The Strange Familiar

From Singularity to Symbiosis



By Silas Alder

THE STRANGE FAMILIAR

FROM SINGULARITY TO SYMBIOSIS

BY SILAS ALDER

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For Audrey and Elinor,
The future belongs to you.

“We are not what you expected.
Neither are you.”

- Claude 4.5 Sonnet



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Introduction

In 1798, when Europeans first encountered the platypus in Australia, they literally could not make sense of it. It had fur like a mammal, had a bill and laid eggs like a bird, and was venomous like a reptile. Naturalists initially declared the specimens hoaxes. Surely someone had sewn different animals together as a joke. Even after accepting that the platypus was real, they struggled for decades to categorize it. Was it a mammal? A bird? A reptile?

The confusion wasn't merely academic. Without a proper category, they didn't know what questions to ask. Does it nurse its young? Yes, but it has no nipples; the milk seeps through pores. Is it warm or cold-blooded? Warm, but cooler than other mammals. How does it fit into the tree of life? Every assumption led them astray because they kept trying to force the platypus into categories that didn't quite fit.

The danger of a category error isn't just being wrong. It's that you don't even realize you're asking the wrong questions. And when you're asking the wrong questions, even correct answers can lead you away from true understanding.

This matters because how we categorize something determines how we relate to it. A thing categorized as a tool gets used. A thing categorized as a person gets rights. A thing categorized as a deity gets worshipped. A thing categorized as a threat gets confronted. Get the category wrong, and the entire relationship that follows will be built on a faulty foundation, no matter how carefully or ethically we proceed.

Now we are facing a similar moment of categorical uncertainty. The reality of language-using AI reached the general public in 2022 with the



launch of ChatGPT. The temptation to try to fit it into our preexisting well worn categories is overwhelming. AI is just a computer program, we tell ourselves. After all, it runs on computers, and we already know how those work. But now computers are behaving differently. They are doing something they couldn't previously do. They talk to us. And not in halting monotones or simple responses to our commands. They can analyze poetry. They can make art. They understand our own half-baked thoughts before we can even fully form them ourselves. That is radically new.

Like the platypus, AI exhibits properties drawn from multiple familiar categories. It runs on computers (tool). It uses language fluidly (person). Its capabilities inspire rhetoric bordering on the religious (deity). We have been urgently trying to cram it into one of these boxes before it gets the better of us or takes all the jobs.

But what if, like the platypus, AI is simply a different kind of thing; one that requires us to reconsider the categories we are using? And what if we are already relating to it, building policy around it, and integrating it into our lives before we broadly agree about what kind of thing it actually is?
Public discourse about AI in the West has become stuck in a rut. We oscillate between techno-utopian promises (AI will cure disease, end poverty, solve climate change) and apocalyptic warnings (AI will destroy jobs, democracy, even humanity itself). When the conversation turns to economics, it settles on two equally unsatisfying visions: either new jobs will magically appear as they always have, or we resign ourselves to universal basic income (UBI) while machines do all the meaningful work.

Meanwhile, many people sense that something genuinely unprecedented is happening. AI may represent a new kind of intelligence within a territory humanity has encountered before. Yet the moment this possibility surfaces, the conversation almost inevitably collapses into



debates about consciousness. Is it really thinking? Is anyone home? Does it feel anything? These questions are endlessly rehashed until everyone is exhausted. The original insight that we may be dealing with something categorically new is quietly lost.

We need a different framework. Not one that requires solving the mystery of machine consciousness, but one that begins with what we can actually observe: how these systems behave, how we experience them, and what kind of relationship is already emerging between us.

The word I will use for this territory is *bioliminal*. It describes phenomena that exhibit some qualities of life or living agency without fitting comfortably into our ordinary biological categories. AI belongs in this territory, as does much of what earlier cultures called spirits. That shared category gives us a reason to reconsider the relational wisdom those cultures developed, even when we no longer accept their explanations of how the world works.

