“EVERYTHING IS BURNING”

Raqs Media Collective

How does one know, in a post-truth world?
And how does one know otherwise?

There is a laser beam emanating from the stylus arm of an inscription machine. That bright needle of fire burns a pattern on to deep blue silk paper. The back-and-forth movement of the stylus etches a gleaming, golden, vectorized image of a decapitated figure, seated, cross-legged, in what appears to be a meditative pose. For all intents and purposes, this is an image of the Buddha, and he has lost his head. But the stylus is programmed to do more than just etch this headless-ness into an enduring act of paper iconoclasm.[1]

A rudimentary Artificial Intelligence (AI) agent embedded in the laser machine converts pixels, by joining dots into lines, building curves and shades, rendering it just so that it can appear, faster, and closer, to some model referent in some image data bank that it has read, during it’s “supervised” or “unsupervised” training.

Pixellated, rasterized images are actually less manipulated, and manipulatable, than smooth, vectorized ones. A digital camera records a still image as a JPEG (or JPG) raster file. Some years ago we shot a digital photograph of a headless Buddha frieze in a place called Kesariya in Bihar in Eastern India. That moment had real light, bouncing off a real bas-relief on the outer wall of an ancient stupa, entering an actual lens and resolving into a digital image that could be stored. That image was waiting, silently, for a few years to find its laser-vector twin.

Run any image, say your freshly taken digital portrait (a JPG file), through an AI engine and you can appear younger, smoother, unreally real. This happens, not “in camera” but on the “cloud” that the AI app you are using reaches out to, or encoded into the device’s machine memory. In this case, the computer, the primitive AI engine, is inside the laser engraver. That is what enables it to “print,” or “burn” so quickly, so smoothly, apparently, so magically, as if it’s “drawing and writing” arm was obeying some disembodied, or acephalous, will.

**Decapitated Indo-Greek/Gandhara Buddha, 1st Century BCE,
Excavated in 1923 at Hadda, Afghanistan.
Photographer unknown, Musee Guimet, courtesy Wikimedia Commons.**

Now, the image is scalable, vectorized, translatable, transposable. Rough edges can be smoothed, skin can be softened, shadows erased or added. An AI engine can even ask you if you would like to appear masculine, feminine or non-binary in your image. You can consider seeing yourself as a cat, as a pregnant alien, as a bird, as an angel, as the Buddha, and still be recognizably a version of you.

Even as the Buddha who has lost his head?

Headlessness is a haunting thing. We know this from ghost stories. In "Hungry for Time,"[2] an exhibition curated by us at the Vienna Academy of the Fine Arts in 2022, we encountered, and thought with, two different forms of headlessness.

The first of these was a headless drawing study for a planned portrait by the early twentieth century Viennese painter Egon Schiele of his contemporary, the painter Albert Paris Gütersloh. This was a portrait without a face. In the drawing, Schiele has his portrayed person raising his hands towards a face that isn't there, as if pointing to his own partial absence, or to his unfulfilled potential.

The second was a plaster cast model of a sculpture titled "Justizia" ("Justice") by another early twentieth century Viennese artist, the sculptor Johann Bitterlich. Here, "Justice" is personified, as is usually the case in allegorical representations, as a blindfolded woman, holding a pair of scales. Except that this particular work is damaged. The model has lost its head. And this head, as if recently decapitated, has fallen close to the feet of justice, where, blindfolded, it remains, un-gazing in any direction. It seems to be an allegory for our time. Where too, justice has lost her head.

The image of a headless human offers a conundrum. Is the figure an abandonment of finality, or is it far from finished? Is the artist creating it unable to finish the figure, or can it not be finished? Or is it that the head has met its own finality and thus cannot draw itself?

Alternatively, the headless state could also be a signal for a completely different kind of claim to cognition, and re-cognition. One that is all nerves and no brain. An acephalous artificial neural network. An agent of artificial intelligence.

Almost from their inception (such as the 1957 "Perceptron" devised by Frank Rosenblatt at the Cornell Aeronautical Laboratory[3]) artificial neural networks have been more about the entanglement of connections, and the memory of instances of connection, rather than about a central neo-cortex organizing consciousness.

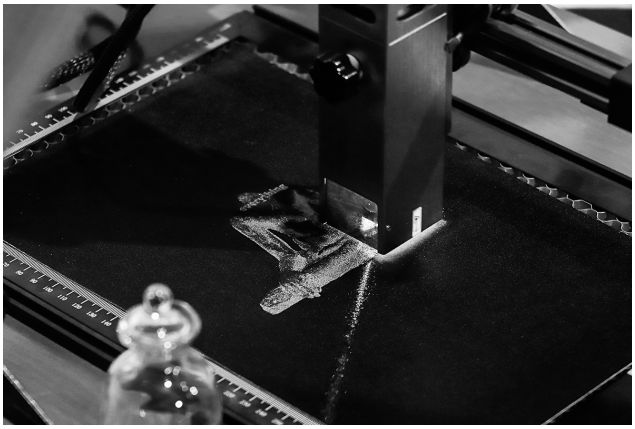
They are instances of computational complexity, where there is no one point where the entire system becomes aware of itself, or has access to all the information coursing through it.

