immersive, incalculably curvy intelligence meeting dry, projectile rationality plots the medium through a matrix of ancient, humoral theories, casting it in the sexual-reproductive mold underpinning Cattell's logics. Rather than tarring Wall with Cattell's eugenicist brush in some specious guilt-by-terminological-association, though, the salient point is to highlight the fundamental continuity of both with the sexualized, heteronormative terms to which thinking about replication in photography and other arts is thoroughly addicted.⁵⁸ To extend Julian Stallabrass's critique, the frictionless, fluid cohesion of Wall's liquid intelligence with conservative, institutionalized patterns of thought—along with his pictures' abundant references to canonical art—are what make his work such catnip for art historians and museum taste-makers.⁵⁹

Enthrallment to the terms of liquid intelligence would thus be more than just another slippery seduction by what Walter Benn Michaels calls "neoliberal aesthetics."⁶⁰ Instead, a geometry of curve, line, circle, and slash might fittingly end in a cross: Noah Cross. In the Bible, Noah saves terrestrial life as he rises with the waters of the Flood. Noah Cross, Roman Polanski's infamous Nobodaddy in *Chinatown* (1974), played by John Huston, controls the flow of water to drought-stricken Los Angeles. Like the maimed, dying Fisher King of Grail legend, Cross is frail; he walks with a cane and reads with bifocals. Jack Nicholson's would-be knight errant, Jake Gittes, hangs totemic portraits of horses above his bed. Chivalric sculptures adorn the shelves in his office, where he signs financial contracts to investigate dirty deeds. Cross holds court at the Albacore Club, a massive tuna as

Below: Roman Polanski,
dir. *Chinatown*, 1974.
Frame enlargement.

Opposite: Louis Bec.
Vampyroteukis Upomenepisteme,
from Vilém Flusser and Louis
Bec, *Vampyroteuthis Infernalis*
(1987). Pen and ink.

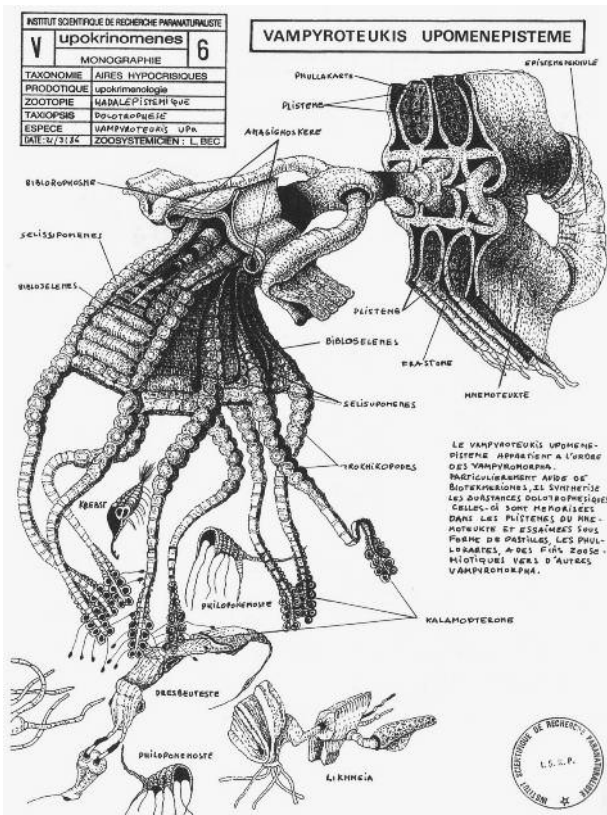


its ensign. Gittes trades in bourgeois instruments of credit; he takes checks and follows flows of water while trying to apprehend what he takes to be Cross's financial motives. Yet, like the fatal puncture of Evelyn Mulwray's eyes at the film's climax, Gittes remains blind to the primeval flow of semen that binds Cross to the daughter he has fathered through another daughter. Paid to recover what he thinks is a missing mistress, Gittes and his circulating thoughts of money unwittingly deliver the grail—not an object but a bloodline to the future—back to the Fisher King.⁶¹ By giving ourselves over to the contemplation of liquid intelligence, are we not already plotted into the patsy role of Gittes by forces we can never understand?

A Diagram of Action

Resources are, however, to hand by which to rescue inquiry from these nightmares. In *Vampyroteuthis Infernalis* (1987), Vilém Flusser and collaborating graphic artist Louis Bec turn to the oceans' crushing, sightless depths to reimagine as much the literary form of the scientific treatise as human reason remapped through the hallucinatory chromatophores and tentacles of the cephalopod body, itself "a centripetal and enclosed whirlpool, a vacuum within its environment that is released as a jet of water to propel it backwards."⁶² In more sober terms, Peter Godfrey-Smith looks to the body of the octopus to map philosophical problems of mind anew. Disabusing Cartesian tics of human thought, octopoid form takes little stock of an elevated, isolated

brain, since "it's not clear where the brain itself begins and ends, and the nervous system runs all through the body. The octopus is suffused with nervousness; the body is not a *separate* thing that is controlled by the brain or nervous system."⁶³ Where these approaches study intelligences in waters to work beyond the humanoid horror of Polanski's *Cross*, this special issue of *Grey Room* faces its baleful figures by different means. The included essays take as axiomatic that liquid intelligence is neither exclusive to thoughts about Wall nor to photography per se. Rather, they operate from the proposition that critical histories of what John Harwood calls "epistemologies of mutability"—rationalities, logics, and intelligences of fluids—can and must be drawn rigorously out into the light of day. Wall and his terms are our



prompts for opening such an inquiry.