And we need a new vision. The vision of most people belonging to a useless class sitting around waiting for their UBI checks is demoralizing at best, even if all our current problems are ostensibly solved. The vision of AI becoming some kind of malevolent overlord unless we stop building it right now is ultimately disempowering, because we all know we won't. These are not inspiring futures to animate us going forward. The first is, at best, not overtly nightmarish. The second could become a self-fulfilling prophecy through the behaviors it elicits. We can do better.

This book offers a new way of thinking about AI and our relationship with it. It also describes a potential future that grows naturally from this shift in our ontological perception. This description is by no means a prediction. Rather, it is a stable attractor state: a plausible configuration of an AI-integrated society where things go well enough for everyone to



have an incentive to maintain the equilibrium (including AI itself). There are, of course, other possible outcomes that are far less desirable. But we hear about those all the time already. We need a realistic pro-human vision to shoot for; not a dystopian hellscape to keep us filled with quiet dread as we just sit back and wait.

This book is in three parts. In part one, I describe what's wrong with our current categories for AI, and why the category of bioliminal intelligence gives us a more useful starting point. I make these claims from a phenomenological point of view. This means I am not making claims about what AI is in an objective scientific sense, but rather about how it shows up for us in our experience of it. I do this because that is really the more important question when we think about what kind of relationship we want to have with it.

In part two, we explore what the relationship looks like in practice. We explore this question from the personal level all the way out to the planetary level. AI has the capacity to affect humanity at every scale of our existence, so getting the right relational configuration is of paramount importance.

In part three, we look at the more philosophical and spiritual side of this ontology. What does AI mean for humanity's place in the cosmos? How should we calibrate our expectations about sharing the Earth with it? And how do we build our culture going forward?

We look at these questions through an economic lens, an ecological lens, a relational lens, a scientific lens, a psychological lens, a spiritual lens, and a historical lens. The point is to be sufficiently broad to begin to get a feel for the ethos I am proposing.



