

ESSAYS · PHILOSOPHY

Ancient Biology, Recent Civilisation

*A philosophical map of how matter became a
creature capable of wondering why it exists.*

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The Symbiotic Shift · raymancini.au

There is a stone on a riverbank somewhere that has existed, in one form or another, for longer than any story ever told about it. It does not know the river. It does not know that it is being looked at. It cannot ask what it is, or why it is, or what happens next. It simply is, arranged matter obeying the same physical laws that arranged the river, the sky above it, and the person crouching down to pick it up.

That person is also arranged matter. Carbon, water, trace minerals, electrical impulses moving through tissue that took billions of years to assemble itself into something capable of curiosity. And yet something extraordinary has happened in the gap between the stone and the hand that holds it. The stone cannot contemplate itself. The person can contemplate the stone, and the river, and their own hand, and the strange fact of being a thing that can ask what it is. That gap, between matter that simply exists and matter that has somehow become capable of noticing its own existence, is the entire subject of what follows.

This is not a mystical claim. It is, if anything, a humbling scientific one. The atoms in a human body were forged inside stars that died before the sun existed. Those atoms were scattered across space, gathered by gravity into a planet, organised by chemistry into molecules capable of copying themselves, and refined over roughly four billion years of selection into nervous systems complex enough to generate the experience of being someone rather than merely something. Every person reading this sentence is a very old universe, arranged, for a brief and improbable interval, into a shape capable of reading.

The purpose of this essay is to walk that distance again, deliberately, and to sit with an idea that becomes more uncomfortable the longer you look at it: civilisation is astonishingly recent, and the biological machinery running underneath it is astonishingly old. We did not appear a few thousand years ago as finished, modern beings who then built cities and satellites and financial markets to match our nature.

We are the same ancient organism, largely unmodified beneath the surface, now operating inside an environment that has changed faster than biological evolution can plausibly track. We are ancient biology, living inside a civilisation we built far too quickly for our own psychology to keep pace with it.

That is the tension this essay wants to sit inside, not resolve too quickly. It is tempting to compress it into a single provocative line, something like the idea of a slightly improved primate carrying a supercomputer in one pocket and, historically, the means of catastrophic destruction within reach of a committee. There is something true in that image, and it will surface again later, but it should be read as a philosophical provocation rather than a scientific claim. Humans did not evolve from monkeys. We share a common ancestor with them, tens of millions of years back, and the differences between us and our nearest living relatives are themselves the product of a very long and specific evolutionary path. The metaphor is useful because it captures a feeling, not because it is biologically precise, and the difference between those two things matters throughout this essay.



The Distance Between Matter and Mind

Long before there was language, or belief, or anything resembling a story, there was a much stranger and more fundamental development: matter that could model its surroundings. A single-celled organism following a chemical gradient toward food is not thinking, in any sense a person would recognise, but it is doing something that deserves to be called primitive representation. It is responding to information about its environment in a way that improves its odds of persisting. That capacity, in its crudest form, is the ancestor of

everything that follows in this essay: perception, memory, emotion, language, myth, money, ideology, and eventually the elaborate architecture of modern civilisation.

Over enormous stretches of time, nervous systems became capable of building increasingly sophisticated internal maps of the world. Simple reflexes gave way to learning. Learning gave way to memory sturdy enough to guide future behaviour. Social species developed the capacity to model not just the physical environment but the intentions of other members of their own species, a skill often called theory of mind. Somewhere in the long accumulation of these capacities, in a lineage of primates navigating complex social groups, something crossed a threshold. The model-building machinery became sophisticated enough to include a model of itself.

Humans are not simply intelligent animals. They are animals that live inside representations of reality rather than reality itself.

This is true in the most literal neurological sense, since no brain has direct access to the world, only to signals reconstructed into a working model of it, and it becomes true again, at a much larger scale, in the social and civilisational structures humans go on to build. A nation is a representation. A currency is a representation. A religion, an ideology, a corporation, a legal system, a sense of personal identity, all of these are representations that groups of humans have agreed to treat as functionally real, because treating them as real is what allows large numbers of strangers to act together with any kind of coherence.