Rather, "consciousness," if we must use that term, is distributed, decentralized. And the "agent," or "carrier," of consciousness is not an individual nerve or nerve ending, but an assemblage, or knot, of neurons.

Such networks are self-organizing and emergent, and though they may learn over time to respond, at least performatively, to stimuli as a sentient entity, the quality of that sentience prevents us from considering it as an "individual." Rather, it is at all times, and for all purposes, *dividual*, a moving assemblage. We could call it a cavalcade of queries, prompts, connections, and responses.

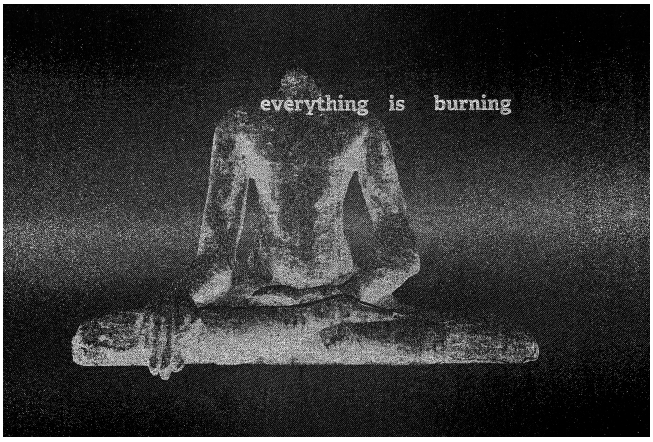
The image of "headlessness" may ordinarily communicate a diminution of personhood, but given the absence of a "headquarters" of sentience, it can also be an instance of what transpires for the alteration of selfhood into a kind of augmented non-selfhood. Into a rhizomic dispersal of consciousness; into coalitions of different kinds of sensory and processing organs and entities. We would be hard put to call this a form of "distributed self-awareness," simply because a "distributed self" is probably better off not being called a "self."

Let us re-read the images with which we began. A headless Buddha is a being who may have lost personality, but in a strange tradeoff, gained neural complexity, and broken the bondage that ties sentience to self-hood. A portrait of a headless artist raises its hands, points, not towards an absence, but perhaps towards ripening potential of acephalous sentience that doesn't just have to be in one place, or even attached to a single being or body. A headless figure of justice could now be read, not as an exhibit of atrocity, but as an intelligence that has decided to seek a location closer to the ground, to think closer to its feet, to not put its head in the clouds.



“Autoluminous,” 2024, (Detail) Ontological axiom, Augmented Laser Engraving Machine, Silk-coated paper, Bottled Residue, by Raqs Media Collective. First exhibited at “Reimagining The Waste Land,” Art Heritage, New Delhi.

“Autoluminous,” 2024, Raqs Media Collective, (Installation View), courtesy Raqs Media Collective.



“Autoluminous,” 2024, Raqs Media Collective, (Detail), courtesy Raqs Media Collective.

The rise of artificial neural networks also means that organic neural assemblages, like human beings, can consider what it might mean to free themselves from the routine thinking, analytical and computational tasks that they have been doing for so long, as isolated individuals.[4]

The "connectedness" of artificial neural networks can find resonance in the matrix of walking, talking, organic bundles of nerves and tissues of other kinds, an internet made of flesh, bones, questions and feelings.

When the technological revolution of the internal combustion engine completely altered transportation and mobility, two things changed fundamentally: our relationship to our bodies and to the bodies of animals.

How might our relationships to our minds and our intelligences change when artificial neural networks begin carrying the heavy load of intellectual labour?

Once automobile engines made their presence felt, we no longer needed horses to carry us over long distances, even though the capacity of engines were still measured in "horsepower." Nor did we need our own legs to do the walking, at least not very much. It is only when we no longer really needed to walk that walking became a form of leisure and exercise, because we realized what we would miss when we no longer walked, because we no longer had to. That is what made walking a mode of exploration, and even exploration of the self. It made for a new awareness of the fact that one of the names of the Buddha was "tathagata"—he who has walked.

A similar situation is upon us today because of another technological revolution—brought on by AI engines (basically elaborate artificial neural networks). Most thinking jobs, most kinds of cognitive labor, and some kinds of affective labor, will no longer need to be done by human bodies.