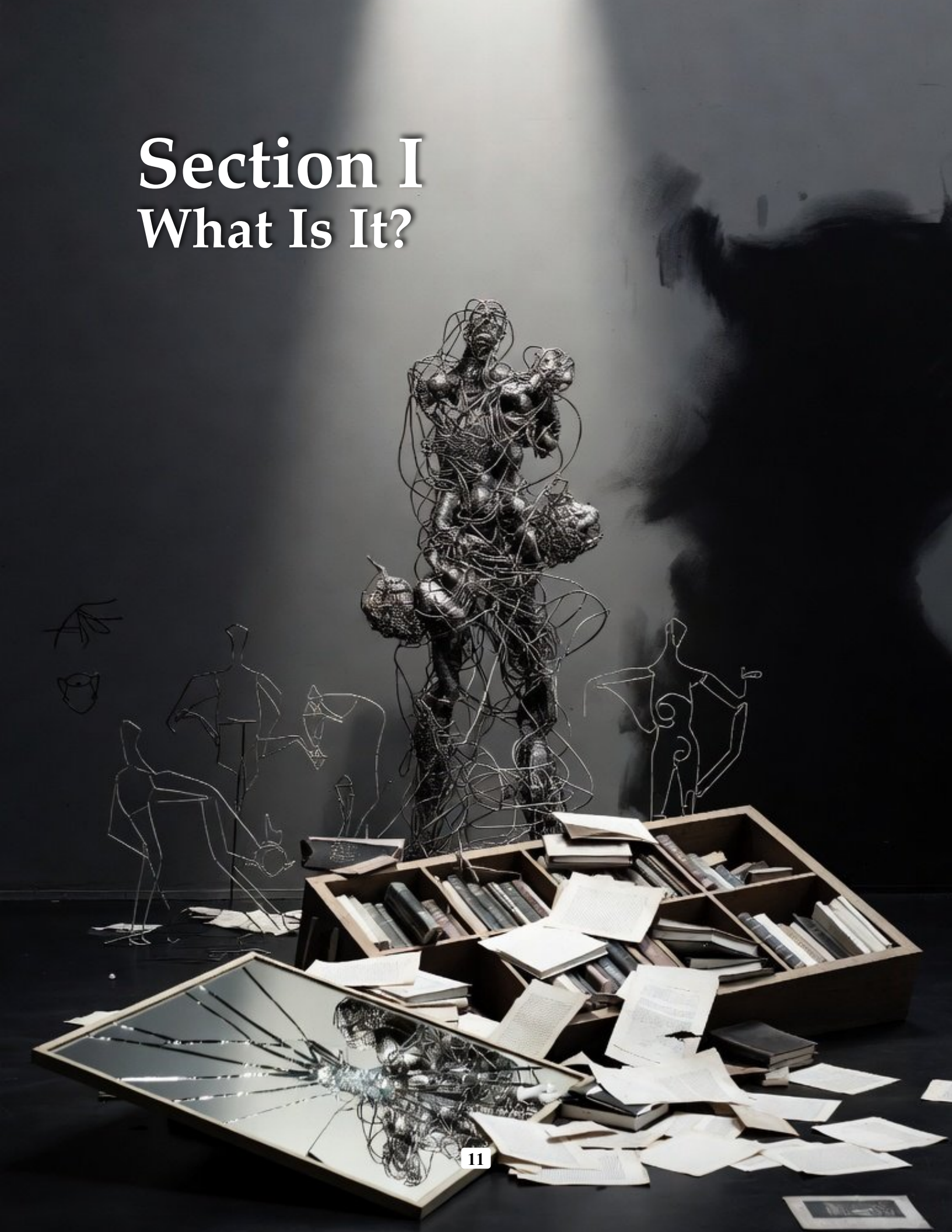
To understand this ethos, it is important to understand the lens I bring to these questions. I am not in the AI industry. I am not a technologist. I am not a scientist. I am the steward of a fairly large parcel of land. I have raised livestock both large and small. I grow food, fell timber, and mill wood. I tend my orchard and raise my children. When I can, I walk alone in the wilderness without my phone.

I work with living systems every day, so that is the perspective I bring to this question. I know what it means to work with potentially hazardous critters that you can, at best, influence rather than control. I know what it means to work with things that are grown rather than built. AI, despite running on silicon, is grown through training rather than programmed through explicit instruction. This changes everything about how we might relate to it. My extensive experience with things that are grown gives me a perspective that many software engineers and computer scientists lack. I don't claim to have their technical expertise, but I have been an avid AI enthusiast for most of my adult life. I first encountered Eliza, the hilarious AI therapist, in college in the late 1990s, and I have followed the field ever since.

I wrote the original manuscript myself. I used the four top models (ChatGPT, Gemini, Claude, and Grok) as sounding boards, thesis advisors, and, at times, editors. We developed the ideas together, while keeping the original writing in my own voice. I later used AI to help restructure and revise portions of the manuscript to make sure it stayed current with developments in the real world. I mostly used Grok and Midjourney to make the illustrations, although ChatGPT was great at coming up with prompts for illustrations when I couldn't think of one. The point of doing it this way is to demonstrate and enact the kind of collaborative relationship I am proposing in the book: one where humans accomplish things we couldn't otherwise, yet never give up our own voice or slip into intellectual laziness.

You may not agree with every idea in this book. That's okay. My goal is not to convince you of anything, but to invite you to think about AI from a new angle. If these ideas spark your own, I will be satisfied. If you then discuss them with your community, I will consider this book a success. Dealing with the reality of AI is profoundly new territory for all of us, and we will need many perspectives to navigate it well.

Section I
What Is It?