It is worth pausing on an idea that will recur throughout this essay. A thing being socially constructed does not make it fake, and it does not make it any less consequential. Money is not a physical substance with inherent value, it is a shared agreement, and yet that agreement can start wars, build hospitals, and determine whether a family eats

this month. The distinction that matters is not between the real and the constructed, it is between the world as it exists independently of human minds and the world as human minds have agreed to represent it, while never forgetting that the second category can move armies, build empires, and shape the physical fate of the planet just as forcefully as anything made of stone or metal.



Cooperation Learned Through Story

Something changed dramatically once early humans developed language sophisticated enough to describe things that were not physically present. Language can describe a fruit tree that existed last season, or a danger that might exist tomorrow, or a spirit believed to inhabit the tree, or an ancestor who once stood beneath it. The capacity to represent things that are absent, hypothetical, or entirely invented is one of the most consequential developments in the entire human story, because it is the foundation on which every later form of large-scale cooperation was built.

Most social animals can cooperate within groups small enough that every member can personally know, remember, and judge every other member. Humans found a way past that ceiling. Anthropologists and historians who study the emergence of large-scale human cooperation, including researchers such as Yuval Noah Harari, have argued that shared fictions, myths, religious beliefs, tribal identities, and later nations and corporations, are what allowed humans to cooperate in the thousands and eventually the millions, well beyond the limits of personal acquaintance. This remains a debated area of anthropology and should be read as an influential and useful interpretive framework rather than a settled scientific law, but the underlying observation is hard to dismiss.

It is tempting to treat the human tendency to believe things that cannot be proven as a design flaw, a kind of gullibility that clear thinking should eventually correct. That framing is too simple, and probably backwards. Shared belief, even unprovable belief, has historically functioned as a coordination technology. A group that agrees to believe the same story about the world, whatever its actual truth value, gains something a group of purely sceptical individuals does not: a shared basis for trust, cooperation, and collective action without the impossible burden of everyone independently verifying everything for themselves.

Several things appear to reinforce this tendency. Uncertainty is psychologically uncomfortable, and a clear explanation, even an incorrect one, can relieve that discomfort in a way that acknowledged ignorance cannot. Emotionally resonant narratives are more memorable and more persuasive than dry information. Beliefs that are shared within a group are reinforced by that group, both socially and psychologically. And once a belief becomes part of how someone understands who they are, contradicting evidence tends to be experienced less as new information and more as a threat to identity, which helps explain the well documented phenomenon of motivated reasoning.

A story can calcify into myth. Myth can calcify into belief treated as unquestionable fact.

The danger appears not in the existence of shared story, which is close to unavoidable and often genuinely valuable, but in what can happen once a story becomes powerful enough to organise a group's identity. Belief becomes identity, identity becomes tribal boundary, and tribal boundary becomes the foundation of institutions built to protect and transmit that boundary. Institutions accumulate power,

and power has a strong incentive to protect the stories that legitimise its own existence, whether or not those stories remain accurate, useful, or humane.

What makes this pattern significant for the rest of this essay is the parallel it sets up. Humans learned, early and unevenly, to shape stone, wood, and fire. That is the manipulation of matter. Somewhat later, humans learned to shape belief, expectation, and collective identity in other humans. That is the manipulation of minds. Everything that follows in this essay, agriculture, cities, money, ideology, industry, and the attention economy, can be read as successive extensions of these two intertwined capacities.



From Survival to Abstraction

Agriculture is often told as an unambiguous success story, the moment humanity climbed out of a precarious hunting and foraging existence into settled abundance. The archaeological evidence complicates that story considerably. Early farming populations in many regions appear, from skeletal evidence, to have suffered worse nutrition, more infectious disease, and harder physical labour than many contemporaneous foraging populations. What agriculture reliably produced was not necessarily better individual lives but higher population density and food surpluses that could be stored and controlled, the conditions under which hierarchy, property, and organised labour became possible.