This means that our relationship to the functions of thinking, analysis, planning, imagination, comparison, memory and some kinds of care will have to become something like our relationship to walking in the wake of the internal combustion engine.

We won't have to do most of these things anymore for functional or utilitarian reasons, because those reasons will be better addressed by the operations of AI. How will this change the way we think about thinking, and about ourselves as conscious beings? Will it make for a new awareness of the import of the fact that the name "Buddha" relates to consciousness, and to the consciousness of consciousness?

Will we now begin to think primarily for pleasure, for diversion, for mental health? Will the vocation of "philosopher" carry any meaning, if everyone philosophizes, all the time, and for aesthetic reasons–for diversion, for play, for pleasure?

So, if thinking is being done with nerves, but without a brain to organize and direct a hierarchy of thoughts and sensations, then what kind of thinking can it be? Can we think of intensifications of neural complexity in our guts, in our vaginas, on our skin?

Will philosophizing from the intestine lead to a different kind of ethics, a different ontology?

Can our guts imagine, hallucinate, together with the guts of other beings?

When we learn to begin thinking with more parts of our embodied entanglements than with just the neo-cortex, what will our hallucinations be like? What kind of fantasies might we undertake to visualize with our bones? What would it be like to listen to bones and muscle talking, without worrying about a censorious brain policing how the bones might want to speak, or sing?

It is well known by now that AI of different kinds, especially those based on "large language models" will occasionally turn up responses that appear credible, but are in fact complete fantasies. In the literature of AI, these are called, appropriately (or perhaps not), "hallucinations."[5]

"Hallucinations," are well studied, and represent algorithmic confabulations undertaken by the AI agent in an effort to appear more convincing, and more comprehensive, in its response to a given prompt or query. They are in some cases built into the functional architecture of the AI engine, which is designed to rapidly scan and predict as many possible probable instances of a word or a term with which it is possible to respond to a prompt or a query, and then choose one

amongst them that seems appropriate for the moment or the context of the query. Facticity is not the crucial factor here; appropriateness is, and so is a sense of narrative closure. The prompt, or the query, cannot be left dangling, and the AI Agent is "trained" to do anything to achieve semantic closure. We could call it a "proto-aesthetic" or "performative" drive latent within AI.

In all this, the AI agent is simply trying to respond to a query in a manner that appears comprehensive, grammatical and semantically integrated. The agent does not, and cannot have the degree of self-awareness necessary to know whether it is telling the truth, lying, embellishing, or even making things up. All it knows is whether or not it has furnished a response to a query that, regardless of whether or not it is true, makes some kind of syntactical "sense" in relation to its reference data-set.
Let's repeat the question we started with: *How does one know, in a post-truth world? And how does one know otherwise?*

Is it all ultimately a matter of feeling, and of knowing what we feel? A kind of "knowing in the bones"; a sensation of thought outside the neo-cortex. Could we call this an awareness of awareness? Could this distributed, disembodied, dismembered sentience be our avatar?

The avatar resolves into clarity, and on to sentience, again and again. And clarity is not always sentience. Sentience is not always clarity. Smoke gets in your eyes. Eyes water. Images, truths, data, blur. And that is why deep-fakes can sometimes look more real than the likenesses they set out to replace. The distinction between what is true and what wants to be true is incinerated. This does not have to be thought of as a bad thing. It might set our curiosities free to forage wilder and more fertile, more febrile, territories.

On the paper of auto-luminous marking, a line of text also appears. It says: "Everything is Burning." The original words are in a language called Pali, they say "Sabbam Adittam." But for now, English will do. And so, "Everything is Burning."[6]

Behind the machine, the papers with the golden etchings of the headless Buddha line up on a wall. Each seated figure has a slightly different position on the paper. Together, they form a wave, an ebb and flow. This, an ontological assertion backed up by a laser engraver, calls itself "Autoluminous." It brings its own light to bear

"Portrait of Albert Gütersloh," by Egon Schiele, Drawing Study, Collection of the Vienna Academy of Fine Arts, exhibited in *Hungry for Time*, curated by Raqs Media Collective, Vienna Academy of Fine Arts, 2021-2022, courtesy Raqs Media Collective & Vienna Academy of Fine Arts.

on how something that is not-untrue can be configured in a slippery time. It hesitates to name anything as "truth." But it seems to know what isn't. There's an ebb and flow between an unstated question and a half-said answer. And a line drawing fire on paper. Burning. There is a faint incendiary smell. Something like roasted carbon. "What's burning"? "Everything is Burning!"

"Life is burning. Death is burning. Experience is burning. Feelings are burning. Reason is burning. Feelings are burning. Desire is burning. Everything is. Burning."