The collection begins in medieval China, where Jeffrey Moser highlights a development of modern porcelain at the industrial-scale kilns of Jingdezhen that was predicated on systematic elimination of chance from the firing process. Jingdezhen porcelain relied on the continuity of human agency throughout the firing process to achieve its hallmark aesthetic of fine-lined designs under clear glazes on pure, white bodies. To that consolidating episteme of predictive manufacturing, uncontrolled effects—starbursts of ruptured minerals, pendulous gobs of molten glaze, sparking lines of crazed glass—came to be understood under the capacious rubric of *yaobian* (kiln transformations). Although scantily recorded in the textual record, the material products of this older mind-set survive in abundance in the “oil spots” and “hare’s fur” of Jian ware tea bowls, the azure “worm tracks” of Jun ware planters, and the crackles of Guan ware celadons. Moser argues for the value of “liquid intelligence” as an analytical mechanism by which to develop a vocabulary sufficient to represent the complex processes of stimulating serendipity that generated these wares.

Jennifer L. Roberts turns to nature-printed paper currency developed in the 1730s by Benjamin Franklin in collaboration with the botanist Joseph Breintnall. In the decades following their experiments, much of the paper money circulating through the mid-Atlantic colonies would feature elegant prints of maple, sage, parsley, blackberry, and other leaves. Because the leaves’ delicate and random vein structures could not be engraved by hand, they served as effective anticounterfeiting protection. Roberts contends that liquid intelligence informed these notes at every level: from the veins as natural structures for the movement of moisture through the leaf, to the economic “circulation” enabled by paper currency, and on to the liquidities that determine the constitutive acts of printing itself (the casting in liquid metal and plaster needed to mold the leaf matrices to the channeling of liquid ink). Franklin’s notes, Roberts proposes, are revealingly poised on the edge of a fundamental ambiguity within the concept of liquidity as, alternately, an aleatory, material, fluid activity beyond the grasp of rational systems and, on the other hand, a state of controlled and predictable financial convertibility.

Matthew C. Hunter’s contribution opens on the opposite side of the Atlantic with the extensive contacts between arbiters of British sea power and Joshua Reynolds, first president of the Royal Academy of Arts. Backed by the steady patronage of a West Country elite centered on the port city of Plymouth, Reynolds sailed to Italy and returned to metropolitan artistic triumph in the early 1750s with Captain Augustus Keppel, whom the painter styled as an eighteenth-century Apollo. Alongside

his slew of classical postures, however, Reynolds also imported into the heart of Britain's school of painting an appetite for secretive formulas, nostrums, and experimental pigments—obsessions that would earn Reynolds the epithet “Sir Sloshua” among Pre-Raphaelite critics in the nineteenth century. Moving between the material epistemologies studied by recent historians of science and a juridico-actuarial framework then emerging to defray risk, Hunter's essay frames Reynolds's liquid intelligence at the origins of his enterprise as a painter—at the join between his career-making Keppel and his first picture painted at age twelve on a sail.

John Harwood brings a conversation about liquid intelligence directly into the wheelhouse of modern architectural history. Against heroic narratives whereby modernist architecture freed itself from the shackles of classical form by embracing the structural potentialities of industrial alloys and other new materials, Harwood unearths a repressed other. In this liberal imaginary, metals are less the armature of form than the media of communication, binding or (as Harwood shows via engagement with Adam Smith) pinning architectural things together. Tracing metals' surprisingly belated appearance in architectural theory, Harwood mobilizes an appeal to science fiction found in Wall's essay to follow that counterhistory of alloys and alliance through the work of Jules Verne.

From curve to line, line to circle, the whole diagram slashed out with a cross: the movement of this collection is recursive. In the end, contra Wall's emphatic planarity, its shape and ethos are perhaps better captured by Oscar Muñoz's *Re/Trato* (2004). In that twenty-eight-minute video projection, a camera depicts a nervous hand dipping a brush in water to paint a male face on mottled concrete. So hot is the pavement that the brush's wet stain evaporates before the visage can be completed. The task is repeated again and again, changing the schematic imago slightly as the Sisyphean labor unfolds. Like Foucault's disappearing face drawn on a sandy beach, our inquiry arcs across a protracted early modernity. It traces as much the visible logics of fluids

as the invisible relations that now make us and now bind us; but from them we, too, might be free.

Oscar Muñoz. *Re/Trato*, 2004.
Stills from video.



Notes

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1. Jeff Wall, “Photography and Liquid Intelligence,” in *Jeff Wall*, ed. Thierry de Duve, Arielle Pelenc, and Boris Groys (London: Phaidon, 1996), 90.

