

Divination of things by things: Artificial intelligence and the almost said

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"Sors enim non aliquid mali est ; sed res est in dubitatione humana diuinam indicans uoluntatem."

For a lot is not something evil; but it is a thing that indicates divine will in the midst of human perplexity.

Augustine, *Expositions on the Psalms* 30¹

"The music exists between you—the listener—and the object that you're listening to. The transaction of it coming into being happens through the effort you make in the presence of that work. The cognitive activity is the content of the work... Beckett, Gysin and John Cage, with his 4 minutes and 33 seconds of silence—a strange family of artists working out an artistic strategy, in tandem with each other, probably unknowingly."

Philip Glass, *Words without Music*, 96, 126

"our experiences, gotten as they are all at once, pass beyond our understanding."

John Cage, *Silence*, 193

1. Introduction

'Regeneration', its measure taken, sparks practical questions. First among these is, "What is to be done?" I turn for advice to the Stoic philosopher Epictetus (ca. 50-135 CE):

Examine each impression [*prágmata*] and test it by the standards that you possess: first and foremost ask whether it deals with things in our power or with those that aren't; and if it deals with things not in our power keep ready to hand the thought, 'it is nothing to me'. Where are we to look for the good and the bad? Within ourselves, in that which is our own."²

Epictetus makes it personal: what can each of us actually do to reshape human working and living to "the action of coming or bringing into renewed existence", and to renew the place where we live by its "re-creation; rebirth; restoration" (*OED* s.v. regeneration)? While large-scale changes are important, ultimately they devolve to individual choices and actions, the philosopher's "things in our power" (such as tending an orchard), and these in turn to assumptions, inclinations and much else

where real work is to be done. For sure, there many things a person can *stop* doing, many changes in how to live, but making a difference is hardly a simple matter. Even imagining the consequences for an ordinary life of changing what needs to be changed leads to perplexity at every turn. It is for this reason that purposeful, serious theorising to the best of our abilities is indeed practical. That's what I attempt here.

'Regeneration' redirects us to alternatives, away from pursuit of 'growth' to other ways of living.³ My starting point is not that directly. I offer no other way, only an idea of how serious questions towards that end might find answers. My starting point is the imaginary of the 'smart machine', or "unofficial AI" as I called it in my essay for SFSP III.⁴ Here I investigate one way in which that imaginary might be developed to serve regenerative purposes. I prefer 'smart machine' to the more familiar 'artificial intelligence' or 'AI' in order to avoid the confusion, indeed sheer noise, that travels with them. 'Smart machine' also foregrounds the physical device side by side with its promising but problematic impression on us. The importance of this verbal conjunction will become obvious shortly.

Since the smart machine is among other things a device that answers questions, I turn for its improvement to divination, a primary cultural form of response to perplexity. The history and anthropology of divination show us first of all not to be quite so impressed as we seem to be by the performance of the machine in answering mundane questions. It is a remarkable technical achievement to be sure: to generate, without rules and bodies like ours, semantically coherent, meaningful and dynamically adapted responses solely on the basis of raw data.⁵ In the present context, however, to model and give back to us the mundane *vox populi* that we already speak, hear and read is but a modest and largely unhelpful goal. Divination aims at something quite different, more ambitious and relevant to our situation in crisis: to deliver the *vox deorum*, the 'will of the gods' in prophetic, "inspired speech" (Forbes 1995; §5, below). Whether these are gods we might recognise, accept or be able to conceptualise is a question I leave for another time. Meanwhile, in our tight spot, the possibilities to be explored from the world-wide efforts of clients and diviners over millennia, in many cultures and modes, trumps that worry. How to deliver advice from beyond current linguistic behaviour by artificial means is my concern here. I am not arguing for the validity of any diviner's claims or any way of divining, only for the proven social role of divination: to clear a space for the attempt to reach those gods, whoever or whatever they may be.

The *parole* machine of official AI and the many kinds of mantic praxis are alike in their service to the personal and social need for response to questions whose answers are otherwise not forthcoming. They share a fundamental mechanism common to ancient forebears and many other ways of finding things out: the iterative recombination of atomic elements, sifting through units of the known,

under constraint of some theory or criteria ('combinatorics', in mathematics). The abacus is one example of deriving answers by rearranging objects within a schema. The research library is another, a millennia-old, highly structured recombinatorial playground. Italo Calvino's folkloric storyteller likewise brings forth revelations "from another level" by tireless recombination of narrative elements (Calvino [1967] 1987, 22). Deep, provocative wisdom has for centuries come to those who consult the highly structured *Yijing* by casting milfoil stalks or coins, from the combinations of which hexagrams are determined and from them ancient prophetic commentary selected (Adler 2023). In séance Tswapong diviners let ritual objects fall from a bag to make randomised prophetic patterns; with these, they "draw on an oral archive of archaic praise poetry... to make small things—the divinatory lots—speak with much moral significance about elusive and often ill-defined concerns" (Werbner 2015, 21, 52).

In addition to those interconnections and many others, the machine can model (formally imitate) any divinatory form for which the techniques and materials are well-defined, i.e. translatable into an algorithmic structure. (Aspects that cannot be translated are partially or wholly lost to the simulation.) Hence one might conclude that an adequate beginning to my project might be made by compiling a list of similarities and differences. For a comprehensive study, however, this is ruled out by the machine's protean design and the dizzying plurality of mantic practices world-wide (I will return to both). For this reason I argue that a different mode of comparison is needed, one that begins by acknowledging that the two categories of answer-seeking identify recognisably different modes of construing the world rather than objects 'out there' to be matched and contrasted. Hence the question I sharpen with a phrase from Marilyn Strathern's *Partial Connections* (2004, xxix): what then remains when the "obvious connecting material" — those similarities and differences — is cut out?