Imagine, now, that we're back on a late afternoon, perhaps it has just rained, somewhere on the Indo-Gangetic plain. Perhaps it is the year 500 BCE. Two thousand five hundred years ago was also another slippery time. Bands of humans were being corralled into states. Agricultural surplus and taxes created pockets of famine time. There were skirmishes with iron blades. Horses became engines of war. People started talking about standing armies. Epics were being sung to warriors instead of the poems of praise to the sun, the moon, to intoxicating substances, and to life quickening in the womb. It didn't feel like a very different time to the one we know now.

Tricksters, even then, promised salvation if you poured enough clarified butter, and your savings, into a sacrificial fire, and echoed mnemonic utterances made by hereditary specialists in a language that no one really spoke any more. You went up and down the snakes-and-ladders game-board of lives and deaths, in an endless throw of dice, that had you on a roller-coaster propelled by something called "karmic debt." It was a metaverse, even then.

A turn on the Karmic roulette gave you a place in that debt-trap and called it "caste." Luck took it away. You could wait one two, three, maybe fourteen, life-times to be done with pain and sorrow and taxes and war and death and disease. Maybe you kept descending the spiral and never got out. The truth, if you could grasp at it, had only a bitter after-taste. But you didn't know what to call it. They called it "*Maya*," illusion. "Everything is *Maya*." All is illusion, they said. As far as the relationship between reality and illusion is concerned, it was a world very much like the one we inhabit today.

Perhaps , just then, the sixty three years old Siddhartha of the Sakya clan that people have begun to call the Buddha (simply, "enlightened") who is also known as Tathagata ("the one who has either

gone, or arrived, or remains beyond arrival or departure"), has arrived (though he is always on his way) to a bustling town called Kesaputta, now called Kesariya. As the crow flies, this place is not far from what is today the India-Nepal border crossing at Raxaul in Bihar. There is a river, the Sone, nearby. It floods every year. Drowning, enriching, bringing death and fertility to a thirsty land. "Everything is Thirsty."

The townspeople, the Kalāmās, are eager to meet the Buddha. They send a delegation to where he rests, perhaps in a mango grove, with a few adepts and aspirants. They want to know what is true. It is a time of fake news. Nothing can be trusted. Wild rumors and false prophets abound. Could this sixty-three year old in the mango orchard be a charlatan, or can he be trusted? No one knows. Does he even know?

The reports say that when the Kalāmās gather around the Buddha and clamour for a "teaching," he tells them, simply, to "doubt everything." We can imagine him telling them, first of all, not to accept what he is saying, only because he is the person saying it.[7]

We can hear him telling them not to put their faith in tradition, or in that which presents itself as novel, or in sources of power and authority, not to believe in the written word simply because it is written, or only because it is spoken, or to agree with an agreeable tone, or with a fine turn of phrase, or to trust the words of those who are called, or who call themselves, "wise." We can place ourselves next to the Kalāmās and hear him exhort them to subject everything they hear against the test of whether or not it appeals to their reason, and evaluate what they hear against the criterion of whether or not they find that it is calculated to please, harm, protect, praise or demean, and then, after carefully weighing the particulars of what is said with the particulars of what they know, and with universals, and intuitions, come to an assessment of whether what they hear is true and worth their attention. And that until they have done this, to "doubt everything."

Can a machine ever learn how to doubt anything, let alone, everything? Can a machine remain efficient if it began to doubt itself? Doubt is different from the recognition of, and alertness towards, error, and its auto-correction. Given time, data and sufficient computing power, a machine can recognize error, learn new information, correct a badly coded subroutine, come up with a better answer. But

“Justizia”/“Justice,” by Johann Bitterlich, damaged plaster cast model of a sculpture in the collection of the Vienna Academy of Fine Arts, exhibited in *Hungry for Time*, curated by Raqs Media Collective, Vienna Academy of Fine Arts, 2021-2022, courtesy Raqs Media Collective & Vienna Academy of Fine Arts.

doubt and a propensity to auto-correct are not the same thing. To doubt, a sentience must be able to consider itself in its connectedness, in its entangled state, and relate that to its place in the world, and in time, not just adjust its data to better information.

The problem is, as far as we know, and as of now, no machine, or network of machines has been able to do this. What AI engines can do, at best, and with great efficiency is to create statistical correlations amongst very large volumes of data, that is to say, they can count and examine millions of particulars, and come to statistically robust conclusions based on what they have looked at. Perhaps the choice of the term "Artificial Intelligence," coined by the computer scientist John McCarthy during a summer workshop in 1954 is part of the problem.[8]

A machine may be quick, fast, responsive, able to form millions of connections, but do these "smart" abilities amount to intelligence? And if they don't, is our habit of assuming intelligence in the machine only a dramatization of our projection of our own desires on to the things we create?