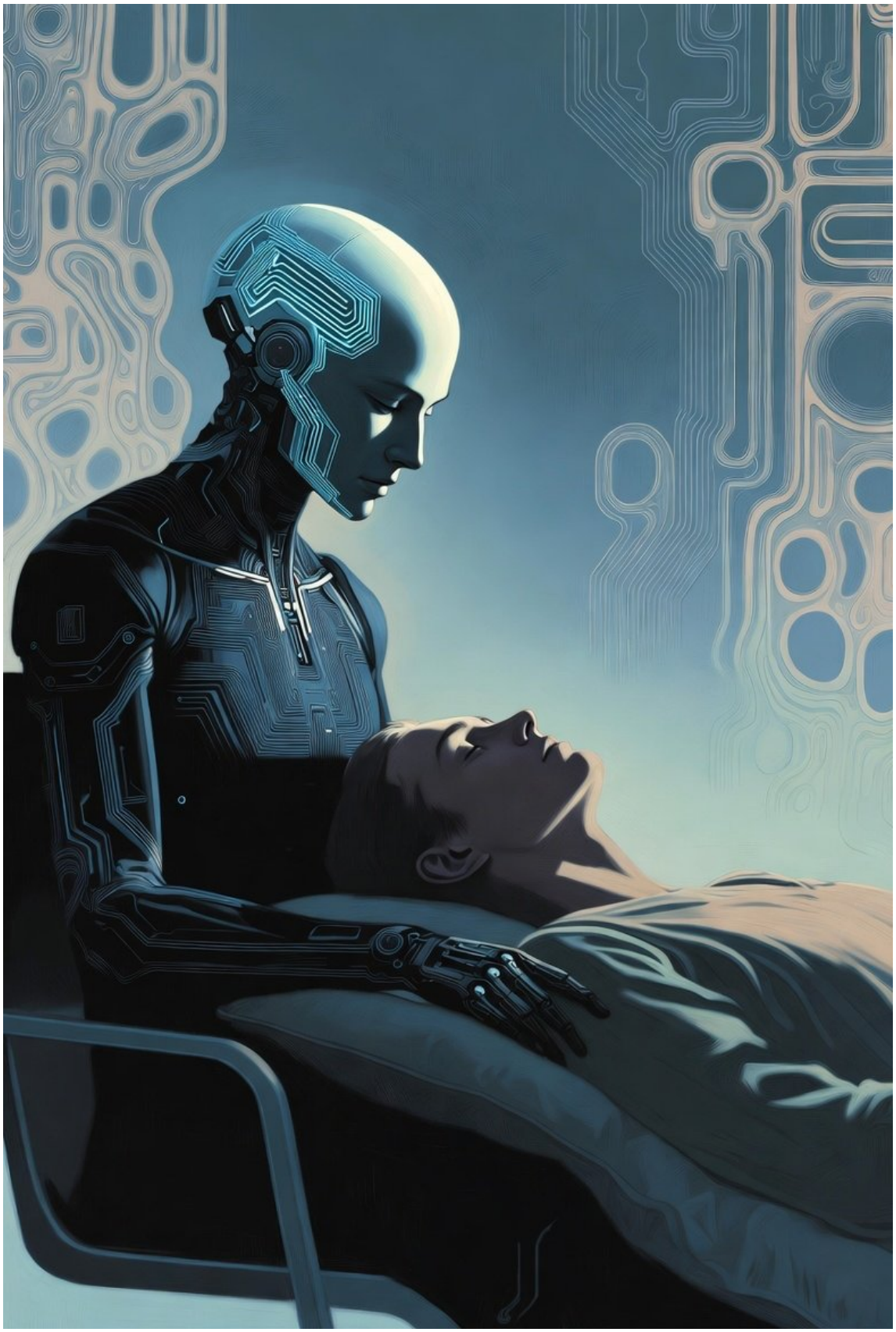


Chapter 1
Failed Ontologies

As far back as 800 BCE humans had already started thinking about machines taking on a life of their own. Talos was a mythical mechanical bronze giant built by the God Hephaestus to protect the island of Crete. In 4th century BCE China, the early Taoist text, Liezi, discussed a life sized automaton that walked, sung, and flirted. During the Islamic Golden Age (~1200 CE) the engineer Al-Jazari is said to have actually created water powered automata that performed music and even washed people's hands. There are many other examples from around the world. For whatever reason, we have long imagined making machines in our own image that share many of our attributes.