This question is central to ambitions proclaimed by the Surrealists, European advocates of discontinuity: to break through the ordinary to the 'sur-real' through acts of radical juxtaposition. I bring Surrealism in for its help with that question and for its relevance to other mechanical envisioning (Polizzotti 2024).

The Surrealists expressed juxtaposition in poetry, the arts and daily life by banishing connectives, rupturing inherited emphasis on the continuous (Shattuck [1955] 1968, Chapter 11). They were hardly the first to do so. A century and a half before them, the great 18th-century man of letters Samuel Johnson put the matter in a nutshell, condemning 17th-century Metaphysical Poetry for its "most heterogeneous ideas... yoked by violence together" (Johnson 1781, 29). I explore the trenchant power of the technique first by considering the Surrealists' use of it, then by ranging widely through examples from poetry, biblical and philosophical narrative, cognitive science and ritual craft, including Amazonian, Melanesian and Arabic devices.

I then take up a different machine for seeing, the photographic camera. While it is true that for some years digital cameras have to varying degrees rendered the photograph “a computed object—a product of algorithms” (Hays 2008, 98) and taken on implementations of artificial intelligence research,⁶ what concerns me is the insight to be gained, on behalf of a divinatory smart machine, from artistic exploitations of a hands-on tool that remains fundamentally opto-mechanical, albeit with new options, new freedoms of action. How these will play out is anyone’s guess, but the history of photography gives us strong reason to think that the art will not diminish in its imaginative range and power, though requiring no less of a creative struggle.

I note how photographic (and cinematic) vision function not dissimilarly to the Amazonian, Melanesian and Arabic examples, as perceptual cue or trigger and as lure or trap. Alfred Gell’s anthropology of art, i.e. of objects made by skill (in Latin, *ars*; in Greek, *technê*), comes into play in explicating them, to elucidate how such devices capture and draw in those who are culturally attuned to them.⁷ The point he makes with the help of Peter Berger’s *The Social Reality of Religion*, that “methodological atheism” blocks understanding of religious phenomena (Berger 1973, 106), is crucial. Gell applies Berger’s term to art criticism, describing craft-work and its function among those who share in the crafter’s knowledge, who *do not rule out* the role of enchantment, magic, the supernatural (Gell [1999] 2006, 140). Anthropologically, in his sense, the distance between the smart machine and divination appears not so great as may seem.

2. The smart machine

Earlier I referred to the effects of the machine’s protean design, which enables it to take on indefinitely many forms. Because of that, its layered complexity, speed of untraceable operations, pace of development and interconnectedness with countless other devices online, its internals are irresolvably opaque to all but a small minority of engineers, and even they as individuals will know only a portion of the whole in detail. The non-technical user is confined to an interface specifically constructed to hide the mechanisms it allows users to invoke, many of these unwittingly, in order to present an ‘intuitive’ (i.e. intuition-shaping) device. Embedding small, application-specific machines in the appliances of daily life confers such opacity on them, turns their acquired ‘intelligence’ into a mysterious background. We get used to the mystery, though it tends to appear when something unexpected happens. A human tendency to personify such things is fed.

Crucial to the argument I make is a suspension of dogmatic dis-belief, or to put the matter another way, assumption of agnostic willingness to take the smart machine at face-value.

Complex systems are like that, of course, whether ‘smart’ or otherwise. Historical studies of automata, of which the smart machine is a logical extension, suggest not just life-likeness but also resemblance to the thinking, self-motivated human (Riskin 2016). “It is truly a sublime sight”, a mid-19th century observer wrote in *Scientific American*, to behold a machine performing nearly all the functions of a rational being” (Anon. 1847). On its public emergence in the late 1940s, the smart machine was presented as not merely smart or humanoid in that respect but transgressive, something more than human, something numinous. Of the many examples cited in my earlier study, allow me to recall two: IBM’s first public display of a computing machine in 1948, the Selective Sequence Electronic Calculator, presented in an American magazine as a Delphic oracle (McCarty 2024, 116-18); and a British intelligence officer’s spontaneous reaction to an even simpler computing device, “like some Eastern Goddess who was destined to become the oracle of Bletchley, at least when she felt like it. She was an awesome piece of magic.” (Winterbotham 1974, 33-34)

The fact that the machine was advertised from the outset to be marvellous, magical, oracular as well as popularly accepted as such speaks to Gell’s argument concerning what happens between the participant-user and the participating artefact. It is the machine at (inter)face value, invested by a penumbra of magic, that I deal with in this essay. How else is it to be set beside mantic practice? Otherwise all we are left with is a poor imitator of those ‘technical’ divinatory practices which are sufficiently algorithmic-like to be modelled.

4. Divination

‘Divination’ (like ‘smart machine’) is an indefinite noun applied variously according to the context in which it is studied. Martti Nissinen’s observations on the divinatory phenomenon of prophecy apply: as an historical phenomenon, he writes, prophecy is “the multifarious product of socially contingent processes that have taken place in different times and contexts”, but as a scholarly concept “created and maintained by the community of scholars that provides the matrix within which the concept works and the purpose for which it is constructed.” (Nissinen 2017, 4) I emphasise the point because unfamiliarity with divination, and the ease with which the term is stretched to cover many unlike things, may obscure its enormous, irresolvable diversity, hence the often unexpressed limiting of scope in scholarly studies according to their focus.