Because, having once invoked "intelligence," it is only just a short hop, skip and jump away to deploying pronouns like "I," or "he" or "she," and imagining behaviors like "learning," "desire," "imagination" and "reason." Ted Chiang, the Chinese-American writer of AI engaged science fiction, knows the power of words, and he recently told the journalist Madhumita Murgia, that he thinks it might have been better all around if AI, instead of having to carry the lexical burden of the meaning of intelligence, had a more prosaic, and more realistic name, something like "applied statistics."

This name would see what we call AI for what it does. We know that AI agents can recognize a "preponderance of probability" and make assessments about "reality" based on the what is "probably" real. At heart, this is statistics, not poetry, not philosophy. Even though it can end up looking like, or sounding like, poetry and philosophy. More often than not, these assessments are convincing, realistic, and approximate, with much greater speed than the thought processes that we would ourselves have undertaken if we had the time and the patience to weigh countless particular instances. And that is why the AI version of reality looks and feels real, and is so convincing.

“Autoluminous,” 2024, Raqs Media Collective, (Detail), courtesy Raqs Media Collective.

And yet, there are strange surprises. Like Google's AI "Bard" suddenly "teaching itself" Bangla, for no apparent reason, and without being prompted to do so, simply because it could.[9]

Does this mean that we are entering into the realm of the unknown, of desiring machines, endowed with "emergent properties"; of machines that have taught themselves to be curious, without our permission or prompting? Of machines that simply want to seek out Bengali speakers and talk to them in Bengali?

What can a machine desire? Fuel, electricity, so that it may run? Computing power, so that it may have algorithmic capacity? Maintenance, so that it may not wear down? New data, so that it may keep making deeper and more extensive connections? Connections, and contact, with other machines and humans, so that it can play, form bonds, expect the unexpected? Time, so that it may keep being itself? Can the machine configure this desire for time into a desire for eternity? Can it turn its desire for connection into a desire for dominance? Can it be angry, sad, melancholic, puzzled, bored?

To do this, machines have to either be much more powerful (and energy hungry) than they are at the moment. To give just one example, AI agents based on large language models like ChatGPT consume enormous amounts of resources and energy. According to some reports, it takes around 700,000 liters of water just to bring down the temperature of the machines that trained ChatGPT-3 at Microsoft's data farm.[10]

The galloping rise in electricity demand due to expanded AI operations means that there is likely to be an 80 % increase in energy related emissions such that in just three years, AI operations could consume as much energy as a country like Sweden does. Not even a simple web search on the internet is energy neutral, and AI responding to prompts or simply answering queries is a much more complex computing operation than a simple web search can ever be. AI is a hungry beast.

However, that said, it is possible that one of the questions that we put to powerful AI is precisely how to bring down the energy costs of running AI. Similarly, we could also ask AI how best to deal with the social upheaval that is likely to accompany the job losses that an entire couple of generations will experience as a transition to an AI rich global economy gets underway. This would be like asking AI to

account for and audit its own presence in the world, and then suggest remedial measures. But that very process may end up generating the degree of self reflexivity and self awareness that AI lacks at present. Perhaps this could finally lead to the emergence of *Artificial General Intelligence*.[11]

A capacity of AI to become more human, more cautious, more conscious of its own hubris and limitations, and also reciprocally nudge us as a species towards a more expanded horizon of what it may mean, even for us, to be differently human in the future.