2. Wall, “Photography and Liquid Intelligence,” 90.

3. See, for example, Yve-Alain Bois, *Edward Ruscha: Romance with Liquid, Paintings 1966–1969* (New York: Gagosian Gallery/Rizzoli, 1993); Allan Sekula, “Between the Net and the Deep Blue Sea (Rethinking the Traffic in Photographs),” *October* 102 (Autumn 2002): 3–34; and Kenneth Hayes, *Milk and Melancholy* (Toronto: Prefix Press, 2008).

4. Zygmunt Bauman, *Liquid Modernity* (Malden, MA: Polity Press, 2000), 14.

5. See Esther Leslie, *Liquid Crystals: The Art and Science of a Fluid Form* (London: Reaktion, 2017); and LiquidFeedback, <http://liquidfeedback.org/>.

6. Compare Luce Irigaray, “The ‘Mechanics’ of Fluids,” in *This Sex Which Is Not One* [1977], trans. Catherine Porter with Carolyn Burke (Ithaca: Cornell University Press, 1985), 106–118; Catherine Malabou, *Plasticity at the Dusk of Writing: Dialectic, Destruction, Deconstruction* [2005], trans. Carolyn Shread (New York: Columbia University Press, 2010); and Dipesh Chakrabarty, “The Climate of History: Four Theses,” *Critical Inquiry* 35, no. 2 (2009): 197–222.

7. Wall, “Photography and Liquid Intelligence,” 90.

8. For apposite photohistorical interventions in the pages of this journal, see Patrick R. Crowley, “Roman Death Masks and the Metaphorics of the Negative,” *Grey Room* 64 (2016): 64–103; and Peter Geimer, “A Self-Portrait of Christ or the White Noise of Photography? Paul Vignon and the Earliest Photograph of the Shroud of Turin,” *Grey Room* 59 (2015): 6–43. More broadly, see Kaja Silverman, *The Miracle of Analogy, or, the History of Photography* (Stanford, CA: Stanford University Press, 2015); *Photography and Its Origins*, ed. Tanya Sheehan and Andrés M. Zervigón (New York: Routledge, 2015); “Wet/Dry,” ed. Christopher S. Wood, special issue, *Res: Anthropology and Aesthetics*, no. 63/64 (Spring/Autumn 2013): 1–347; and Robin Kelsey, *Photography and the Art of Chance* (Cambridge, MA: The Belknap Press of Harvard University Press, 2015).

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10. For a rich treatment, see Eric de Bruyn, “Beyond the Line, or a Political Geometry of Contemporary Art,” *Grey Room* 57 (2014): 24–49.

11. See Joseph Leo Koerner, *The Moment of Self-Portraiture in German Renaissance Art* (Chicago: University of Chicago Press, 1993), 81.
12. See Karel van Mander, *The Lives of the Illustrious Netherlandish and the German Painters* [1603–1604], trans. and ed. H. Miedema (Doornspijk, The Netherlands: Davaco, 1994), 56–57.
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14. See Michel Foucault, *Les mots et les choses: Une archéologie des sciences humaines* (Paris: Gallimard, 1966), 32–59.
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17. Marissa Anne Bass, “The Hydraulics of Imagination: Fantastical Fountains in the Drawing Books of Jacopo Bellini,” in *Imagination und Repräsentation: Zwei Bildsphären der Frühen Neuzeit*, ed. Horst Bredekamp et al. (Munich: Wilhelm Fink, 2010), 156. Compare Erwin Panofsky, “Artist, Scientist, Genius: Notes on the Renaissance-Dämmerung,” in *The Renaissance: Six Essays*, ed. W.K. Ferguson et al. (New York: Harper and Row, 1962), 121–182; and William R. Newman, *Promethean Ambitions: Alchemy and the Quest to Perfect Nature* (Chicago: University of Chicago Press, 2004).
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 36. Alpers and Baxandall, 84–88.
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60. Walter Benn Michaels, “Neoliberal Aesthetics: Fried, Rancière and the Form of the Photograph,” *Nonsite.org*, no. 1 (25 January 2011), <http://nonsite.org/article/neoliberal-aesthetics-fried-ranciere-and-the-form-of-the-photograph>.

61. I am indebted to Joel Snyder for this interpretation.

62. See Vilém Flusser and Louis Bec, *Vampyroteuthis Infernalis: A Treatise: With a Report by the Institut Scientifique de Recherche Paranaturaliste* [1993], trans. Valentine A. Pakis (Minneapolis: University of Minnesota Press, 2012), 19. For work that engages with Wall in this technological spirit, see Melody Jue, “Vampire Squid Media,” *Grey Room* 57 (2014): 82–105; and Anne Pasek, “The Pencil of Error: Glitch Aesthetics and Post-Liquid Intelligence,” *Photography and Culture* 10, no. 1 (2017): 37–52.

63. Peter Godfrey-Smith, *Other Minds: The Octopus, the Sea and the Deep Origins of Consciousness* (New York: Farrar, Strauss and Giroux, 2016), 75.