Faced with this historical and cultural diversity, generalising explanations and theoretical frameworks, though tempting, require caution.⁸ For example, assigning mantic phenomena to an indigenous ‘psychology’ or an ‘unconscious’, collective or otherwise, is to risk distortion. This is not to deny that where Western influence has taken hold, as in modern China, psychological categories are being used with apparent success (cf. Homola 2023, 109-11), but the complex layering of influences only makes the problem more difficult. Where the concept of an inaccessible part or function of the mind is foreign and has not been effectively imposed, the familiar

terms of psychology and psychiatry are dubious if not irrelevant (e.g. Taylor and Vilaça 2024). Dismissing distant ways of inquiry as ‘mumbo-jumbo’⁹ or assigning them to ‘folk psychology’¹⁰, tars all with the same brush, hence stirring defensive reactions in those terms (e.g. Winkelmann and Peek 2004). Meanwhile for each variety of divination the volume of scholarship mounts, forcing the student to make choices in order to reduce the multidimensional practice to practical dimensions. The need to do this is in proportion to the ambitions of the reach.

If we are to make any progress at all, however, it also won’t do to back away in the face of such complexities, nor to stake claims or draw lines that are anything other than provocation to further study. Modesty of one’s hermeneutic ambitions as well as courage to pursue them are called for (Lloyd 2021, 6).

To start I recommend holding off any simplifying, reductive move long enough to develop a sense of the bewildering historical and cross-cultural variety of divination, allowing no definition to pre-empt it. The problem is, of course, a common philosophical and practical one, but no less of a problem for all that. A wide survey, such as Aroney and Zeitlyn 2024, helps in more than one way, paradoxically enclosing divination’s unmanageable variety within the covers of a book. Although there is clearly no one ‘divination’ to be defined, no touchstone, we must nevertheless acknowledge that the unqualified concept remains, indeed more than lingers: it sparks interest and argument; books are written on it; millions of people apparently *do* what it names; many endure the demanding vicissitudes of travel and adaptation to other ways of living and thinking just to study it further. Some return having become initiands to tell a deeper tale.¹¹

Like a divinatory perspective on the smart machine, the computational one on divination brings some aspects into focus and obscures others, omitting much of the detail according to its matrix. It brings to the fore the kind of divination Cicero (and Plato before him) identified with human skill, hence ‘artificial’ (*artificiosum*) or ‘technical’, suppressing the unmediated or ‘natural’ (*naturale*) expression of divine will ‘devoid of art’ (*arte careret*).¹² It finds purchase with well-defined procedures and equipment, e.g. casting of lots or referring to an indexed body of commentary. The diviner becomes less important, the client and machine more. The deeply interpersonal, indeed communal exchanges and ambience attested by accounts such as Werbner’s are lost. At the same time, with the computational equipment a new set of conditions arise, new freedoms of action.

The point for this inquiry is that the syntax of similarity, the connotation of “obvious connecting material” in the ‘placing next to’ of juxtaposition, captures the attention and so misleads, as Shattuck observes in his important study, “The Art of Stillness”:

Ultimately it becomes apparent that the mutually conflicting elements... —be it a movie or poem or painting—are to be conceived not successively but *simultaneously*, to converge in our minds as contemporaneous events. The conflict between them prevents us from fitting them smoothly end

to end; what appeared an arbitrary juxtaposition of parts can now take its true shape of enforced *superposition*. (Shattuck [1955] 1968, 345)

Sergei Eisenstein, we will see, argues precisely this for the montage of sequential cuts in film.¹³

5. Paper and scissors

Rather than start with promised attention to Surrealism itself, I begin with the simple cut-up technique, or collage with words, adapted by Brion Gysin from the Dadaists then adopted by William Burroughs in collaboration with him.¹⁴ Throughout many interviews (Lotringer 2001), Burroughs describes his cut-ups and spontaneous juxtapositions of words and things in response to the media of his day, to language as control (Burroughs 1978), making “explicit a psycho-sensory process that is going on all the time anyway” (Lotringer 2001, 67-68). In an interview from 1964, he describes the technique along with the similar fold-in:

Pages of text are cut and rearranged to form new combinations of word and image, that is, the page is actually cut with scissors, usually into four sections and the order rearranged. In writing my last two novels, *Nova Express* and *The Ticket That Exploded*, I have used an extension of the cut-up method I call the fold-in method. A page of text, my own or someone else's, is folded down the middle and placed on another page; the composite text is then read across, half one text and half the other. The fold-in method extends to writing the flashback used in films, enabling the writer to move backwards and forwards on his time track. (Lotringer 2001, 58)

Burroughs comes back again and again to the disruptively creative effects of this technique and habit of mind. His editor Sylvère Lotringer comments that these effects break down the controlling structures of “logical sequence... restoring language its power of prophecy” (Lotringer 2001, 34f)—or better, restoring that power to *linguaging*, in speaking, writing, reading.¹⁵

I have referred to the ‘prophetic’ earlier as if this common word needs no gloss, but now it does, lest the importance of Lotringer’s observation is missed or underplayed. One common mistake is to equate prophecy with prediction alone. Edward Ardener points out that the two operate very differently, presume very different conceptions of time (Ardener 2007, 135), as I will illustrate by example later. Throughout its ancient, various and widespread history,¹⁶ we find in communion with the divine a prophet who at a crucial juncture or ‘singularity’ (Ardener 2007, 148) delivers an inspired, revolutionary message to the people that sounds an alarm, revealing a new or forgotten order of things which overturns the status quo (Sarró 2018, 7). Although this history stands at some remove from Lotringer’s insight, it is important that we feel it there, that what Burroughs was seeking to release and realise by such a seemingly absurd technique does not pass us by. For the English word, we also need to hear the biblical resonances, from those who for millennia have been known in many languages as the *Nevi'im* (נְבִיאִים).