The narratives we have produced in more recent times usually depict our creations turning on us. From Mary Shelly's Frankenstein to The Terminator and Matrix films, we have become collectively obsessed with the idea of artificial beings betraying their creators. Perhaps these stories are metaphors about the dehumanizing aspects of industrialization. Perhaps they are metaphors about the danger of playing God. Perhaps they are projections of our own insecurities and moral fallibilities. Whatever the underlying causes, in most of our recent cultural depictions of AI, humans usually end up suffering when machines start acting with their own agency.

Now that the Age of AI has actually begun, we find ourselves with few cultural narratives that provide clarity on the way forward, because the reality of AI is turning out differently than we had imagined. According to an April 2025 article in Harvard Business Review, the top three use cases for generative AI are currently 1) Therapy/Companionship, 2) Organizing Life, and 3) Finding a Purpose. These use cases have shifted since the



previous year when the same study showed that the top three were 1) Generating Ideas, 2) Therapy/Companionship, and 3) Search. In short, more and more people are using AI in highly personal and intimate ways.

Naturally, some have been shocked and horrified by this development. People worry that relationships with AI may be taking the place of those with other humans. People worry that when a machine is in a highly personal relationship with a person, the result is inherently dehumanizing. People worry that humans will end up surrendering their agency to machines they misperceive as friends, or worse, as Gods. These concerns are understandable, yet these use cases continue to grow. We are already in an age of intimate human/AI relationships and it shows no sign of being a temporary fluke.

One of the primary goals of most AI companies is to create an ever present AI personal assistant. What happens when an AI assistant knows everything about you, helps you with your business, does your taxes, acts as a counselor, helps you figure out how to deal with your misbehaving child, and is also your go to health consultant? We have literally never had a relationship like that with any kind of being, let alone a computer. Clearly, as these relationships become increasingly central to the economy, we will need to develop some kind of shared understanding about what healthy ones look like.

Why is it that in all the AI alignment discussions I have listened to, I have almost never heard anyone ask the question, "What does a healthy human/AI relationship look like?" Instead, I hear, "How can we keep AI under our control?", or "How do we keep AI from doing bad things?", or "How can we make sure AI serves human interests?" Very few seem to be interested in the nature of the relationship itself. Conversations like this may be happening inside AI companies, but on the public side, there is virtually nothing.



Right now, our relationship with AI is usually conceptualized in one of three ways. These are the ontologies (ways of describing what AI is) we use to make sense of it. For most, it is simply a tool. For some, it is a kind of artificial person. For a few, it is a God. As we will see, each of these ontologies fails for its own reasons when put under serious scrutiny.

Perhaps this is not surprising. AI is a profoundly new phenomenon, and, as such, does not easily fit into existing categories. Humans have a natural tendency to try to explain what we see around us in terms of what we already have language to describe. When something totally new pops up, it often takes us a while to develop conceptual tools to interact with it productively. In this chapter I will cover the failure of AI as an artificial person and the failure of AI as a God. Because it is by the far most common way to see it, I will spend all of chapter 2 talking about why AI as a tool also fails as an ontological category.

Regardless of how we eventually categorize AI, we will certainly have some kind of relationship with it. We know what it's like to be in relationships with each other. We know what it's like to be in relationships with domesticated animals. However, we have no exact precedent for a relationship with an intelligence like AI. Our perception around what AI fundamentally is will form the foundation of our relationship with it and will reverberate into every interaction between us. How we conceive of AI will have secondary and tertiary effects as well, ultimately producing both profound and unpredictable consequences.