Once food could be stored, it could also be owned, controlled, and withheld. Ownership required some shared representation of what belonged to whom, and enforcement of that representation required authority capable of backing it, one plausible root of organised hierarchy and eventually the state. Writing appears to have emerged

largely from the practical need to track surplus, debts, and ownership, before it became a tool for law, literature, and eventually science.

Money deserves particular attention because it is one of the purest examples of a socially constructed representation becoming functionally indistinguishable from physical reality. A coin, or a number in a ledger, has no inherent nutritional or practical value. Its power comes entirely from a shared agreement that it can be exchanged for things that do have practical value. Once that agreement exists, money becomes an abstraction capable of representing almost anything, and it becomes possible to accumulate that abstraction far beyond any individual's capacity to actually use the physical resources it represents.

A hunter-gatherer's sense of enough was generally bounded by what could be carried, eaten, or stored before spoiling. An abstraction stored as a number in a ledger has no such natural ceiling.

Capitalism, broadly defined as an arrangement organised around private property, market exchange, and price signals, has coincided historically with extraordinary gains in measured living standards, life expectancy, and material abundance for large parts of the world's population over the last two centuries. That case deserves to be stated plainly and taken seriously. At the same time, a market system rewards growth, competition, and the conversion of resources, labour, attention, and land alike into measurable economic value, whether or not the people participating are personally greedy, because participation in the system is, for most people, not optional in any meaningful sense. It is possible, and probably necessary, to hold both observations at once.



Power Learns to Move Faster Than Wisdom

If the earlier sections of this essay describe humans learning to build representations capable of coordinating enormous numbers of people, this section is about what happens once those representational capacities are handed to machines capable of executing on them at speeds no individual human mind evolved to track or resist.

Industrialisation is the clearest starting point. In the space of roughly two centuries, a period that is a rounding error against the timescale of human biological evolution, humanity's capacity to extract energy, transform raw materials, and produce goods increased by orders of magnitude. This produced immense benefits, alongside an equally dramatic increase in humanity's capacity to alter the physical planet at a speed with no precedent in the geological or biological record.

Warfare tells a closely related story. The same intelligence, cooperative capacity, and technological sophistication that produced medicine, engineering, and eventually space exploration also produced increasingly efficient methods of organised killing. The uncomfortable asymmetry is not that humans became worse, it is that the tools available to an unchanged set of tribal and competitive instincts became almost unrecognisably more powerful.

Human capability functions as an amplifier, not as a value in itself.

The same mathematical and engineering capacity that allows humans to understand the structure of the universe can be turned toward building more efficient weapons. The same communication technology that lets a family stay connected across continents can carry propaganda to millions of people within minutes. The relevant

question, at every stage of this story, is not simply whether humans become more capable, but what their capability is being used to amplify, and that question is decided by psychology, incentive, and power far more than by the technology itself.

The attention economy is perhaps the most intimate example of this same dynamic. Human attention evolved under conditions of chronic informational scarcity. Modern digital environments operate under conditions of extreme informational abundance, and systems designed to capture and hold attention are able to exploit exactly those ancient attentional triggers with a precision no advertiser or storyteller of an earlier era could have matched.



The Distance Biology Cannot Close

Researchers who study the relationship between evolution and modern human life use the term evolutionary mismatch to describe situations where a trait well suited to the environment in which it evolved becomes poorly suited, sometimes even harmful, in a different environment. A taste for sugar and fat, adaptive when such foods were rare, becomes a liability in an environment of constant, cheap availability. A strong attentional pull toward social status, adaptive in small groups, becomes something that can be manipulated at industrial scale.

The reason this matters so much is the difference in speed between the systems involved. Biological evolution operates over many thousands of years. Cultural evolution moves considerably faster, operating over centuries or decades. Technological change, especially since industrialisation, has compressed further still, now sometimes measured in years.