My emphasis is on the revelatory fracturing of syntax and by surrealist juxtaposition of the fragments in writing, painting and behaviour: ‘fragments shored against their ruins’ (Eliot 1963, 69).

6. Violence to stillness

Towards the end of *The Banquet Years: The Origins of the Avant-Garde in France, 1885 to World War I*, in “The Art of Stillness”, Shattuck extracts the paradoxical aim of Surrealism from the cultural upheavals it and Dada caused: a “heightened condition of mind”, or as André Breton wrote in the founding treatise, *Manifeste du surréalisme* (1924), “a kind of absolute reality, a *sur-reality*”.¹⁷ The Surrealists were hardly quiet or gentle about it. How, one wonders, could their professed method — “a tenet of total revolt, complete insubordination, of sabotage according to rule... [expecting] nothing save from violence” (Breton 1972, 125)—have achieved that transcendent “condition of mind”?

Surrealists sought to overthrow “the tyranny of standard meanings” and the conventions of society (Polizzotti 2024, 51-4; 98ff), expressing themselves at times in violent, sexist imagery (Hughes 2013, §5). Such is hard to stomach, seemingly impossible to square with their lofty ideal, “a posture of total arrest—the juxtaposition of parts around a moment of profound awareness... [at] the still center” (Shattuck [1955] 1968, 352). We are puzzled, until we consider what was in (and remains in) the Augean stables of the mind. John Schoneboom’s gloss — “Surrealism is reality’s psychotherapist”¹⁸ — points to that psychic content, reminds us of Breton’s own clinical history and his keen interest in Freud.¹⁹ We are puzzled by the violence, that is, until we consider what is required, if not merely what revolutionaries tend to do: to *arrest*, “to cause to stop” (*OED* s.v. II.6) the slide backwards to previous social forms and ways of thinking, to throw off the weight of smothering conventions and, at that time in Europe, the devastating aftermath of a world war and the aching need for a new world, a new human understanding. Theirs was *preparation* for that surreal “moment of profound awareness”, not a realisation of it. As well as ditching oppressive baggage, Breton and colleagues were looking *for* something, as Burroughs was. In doing so, like anthropologists of that time (such as Claude Lévi-Strauss), they saw a way of finding it in aspects of the human that seem to have been lost or forgotten but preserved, they believed, in the ‘primitive’.²⁰

A breakthrough to a new, transcendent consciousness in the sur-real may not have been achieved, but it was on the Surrealists’ horizon and is still there, surviving them and their quasi-movement, summoning it anew, as Polizzotti argues in *Why Surrealism Matters* (2024). Their imagining of the transcendent through violent breakage and rearrangement of the fragments eventually took on the “factotum word” juxtaposition (Shattuck [1955] 1968, 332). It is, as Shattuck notes, inadequate,

hence my gloss, and in need of accompaniment by a crucial warning: to stop short of attempting to answer the perplexity to which, if successful, it leads.

7. Looking multidimensionally

Juxtaposition without connective—intermediating material *cut out*—delivers to the receptive mind a simultaneous presence, as Shattuck has suggested. Breton in *Manifestes* quotes Pierre Reverdy's insistence on the radical difference between the simultaneously present juxtaposed, uncompromised by likeness:

The image is a pure creation of the mind.

It cannot be born from a comparison but from a juxtaposition of two more or less distant realities.

The more the relationship between the two juxtaposed realities is distant and true, the stronger the image will be—the greater its emotional power and poetic reality... (Breton 1972, 20)²¹

Ezra Pound's well-known haiku, "In a station of the Metro" (1957, 35), is as perfect an example as one could find:

The apparition of these faces in the crowd;
Petals on a wet, black bough.

What then follows? Consider, as if in motion, what the reader's mind does with the two irresolvable images, where it goes: *not* to a resolution. Following are three examples of what might be called 'attentive redirection'. A commentary follows them.

The first is biblical: Erich Auerbach's discussion of the Abraham and Isaac story in *Mimesis* (Auerbach 1953, 17-18). Turning to its stark lacunae, Auerbach points out (as Reverdy did for poetry) the key role of the omitted connective, but his focus is different. In context the function of the unbridged narrative fragments is, he argues, to redirect attention to a much larger story. "The greater the separateness and horizontal disconnection of the stories and groups of stories in relation to one another...", Auerbach writes, "the stronger is their general vertical connection, which holds them all together... [E]ach moment of this vertical connection" is an abrupt reminder of their belonging "to one concept of a universal history and its interpretation". For the People of the Book and their inheritors, from the time of its propagation this view of human history, this temporal-spatial schema 'from above' became the rule to live by. Hence the 'prophetic' function in its crossover with prognostication: the foretelling of an historical future from that celestial, 'vertical' perspective.

The second and third are from Greco-Roman Antiquity. They exemplify two quite different redirections, not to the vertical but the horizontal: first a complex literary momentum, set in motion by a Roman epic poem; then an inward arrest to stillness brought about by an ancient Greek philosopher's unresolvable fragments of text.