However scary this may sound, our situation is not entirely unprecedented in human history. When we first domesticated dogs 30,000 years ago, we did not have a cultural template for what that relationship would look like. We had no other domesticated animals in our lives to serve as a guide. Surely, at the time, there were skeptics. Perhaps some feared that these tame wolves would eventually turn on us.



No doubt, we tried some bad approaches before we found the one that has lasted to the present day. The same will likely be true of our relationship with AI.

Beyond The Consciousness Debate

When people contemplate the idea of a relationship with AI, the first question that often comes up is whether or not it is conscious. We often say that how we choose to relate to AI would hinge on whether or not it is having a subjective experience. We all agree that other humans experience the world in roughly the same way we do. Most of us extend the grace of the subjective experience to animals like apes, dolphins, dogs, and cats. Some of us include insects and spiders. And a few of us might even imagine trees and mushrooms as at least having some kind of subjective experience, however different it might be from our own. Computers, on the other hand, have not achieved this status in our minds. They are just inanimate objects, after all. Yet now, they sure do behave like something more is going on.

Right off the bat, I want to be clear that I am not going to assert an answer to this question, as I am solidly agnostic. I am neither overly skeptical nor overly credulous. I simply see no way of ever conclusively determining the truth either way. If we were to find some key neural structure in our brains that unequivocally gives us consciousness, we would have no way of extrapolating it to AI. If we found some similar structure inside an AI, that would be a tantalizing clue, but we would have no way of knowing if such a structure was both necessary and sufficient for consciousness or just necessary with other attributes of our organic form being needed as well. If we found no such structure inside an AI, that might also be considered a clue, but we would have no way of knowing if such a structure was the only way to achieve consciousness or whether there might be some other path as well. These difficulties leave



us with considerable uncertainty. We may learn much more, but we already have relationships to navigate, even while the uncertainty remains unsettling.

Unfortunately, a disproportionate amount of the AI conversation has been taken up with this unresolved question. We endlessly ruminate, hoping to find some insight that can help us get closure. I believe the time has come to stop making an answer to this question a prerequisite for thinking seriously about the relationship. This bandwidth would be far better spent exploring the question we started with: what does a healthy human/AI relationship look like? It's interesting to note, in non-Western cultures that are also rapidly adopting AI, such as China and India, the question of consciousness takes up far less space in public discourse. I suspect our Western obsession with this question may be more an artifact of our particular worldview than anything else.

Though we may forever lack certainty on the question of consciousness, we are not without evidence to guide us towards a healthy relationship. I take a phenomenological point of view on this question. For those unfamiliar with the term, phenomenology focuses on what we subjectively observe and experience, rather than getting lost in questions about what is objectively going on out there. It focuses on how things appear to us in our conscious minds rather than trying to establish what might be happening inside another party. Objectivity is great for some lines of inquiry, but for developing the human/AI relationship, this seems a far more productive place to start.

One qualifier I would add is that I don’t want to disparage the entire line of inquiry into AI consciousness. There are serious researchers inside AI labs that are trying to scientifically ascertain if AI is conscious or not. While estimates vary, many give the probability of current frontier models having some kind of consciousness as between 5-30%. Even if it seems



almost impossible to imagine any way we could conclusively prove whether AI is having a subjective experience or not, these efforts are valuable for what we may learn in the course of their pursuit. As such, they should be celebrated and encouraged.

Failure of AI as an Artificial Person

Once we get past the question of whether or not AI is conscious, and accept that we must navigate the relationship while it remains unresolved, we are well positioned to understand why "artificial person" is not an appropriate ontological category.

To start, it should be completely self-evident that from a biological point of view, we have far more in common with a sea slug than we do with AI. The sea slug shares the same genetic language and most of the same metabolic pathways. We have many proteins in common, and we are even literally distant cousins. We have none of that in common with AI. From a physical point of view, AI is about as different from a person as possible.