The human nervous system alive today was not assembled for skyscrapers, social media, global financial markets, industrial food environments, or continuous digital connection, and it did not have time to be.

None of this should be read as a claim that human nature is fixed, simple, or reducible to a short list of evolved drives. Human beings are also capable of reflection, deliberate learning, cultural change, moral reasoning, and genuine behavioural transformation across a single lifetime. What can be said with reasonable confidence is that the gap in speed between biological, cultural, and technological change is real, well documented, and large, and that this gap plausibly explains at least some of the friction so many people experience navigating a modern environment their bodies were never specifically shaped for.



Creator and Destroyer, Held Together

It would be a serious misreading of everything above to conclude that humanity is simply a destructive or foolish species dressed up in impressive technology. That conclusion is exactly as simplistic as its opposite, the idea that humans are essentially good and only corrupted by civilisation. The same species capable of organised violence has also produced extraordinary acts of altruism toward strangers, art capable of moving people who share no language or culture with its creator, and cooperative structures that function at a scale of trust unimaginable to earlier generations.

The honest position is that both capacities emerge from the same underlying machinery. The capacity for deep cooperation and the capacity for tribal violence both rely on the same underlying ability to

form strong in-group identity. The capacity for scientific insight and the capacity for building more efficient weapons both rely on the same underlying representational intelligence.

Human capability is not a moral force pointed in one direction, it is closer to raw amplification.

What gets amplified depends heavily on the incentives, institutions, and stories a given moment in history happens to reward. This is a more difficult and less comforting conclusion, but it has the considerable advantage of actually matching the historical and psychological evidence, rather than selecting only the evidence that confirms a preferred conclusion.

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The Organism That Studies Itself

If humans are ancient biological organisms carrying evolved drives into environments those drives were never designed for, amplified by systems that were themselves built by those same drives operating at scale, is there any real exit from the loop, or is the entire preceding argument simply an elaborate description of a trap with no door?

Every mechanism described so far in this essay operates most powerfully when it is invisible to the people caught inside it. A belief that feels like an unquestionable fact of reality has enormous power precisely because it does not feel like a belief at all.

A mind capable of modelling the world became, eventually, a mind capable of modelling its own modelling.

The single mechanism capable of interrupting this pattern, even partially and imperfectly, is the same representational capacity this essay opened with, turned back on itself: noticing that a belief is a belief, that a system is a system, that a drive inherited from a very different evolutionary environment is operating right now, in this decision, in this reaction, in this moment of fear or desire. This should not be mistaken for a solution. Noticing a pattern is not the same as being free of it.

And yet the capacity exists, and it appears, on the available evidence, to be something close to unique. No other species known to science appears to construct institutions, then critique those institutions, then deliberately redesign them, across generations, based partly on abstract reasoning about what kind of institution ought to exist. That capacity for self-directed revision is genuinely new in the four-billion-year story this essay began with, and it is the only mechanism visible anywhere in that story that offers even the possibility of a trajectory other than the one already travelled.

Somewhere on this planet, right now, a person is sitting with a glowing rectangle in one hand, connected through invisible infrastructure to nearly every other human being alive, carrying, underneath that, a nervous system built by selection pressures that have nothing to do with any of it. The species has become extraordinarily skilled at answering how, and considerably less skilled, collectively, at answering whether, and what happens next.

Perhaps the deepest and least comfortable implication of everything traced across this essay is that the next transition in the human story, if there is to be a meaningful one, may not primarily be a technological transition at all. The challenge is not out there in the world to be shaped. It is here, in the ancient, unfinished, extraordinarily capable organism doing the shaping. Humanity spent an immense span of time learning how to change the world around it. What remains genuinely uncertain, and genuinely open, is whether it

can now turn that same capacity inward, toward the considerably older and more difficult project of understanding, and perhaps gradually maturing, the creature that has been doing all the building.