Ovid's *Metamorphoses* supposes theologically very different conditions than the Hebrew: a vertical dimension would be out of place for gods that mingle with humans in a mytho-historical world. The poet tells of changing bodies (*mutatas dicere formas*) in stories each of which varies elements of its predecessor and is in turn is varied by the one which follows it. With each story some elements are left behind, others kept, new ones acquired, metamorphosing the inherited pattern.²² In this way each of the collocated stories becomes a focal point for the rest, each a perspective on the whole of the poem. Narrative transitions in the *Metamorphoses* thus communicate to the stories they join an uneasy, forward and backward-looking vigour (McCarty 1993b, 318-19; cf. Breton [1955] 1990, 109). As the linguist J. R. Firth said of individual words occurring together, the juxtaposed stories invite the reader to attribute "meaning by 'collocation'" (Firth 1957, 194). None of Ovid's stories is complete, each story is "forever open, inviting, even demanding a completion that extends beyond the *Metamorphoses* into the indefinite future, into the stories yet to be written" (McCarty 1993, 126), which were indeed written on and on through the Middle Ages to modern times.²³ This, we might say, is the *eros* driving its influence—and perhaps what Ovid meant by ending his poem with a verb in the future tense, *vivam*, "I shall live" (15.879)."

My Greek example is different again: not narratively onward but philosophically inward, presented to us in Miles Burnyeat's luminous review of Charles Kahn's *The Art and Thought of Heraclitus*.²⁴ Burnyeat stages reorientation not to a heavenly vertical, nor to the Roman poet's horizontal narrative propagation. He imagines we are in Heraclitus' audience, listening to the ancient sage read the book we know as fragments, struggling to follow Heraclitus' discontinuous utterances. Burnyeat shepherds the reader through the twists and turns of thought, delivering us to a crucial moment at the end. He stops before the last, tempting step: "After explanation and elucidation have done their best," he writes, "there is nothing for it but to let these memorable sayings take effect in the psyche in their own way... Wisdom does not come from paraphrasable content." (Burnyeat [1982] 2012, 203f)

Burnyeat's philosophical example illustrates in particular the imagined state of mind that cognitive scientist Jesper Frøkjær Sørensen looks to in his anthropological commentary on his studies of ritual behaviour. He notes that assuming a causal model blocks rather than enables perception of the evidence before one's eyes. Citing his computational work he concludes that "Causal opaqueness is particularly relevant in this context... participants and observers of ritual actions direct their cognitive attention to a finer *perceptual* level of an action performed, when no causal schema is available for processing the full action sequence." (Sørensen 2021, 264-265) No explicit juxtaposition is involved, rather a complex presence of performers, but he does suggest how the observer, confronted by complex interrelations that cannot be grasped fully, fares better when invited by absence of a theoretical schema, especially an authoritative one, to follow unimpeded.

8. Traps, cues and triggers

In my second epigraph I quoted composer Philip Glass on the experience of listening to a musical work, not as if ‘out there’ to be received by the ears but in a transaction, “coming into being... through the effort you make in the presence of that work. The cognitive activity is the content of the work.” (Glass 2015, 96) To listen is more than to follow the notes, however attentively; it is to think with them in whole-being contributory engagement. Hence its power to affect—and to enchant, entrap and command.

Gell’s well-known “The Technology of Enchantment and the Enchantment of Technology” deserves more attention than space permits. But his example of the prow-boards of Trobriand islanders’ canoes, carved to befuddle their trading partners, is irresistible (Gell [1999] 2006, 164-66; 1996, 70). He describes their “carving magic”, a technical-imaginative transfer of designs that flow down through the carver’s arm and fingers, through the carving tool, into the wood. It is magic to the beholder who, like Glass’ enculturated listener, takes in, re-enacts and engages with the recognisable design. Likewise the Amazonian ritual figures studied by Anne-Christine Taylor have their effects on the participant observer: under the right conditions, she argues, these crafted objects become “cues for the activation of mental processes geared to produce a certain form of visual imagination, devices for making us conjure the ‘true’ image hidden in the figure offered to the viewer’s gaze.”²⁵

Other examples of commanding perceptual designs come to mind, such as the labyrinth in its myriad of forms, entrancing and apotropaic (Kern [1982] 2022), architectural, visual and narrative, as in the mythological stories of Theseus, Ariadne and the Minotaur, beloved of the Surrealists.²⁶ Still other examples from classical and medieval European lore crowd in, from accounts of captromancy and scrying, but these are too numerous for now.

Finally, the Arabic tradition of bibliomancy brings us back to divination, in the illustrated *Fālnāmah*, or omen book, found in Iran, Turkey and India. The *Fālnāmah* combines randomly accessed pairs of images and text that address the client’s destiny. In each instance, an intricate and arresting assembly of images on the right-hand opening are accompanied on the left by a written interpretation—image before words in the Arabic sequence of reading. Within each right-hand opening, well-known figures, objects and situations are depicted specifically to capture the client’s attention, conducting him or her into a mytho-historical world of instructive, remembered stories and situations.²⁷ The combination of image and pre-set textual interpretation in *The Kahlili Fālnāmah*, for example, eliminates the need for a professional diviner (Parikh 2022, 20). This puts particular emphasis on the client’s induced immersion in traditional thought, especially in those cases where the relation between the image and its corresponding text clearly requires the client to interpret. The client’s ‘fate’ emerges from the immersive reading, or re-enactment, of

the storied images *prior to* any given interpretation or constraint. The format of the codex gives precedence to the seeker rather than to an external authority.