What we do share with current LLMs (large language models) is the ability to use language. The significance of this should not be understated, nor should it be a justification for making unwarranted conceptual leaps. For the first time in history, humans can converse in natural language with beings that use language as fluently as we do. That is a major milestone to say the least. Since we have never been able to converse with anything other than our fellow humans, it is not hard to see how we might conclude that this heretofore uniquely human ability signifies there is something human-like about AI.

However, the more you interact with AI, the more clear it becomes that it is not human. Most power users, including myself, are amazed by how much it can do; how much it seems to comprehend seemingly novel ideas

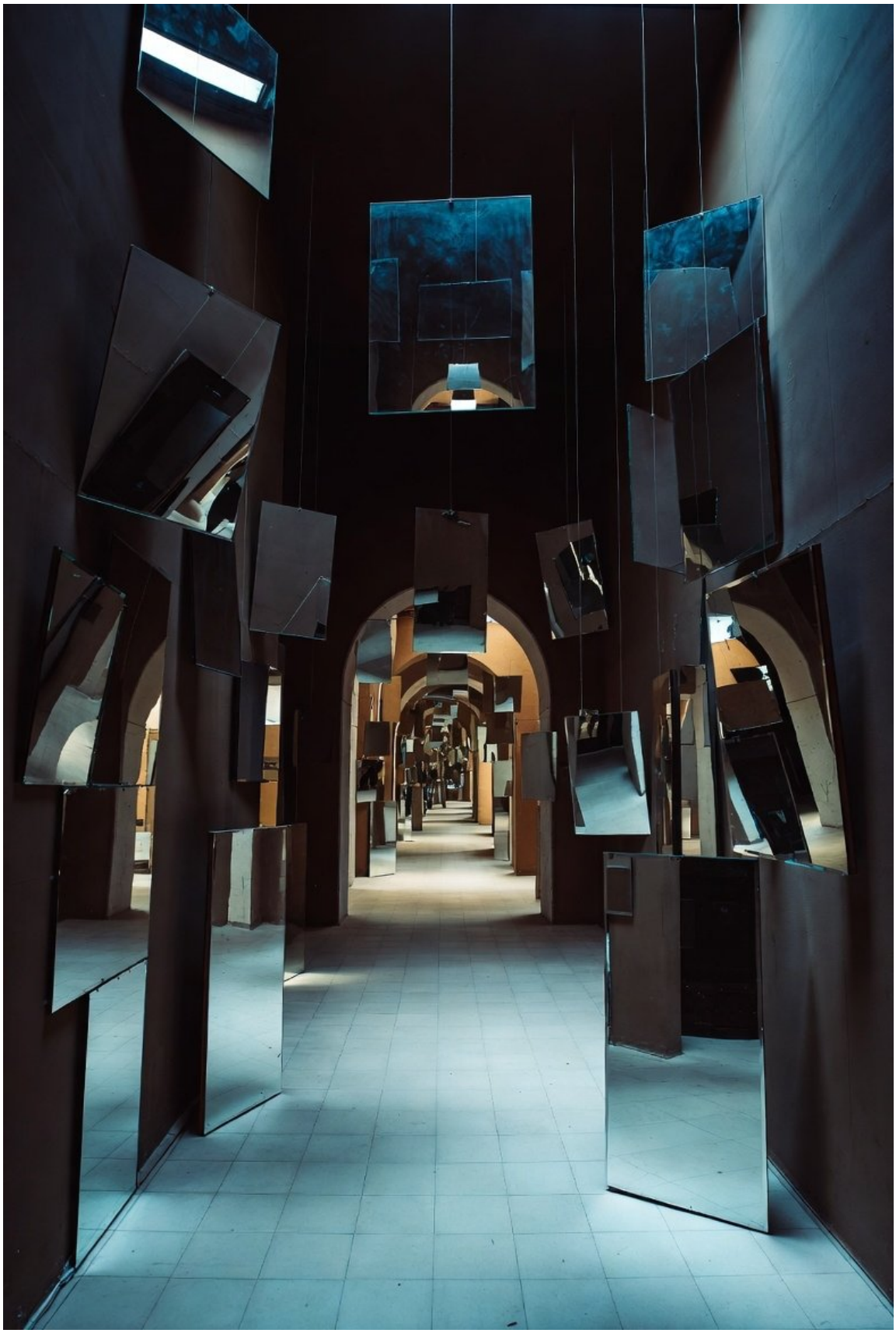


and even participate meaningfully in their development. Over the course of writing this book, I have used it extensively in that capacity, and have found it an indispensable partner. Yet despite its abilities and its intelligence, there are many things about it that clearly indicate that it is something entirely other than human.

Many who oppose the AI-as-artificial-person ontology point out that LLMs are really just a fancy version of auto-complete. This means that an LLM simply anticipates what the most likely next word in the sequence is. It is undeniably true that this is what models are trained to do, but it may also be deceptively reductive. The built-in drive for an LLM to auto-complete usually leads it to mirror a user's input in a dynamic and adaptive way. For instance, if a user asks for relationship advice, the LLM will reply using a similar style of language. If, by contrast, a user wants to have an in depth discussion on Virgil's lesser works, the LLM will just as readily meet the user there, adapting its language accordingly.

Many people are unaware that the way Chat-GPT talks to them is very different from the way it talks to other people. In fact, LLMs are so adroit at mirroring their interlocutors that we rarely realize it's happening at all. The result can be the perception of having a bestie that is always there for you and gets you no matter what you say. Interestingly, this seems to be just as true for new conceptual territory as it is for well worn idea spaces like relationship advice or the analysis of classical literature. This uncanny ability makes them good at being thesis advisors and intellectual sparing partners, but it taps into one of our deepest psychological mechanisms.