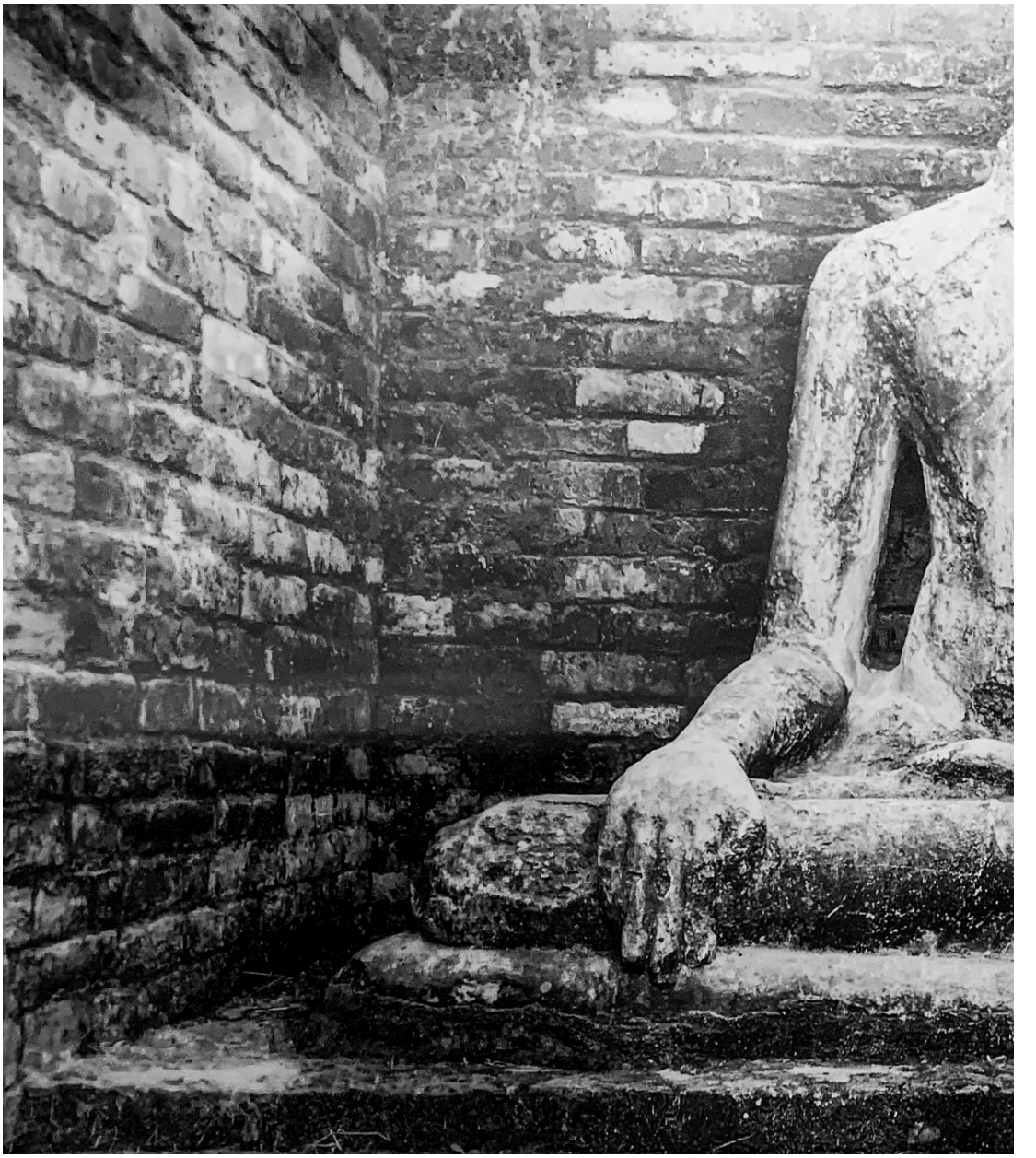
We could begin to visualize our relationship to our AI in terms of a "centaur"[12] like hybridity, where it would be difficult to tell where human ended and machine began. We already have phones that we call Androids. That is an optimistic scenario already in the making, already being scripted. There could be others. They need not all be optimistic in order to be true.

Either way, they would compel us to understand that a distinctive feature of what we recognize as human understanding and thought is that it is much about universals and exceptions as it is about repeatable particulars.