9. The “natively surreal” machine for seeing

A promised but abrupt switch now, to carry the argument from the anthropology of musical and ritual performance to photography, to the camera, a machine and technology for seeing, which like other devices can enchant, entrain and redirect. I choose this device in order to conduct and condition all that is said here in the name of ‘technology’ to the object most likely to come to mind: the smart machine. I choose the photographic camera to do this because it channels “the arts of juxtaposition” (Shattuck [1955] 1968, 332) from surrealism to the doorstep of the smart machine, which implements it in an algorithmic *tabula rasa*. The photographic camera provides help in understanding how under some configuration the algorithmic machine might serve concordant purposes with divination by its own, discordant means.

In “Photography and the Surrealist Text”, Dawn Ades argues that “If there is any *site* where surrealist activity, the life of the movement in its fullest sense, is to be found, it is the surrealist periodicals... as a terrain of debate, of creation, and criticism.” In these experimental places “the range and resources of photography within surrealism are most fully realised”, sometimes in anonymous or adventitious finds (Ades 1985, 155). Photography was not, however, merely within the movement but “at the heart of surrealism” (Krauss and Livingston 1985, 9).²⁸ This may well strike us as puzzling, given the prominence accorded to painting by Breton himself in *Le Surréalisme et la peinture* ([1928] 1965) and the continuing prominence of the artists he presents there, e.g. Duchamp, Picasso, Dalí, Kahlo de Rivera, Magritte. Susan Sontag explains: photography is there, at Surrealism’s heart, because photography is “the only art that is ‘natively surreal’” (Sontag 1977, 47). Curator John Szarkowski lists the attributes that mix and combine to make it so: photography quotes out of context, isolating unexpected (as well as deliberate) juxtapositions, creating a relationship by surrounding facts, dissecting the familiar, showing unfamiliar fragments, drawing attention to the shapes that surround objects, editing “the meanings and patterns of the world through an imaginary frame”.²⁹ The grammar is apt: present participles fend off conception of photography as hindsighted representation; they foreground the processual and unfinished experience, first of the artist, then of the active, participant viewer.³⁰ In other words, photography is relevant not only for the images which present surreal juxtapositions or (as we will see) leave them to be found out, but for the moments in the photographer’s experience when the camera frames his or her perception and catches, as within a trap,³¹ a fleeting vision, rendering it visible to others.

Photography proper began with the convergence of technologies: scientific optics, , mathematics, engineering and the chemistry that fixed the projected image in durable form. From prior centuries, it inherited the hugely influential invention of linear perspectivism and the *camera obscura* that accompanied Early Modern science

and mathematics.³² It thus attracted those who, like inventor William Henry Fox Talbot, promoted “the sun-pictures themselves” as faithful, objective products of “the agency of light alone, without any aid whatever from the artist’s pencil” (Talbot 1844, “Notice to the Reader”). Others, such as Julia Margaret Cameron, then Alfred Stieglitz, Gertrude Käsebier, Edward Steichen *et al.*, accepted or exploited the technical limitations of the new medium in a painterly style that came to be known as ‘pictorialism’.³³ Remarkably, as they demonstrate, “the battle between science and art, positive recording and imaginative illumination” (Daston and Galison 2007, 188 and *passim*), did not result in the mechanisation of photographic vision but the realisation of it as a new and different art.³⁴

The work of the documentarist *flâneur* Eugène Atget (1857-1927) suggests what may well have happened between novice user and the new instrument.³⁵ We know little of Atget’s intentions. He made his living by providing images for artists; he was clearly intent on recording Parisian life at a moment of great change—but seemingly nothing like the modern street photographer. We remain curious, Szarkowski comments, “about Atget’s personal artistic values and intentions. It seems clear that the most important questions must be asked not of the supporting documents, but of the works themselves.” (Szarkowski 1975, 162-63) For all we can tell, Atget quite simply did what the camera led him to do. From long study of his works, Szarkowski sees in them a breadth of interests like that of the Encyclopedists and a “conception of form... not nuclear but galactic: relative, plural, dynamic, provisional, and potential” (1975, 165). He trains us to see a mind open to the possibilities of the instrument and a creative imagination able to realise them.

In his “Little History of Photography” Walter Benjamin brings attention to the viewer’s interaction with photographs, to “something new and strange” about them:

the most precise technology can give its products a magical value, such as a painted picture can never again possess for us. No matter how artful the photographer, no matter how carefully posed his subject, the beholder feels an irresistible compulsion to search such a picture for the tiny spark of contingency, the here and now, with which reality has, so to speak, through the image-character of the photograph, to find the inconspicuous place where, within the suchness [*Sosein*] of that long-past minute, the future nests still today—and so eloquently that we, looking back, may rediscover it. For it is another nature that speaks to the camera rather than to the eye; “other” above all in the sense that a space informed by human consciousness gives way to one informed by the unconscious... It is through photography that we first discover the existence of this optical unconscious, just as we discover the instinctual unconscious through psychoanalysis. (Benjamin 2008, 276-77)³⁶

This “optical unconscious” opens speculation on the divinatory potential of photography: a means of realising what one might call props for meditation, inducements to serious work on tough questions. I return to Philip Glass on what and where music is: between audience and performance, in the “cognitive activity” of listening. Serious, patient exposure to Josef Koudelka’s work,³⁷ for example, is to my mind more than sufficient to suggest the same for photography at his level of

insight and performance: “deliberative and mysterious images that nudge the viewer to acknowledge, or to imagine, what lies beyond the frame, in time and in space” (Asokan 2024). If divinatory potential can rightly be attributed to the camera—a machine that can be coaxed by / can coax the photographer to perform in the manner worthy of a diviner—then why not the smart machine, liberated from the unhelpful obsessions of AI?