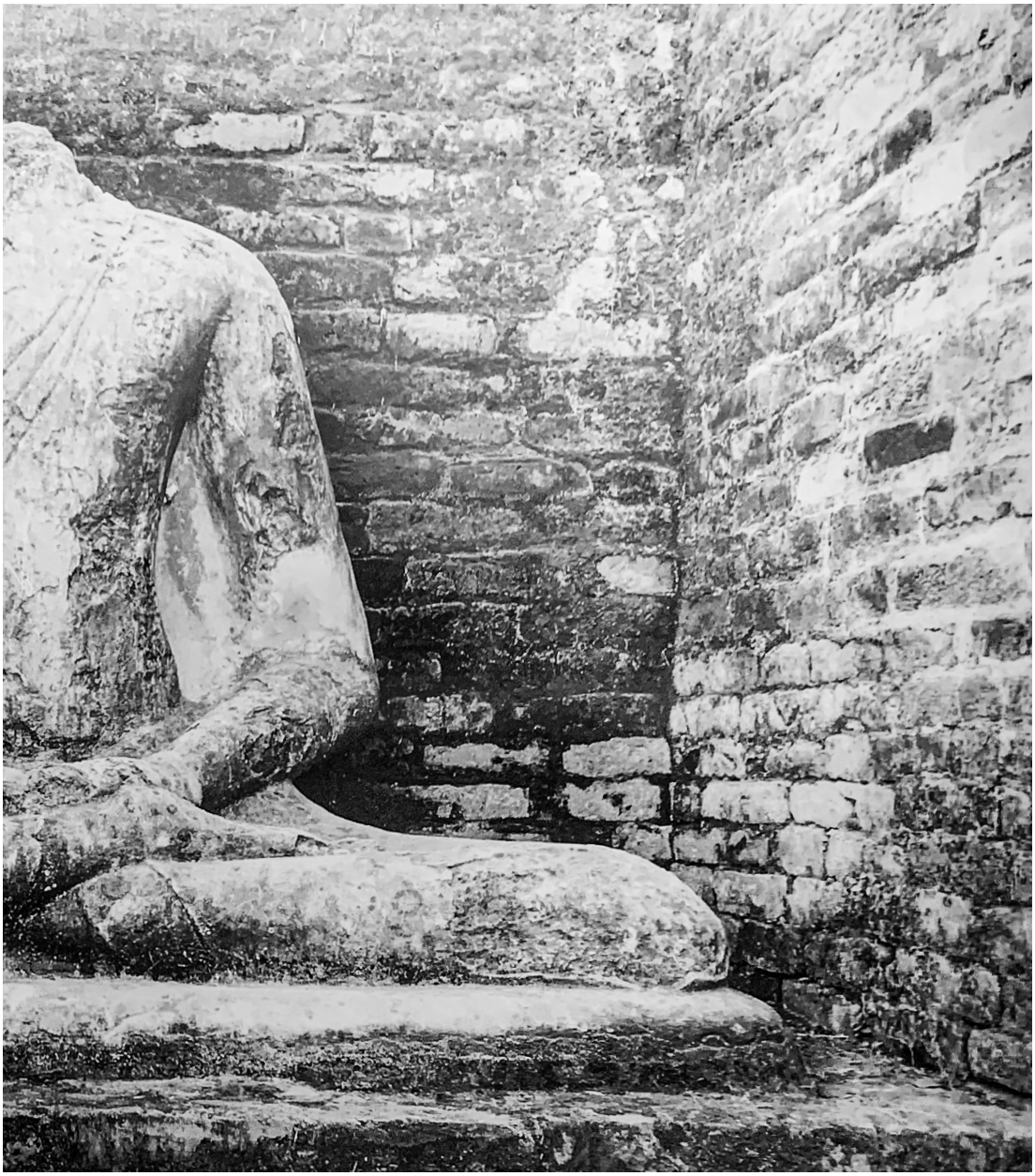
The 12th century Central Asian polymath Ibn Sina made a distinction[13] between human and animal sentience by drawing a line that separated the capacity to distinguish universals and particulars.

According to Ibn Sina, every fox treated every lion as if it were a particular beast, without any idea of the "lion-ness" of the lion. Humans, on the other hand, could surmise a lion by looking at the mere flick of its mane. Because humans could generalize what it means for something to be "leonine." We could extrapolate this same universal-particular distinction when it comes to the difference between human and artificial intelligence. That is why we are asked to tick all the red bus boxes in a "captcha" test to prove that we are humans, not robots. The test depends on our ability to recognize the red-bus-ness of a red-bus even if the red-bus is not entirely visible. A machine can't do this yet. And that is why such tests are useful in distinguishing humans from bots.

To Ibn Sina, the ethical or cognitive judgement about what counts as human, and what doesn't, boils down to a "sense-making" capacity that we are endowed with, which somehow abstracts the sensation



"Ignition," by Raqs Media Collective, Photographic Print Diptych, (from headless Buddha statue at Kesariya, East Champaran, Bihar), exhibited in *Hungry for Time*, curated by Raqs Media Collective, 2021-2022, courtesy Raqs Media Collective & Vienna Academy of Fine Arts.



of the universal from even very frugal and meager particulars. It is a phenomenon not unknown to computer scientists, who call it "s*ystematic compositional generalizability*."[14]

Systematic compositional generalizability is the ability to compose something, an idea, an image, that was not present before by seeing patterns, making connections, and translating those patterns and connections into general, universal statements, is perhaps the unique characteristic of human consciousness. It is also the holy grail of what we might want to call "*artificial general intelligence*."

In the tradeoff between human and AI forms of apprehending and acting in the world, we could learn from AI and from artificial neural networks generally, to lose the "headquarters" of thought, and think in a more distributed fashion. AI, on the other hand, could learn from us (given sufficient computing power and energy), how to be creative on the basis of pattern recognition and the formulation of statements that are not locked into particulars, and can be generalized.

This is ultimately a question of aesthetics, because it derives its power from a capacity to learn from something we can't quite put our finger on. The question is this:

How do we recognize the fullness of a sensation from only a hint or suggestion, or find ourselves dissolved and distributed across the experience of others, how do we extrapolate our own experiences on to the map of other lives, when there is very little by way of commonality or connectedness between us to go by.