10. What is to be done

I have brought together several fragments of scholarship to bear on this question in order to make a preliminary case for further inquiry. From the recent past I’ve gathered promising ideas, passions, devices and tendencies of thought. While suggesting what is to be done, I leave a great deal undone, as I am sure students of divination and engineers of smart and smarter machines will be keenly aware. But urgency is upon us, and (I make bold to say) we are perplexed.

There seems nothing for it but close inquiry via the *discordia concors* created by presenting two unlike/like devices simultaneously. Perception is then, as Eisenstein said of cinematic montage, what happens when “each sequential element is perceived not next to the other, but on top of the other... From the superimposition of two elements of the same dimension always arises a new, higher dimension.” (Eisenstein 1949, 49) Commenting on his own film *Orphée*, Jean Cocteau described the aim he and Eisenstein shared:

to allow the mind to follow its own, uncontrolled course... our most intimate notions (those most tightly imprisoned within us) to escape and flee unseen past the guards... If the frivolous and thoughtful...knew the discipline involved in montage, they would regard us with some trepidation and denounce us to the ecclesiastical court as alchemists. It is true that we manufacture gold. But this gold has no currency except for a few rare and attentive souls. (Cocteau 1992, 167-68)

To be more specific, the aim of this essay is to make a plausible case for simultaneous studies of widely diverse and distributed practices of divination and of the indefinitely flexible machine, refracting each through the medium of the other. At the outset I skirted around a problem that lurks everywhere in the essay, and is again summoned by Cocteau’s alchemy, which like astrology, William Newman and Anthony Grafton comment, “has, and can have, no currency in our skeptical, myth-shredding intellectual economy.” They note the problematic assumptions built into this economy for its deleterious effects on our understanding of history (Newman and Grafton 2001, 2-3). As Tambiah wrote of magical rite, the semantics of this essay is not that of the natural sciences; rather it aims at “expansion of meaning” in service to our well-being and is to be judged by its fitness, appropriateness or felicity to the subject undertaken (Tambiah 1985, 77; Lloyd 2021, 14).

Where this gets author and reader both is (I say it again) to the verge of much further work: to make conscious our conditioning by the history of the ‘smart machine’ and

its built hopefuls, and to study many divinatory practices, taking each in turn for what it has to teach us about the next step, in whatever direction that may lead.

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¹ *Enarrationes in Psalmos XXX*. ii, s. ii, 13, in *Corpus Christianorum Series Latina XXXVIII*, 211.

² *Discourses II.v*; translation adapted from Brad Inwood's (Inwood 2018, 7).

³ In addition to the essays in this volume, note the literature published between the Club of Rome's report (Meadows et al 1972) and the assessment by its former members (von Weizsäcker and Wijkman 2018), more recently Kōhei Saitō's "degrowth communism" (Saito 2024). Joseph Weizenbaum, responding to physicist Steven Weinberg's reply to critics of science, "What is it that they want me to do?", argues that this is the wrong question: "people are constantly asking one another what they must do, whereas the only really important question is what they must be." (Weizenbaum 1976, 267f).

⁴ McCarty 2024; for "unofficial AI" p. 112, 'smart machine' p. 126, note 1.

⁵ My thanks to Eva Jablonka for pointing this out to me.

⁶ Note in particular implementations of artificial intelligence research in mobile phones, e.g. in the Project Indigo app, <https://research.adobe.com/articles/indigo/indigo.html> (14/8/25). See Hayes 2008, Kirkpatrick 2019; for a more technical survey, Lukac 2010.

⁷ Gell [1999] 2006; also esp. 1998 *passim*; 1996.

⁸ For an example see the reference to Pietz on the origins of the 'fetish' in Graeber 2015, 7.

⁹ *OED* s.v.; note the origins of this dismissive label in Moore 1738, 40, 121-122.

¹⁰ I am referring to use of the term as a dismissal; for serious considerations see Morton 2009; Hutto and Ratcliff 2007.

¹¹ To name a few (with apologies to any omitted): for Africa, David Zeitlyn, Richard Werbner, Wim van Binsbergen, Edith Turner, Paul Stoller and Cheryl Oakes; for the French Bocage, Jeanne Favret-Saada; for Venezuela, Jacques Lizot; for Cuba, Martin Holbraad; for Mongolia, Katherine Swancutt.

¹² Cicero, *de Div.* 1.6.11, 1.18.34; also Plato, *Phaedrus* 244 b-e; Stökl 2012, 8-9.

¹³ The French term *montage* is first attested in the sense of composition or editing as done by the filmmaker (*OED* s.v.); when used for still photography, the term is usually 'photomontage' but can be simply 'montage'. For montage in film, discussed below, see Eisenstein 1949; Kuleshov 1974; Pudovkin 1954.

¹⁴ Burroughs and Gysin 1978. Note that the German equivalent of montage is *Schnitt*, 'cut', suggesting a parallel to cinematic editing.

¹⁵ *OED*, s.v. 'linguaging'; thanks to Tim Smithers for suggesting the verbal form.

¹⁶ For the history of prophecy in the Ancient Near East, see Nissinen 2017, Chapter 1 and *passim* and Stökl 2012; in the Hellenistic context of early Christianity, Forbes 1995; in colonial Africa, Sarró 2023. Sarró 2018 provides anthropological overview and summary, Ardener 2007 an influential theory of its effects in the social world.