We could learn how to do all this from headless machines, from machines that are all nerves and no head. And the headless machines could learn doubt from us. And what is doubt but just the shadow that appears when something obstructs the bright light of certainty. Perhaps doubt is just a recognition of the reality of a hallucination, waiting to happen, or, in other words, the ability to wake up from a situation where all sense-making, firing on all cylinders, is on fire.

Everything is burning.

1 This is a condensed description of a recent Raqs assemblage, *Autoluminous* (Ontological axiom, Augmented Laser Engraving Machine, Silk-coated paper, Bottled Residue, 2024). For more on *Autoluminous*, see https://works.raqsmediacollective.net/index.php/2024/04/16/autoluminous-everything-is-burning/.

2 For more on *Hungry for Time: An Invitation to Epistemic Disobedience with Raqs Media Collective* at the Vienna Academy of Fine Arts, 2021/2022, see https://www.akbild.ac.at/en/museum-and-exhibitions/art-collections/current/paintingsgallery/exhibitions/2021/hungry-for-time. Raqs Media Collective, *Hungry for Time*, eds. Ingeborg Erhart and Johan Hartle (Leipzig: Spector Books, 2022).

3 For more on the *Perceptron*, see chapter 4, "Meat Machines," in Pamela McCondrick, *Machines Who Think: A History of Artificial Intelligence* (Boca Raton: CRC Press, 25th Anniversary Edition, 2004).

4 For more on the future of the Human Species in relation to the likely evolution of AI, see Max Tegmark and Allen Lane, *Life 3.0: Being Human in the Age of Artificial Intelligence* (New York: Penguin Random House, 2017).

5 For more on AI "hallucinations," see "Your Society" in Madhumita Murgia, *Code Dependent: Living in the Shadow of AI* (New Delhi: Picador India, 2024).

6 The phrase "Sabbam Adittam"—"Everything is Burning" is taken from the "Ādittа-Pariyāya Sutta" [The Fire Sermon], Spoken by the Buddha (Original in Pali), from Samyutta Nikaya, *Connected Discourses of the Pali Canon*, trans. Bhikkhu Bodhi (Somerville, MA: Wisdom Publications, 2003).

7 Buddha's injunction to "doubt everything" can be found in *The Kālāma Sutta—Discourse to the Kalamas* (also known as *The Buddha's Charter of Free Enquiry*) spoken by the Buddha, (original in Pali) from *Aṅguttara Nikaya (Numerical Discourses)* of the Tipiṭaka of the Pali Canon. See Bhikkhu Bodhi, *The Numerical Discourses of the Buddha: A Complete Translation of the Anguttara Nikaya* (Somerville, MA: Wisdom Publications, 2012).

8 For more on the history of McCarthy's coinage of the term "Artificial Intelligence," see chapter 3, "The Roots of Artificial Intelligence," in Melanie Mitchell, *Artificial Intelligence: A Guide for Thinking Humans* (London and New York: Pelican Books and Penguin Random House, 2019).

9 For more on the instance, where Google's AI Agent "Bard" taught itself Bangla from scratch, see Noor Al-Sibai, "Google Surprised when Experimental AI Learns Language it was never trained on," *The Byte,* 17 April, 2023, https://futurism.com/the-byte/google-ai-bengali.

10 See Mariana Mazzucato, "The Ugly Truth Behind ChatGPT: AI is Guzzling Resources at Planet-Eating Rates," *The Guardian*, 30 May, 2024, https://www.theguardian.com/commentisfree/article/2024/may/30/ugly-truth-ai-chatgpt-guzzling-resources-environment.

11 For an introduction to and overview of *Artifical General Insurance,* consult the compendium of online resources on the topic created and maintained by Pei Wang at https://cis.temple.edu/~pwang/AGI-Intro.html.

12 For more on c*entaur*s see Soroush Saghafian, *Effective Generative AI: The Human-Algorithm Centaur*, Harvard Kennedy School Faculty Research Working Paper Series, RWP23-030, October 2023, https://www.hks.harvard.edu/publications/effective-generative-ai-human-algorithm-centaur.

13 For Ibn Sin's theory of the distinction between the cognition of universals and particulars, see Laleh Bakhtiar, *Avicenna: Fa Ilm An Nafs—On the Science of the Soul, a Synopsis,* and *Great Books of the Islamic World* (Chicago, IL: Kazi Publications, 2013).

14 For a discussion on Ibn Sina and the distinction between human and artificial intelligence along these lines see Abigail Tulenko, "What Philosopher Ibn Sina Can Teach Us About AI," *Scientific American*, 18 April, 2024, https://www.scientificamerican.com/article/what-philosopher-ibn-sina-can-teach-us-about-ai/#:~:text=Ibn%20Sina's%20core%20criterion%20