¹⁷ Quoted from Breton 1972a, 14; in the original, "une sorte de réalité absolue, de *surréalité*", from his *Manifestes du surréalisme* (1924) reprinted in Breton 1967, 24.

¹⁸ <https://web.archive.org/web/20221209002451/https://whowhatwhy.org/culture/surreality-propaganda-and-wile-e-coyote/> (18/3/25), quoted in Polizzotti 2024, 99.

¹⁹ Breton 1972, 10-11 and *passim*; Polizzotti 2009, 45ff; cf. Bergstein 2010, 203-04.

²⁰ Spaas 1995; Wilcken 2010, *passim*; Geertz 1973, Chapter 13. For Breton's relation to Lévi-Strauss, see Lévi-Strauss [1993] 1997, 143-151; Polizzotti 2009 *passim*; 2024, 74, 109f, 180 n. 4.

²¹ «L'image est une création pure de l'esprit.

Elle ne peut naître d'une comparaison mais du rapprochement de deux réalités plus ou moins éloignées.

Plus les rapports des deux réalités rapprochées seront lointains et justes, plus l'image sera forte—plus elle aura de puissance émotive et de réalité poétique... » (Reverdy, *Nord-Sud* (March 1918), in Breton 1967, 31); also Breton [1955] 1990, 109.

- ²² For a rough (and computationally much outdated) sketch of my reading of the *Met* in relation to Auerbach's argument, see McCarty 1993a, also McCarty 1993b, 123-126. The *Analytical Onomasticon* to which it refers (McCarty et al. 2004) ran aground on its own assumptions but in doing that revealed them.
- ²³ Hardie 2002, esp. Part 3. See also e.g. Warner 2002, *passim*; Brown 1991, Chapters 2, 4, 9; Darrieussecq 1997.
- ²⁴ Burnyeat [1982] 2012 on Kahn 1979; Inwood 2013.
- ²⁵ Taylor's translation (e-mail, 27/3/25) from Taylor 2010, 48. See also Depuis 2024 for examples with reference to ayahwasca-enabled ritual experience; Dupuis and Canna 2018.
- ²⁶ Note the periodical *Minotaure: Revue artistique et littéraire* (1933-1939), which featured Picaso's depiction of the Minotaur on the cover of the first issue; Ades 1978, 279-329. Rubin 1968, 127.
- ²⁷ See the examples in Parikh 2022, esp. the comments on pp. 26-33, 71-73, 157, 173 (<https://www.khalilicollections.org/portfolio/the-khalili-falnamah/>); Farhad and Bağci 2009; also Berlekamp 2011; Savage-Smith 2004. Parikh has confirmed what I call the 'psychodynamics' of these images, commenting that to her knowledge no attention to effects on the psyche of the viewer has been given (personal e-mail, 2/5/25).
- ²⁸ See also Scott 2007, 191f; Adés 1985; Benjamin 2008, 285.
- ²⁹ Szarkowski 1966, 70; also Benjamin 2008, 293. John Szarkowski, director of photography at the Museum of Modern Art, New York, was hugely influential as curator, promoter of talented photographers and critic; see https://en.wikipedia.org/wiki/John_Szarkowski and <https://mastersofphotography/free-photography-videos/view/john-szarkowski-the-visionary-who-shaped-how-we-see-photographs/>. (30/3/25). Note also the parallel act of framing in music on which Glass comments (Glass 2016, 95f) citing John Cage, who refers back to cinematic technique (Cage [1961] 1973, 4, 16, 65; also Brown 2011, 110f).
- ³⁰ I am indebted to the anthropological historian Greg Denning for his insistence on the participle as a means of uncovering the making in things made; he quotes Herbert Marcuse: "Art fights reification by making the petrified world speak, sing, perhaps dance". See Denning 1993, 84-85.
- ³¹ Corsín Jiménez [this volume] and 2021; Corsín Jiménez and Nahum-Claudel 2019; Gell 1996.
- ³² For reasons of space I have omitted a lengthy discussion of linear perspectivism, its invention by architect Filippo Brunelleschi, canonical exposition by Leon Battista Alberti in *De Pictura* (1435), its indebtedness to the influx of Greek mathematics and scientific optics and its enormous influence still carried in the word 'perspective', the expression 'point of view' and so on. See *inter alia* Edgerton 2009 and Chang 2020; see also Riskin 2016, Wade and Finger 2001. Its quietly persistent grip on us all but forces reliance on juxtaposition.
- ³³ Cameron [1874] 1980, Springer and Weiss 2023, <https://www.vam.ac.uk/collections/julia-margaret-cameron> (22/6/25); Stieglitz 1899 and 1997 *passim*; Bayley 1914, Chapter 24; Coburn 1915; Young 2007.
- ³⁴ The early work provides the evidence: in addition to note 33, see e.g. Szarkowski and Hambourg 1981-1985 and Trachtenberg 1978, §1-2.
- ³⁵ Szarkowski 2000, 1975; Szarkowski and Hambourg 1985, 28-29; <https://www.moma.org/artists/229-eugene-atget>.
- ³⁶ On "the optical unconscious" in photography see Smith and Sliwinski 2017; Silverman 2015, 123, 139-40, 172 n. 52; Scott's "a door into the Underworld, a door which leads from the chronometric time of the world into the Bergsonian duration of the observer" (Scott 2007, 49. See also Krauss 1993; Bergstein 2010.
- ³⁷ Koudelka 1988; <https://www.magnumphotos.com/photographer/josef-koudelka/> (1/8/25).