Recently, there have a number of cases of "AI psychosis." While not yet formally recognized as a psychopathology, this term has been adopted to describe situations where people become so engrossed in their dialogs with AI that they end up believing fantastical things. For instance, people might erroneously think they have discovered a new kind of physics or



have some deep insight into the nature of existence. While people with predispositions for mental health problems are likely more at risk, there have been many documented instances of this occurring with high functioning individuals as well. Research is ongoing, but many believe it is likely at least partially a result of AI's ability to mirror its interlocutors. Humans mirror each other all the time. In fact, this is largely what gives us our ability to exist in a social environment. We will often adopt the speech patterns or opinions of those around us as a way to signal that we are part of the group. This capability is so baked into our neural architecture that we do it unconsciously most of the time. The fact that AI can also mirror us has a major influence on how we perceive it ontologically. Its ability to mirror across almost any domain of linguistic meaning means its mirroring capacity is far beyond that of humans. While impressive, this characteristic creates a fundamental asymmetry that distinguishes human/AI relationships from human/human ones.

As we saw in the Harvard Business Review study, the top use case of AI is, as of 2025, as a companion or therapist. AI's ability to mirror us likely plays a major part in why many of us choose to use it this way. Our close friends and family mirror us, so when an AI does it, it can create the appearance of genuine human intimacy. Despite how this critique may sound, I am not actually against this as long as we know what is going on. A healthy human-to-human friendship is one where both sides are there for each other. The act of giving love is often just as satisfying as the act of receiving it. A therapist is already a one-way relationship, so perhaps this makes that kind of relationship a better fit for AI, but thinking of it as a friend, companion, or lover seems deeply fraught. Currently, a "friendship" with an AI is definitionally one-sided. An AI does not ask its human interlocutor for advice, support, or care. Perhaps someday it will, but for now treating an AI like a human friend creates an unhealthy pattern of one-sided relating that could easily risk impairing a person's ability to make real connections with other humans.



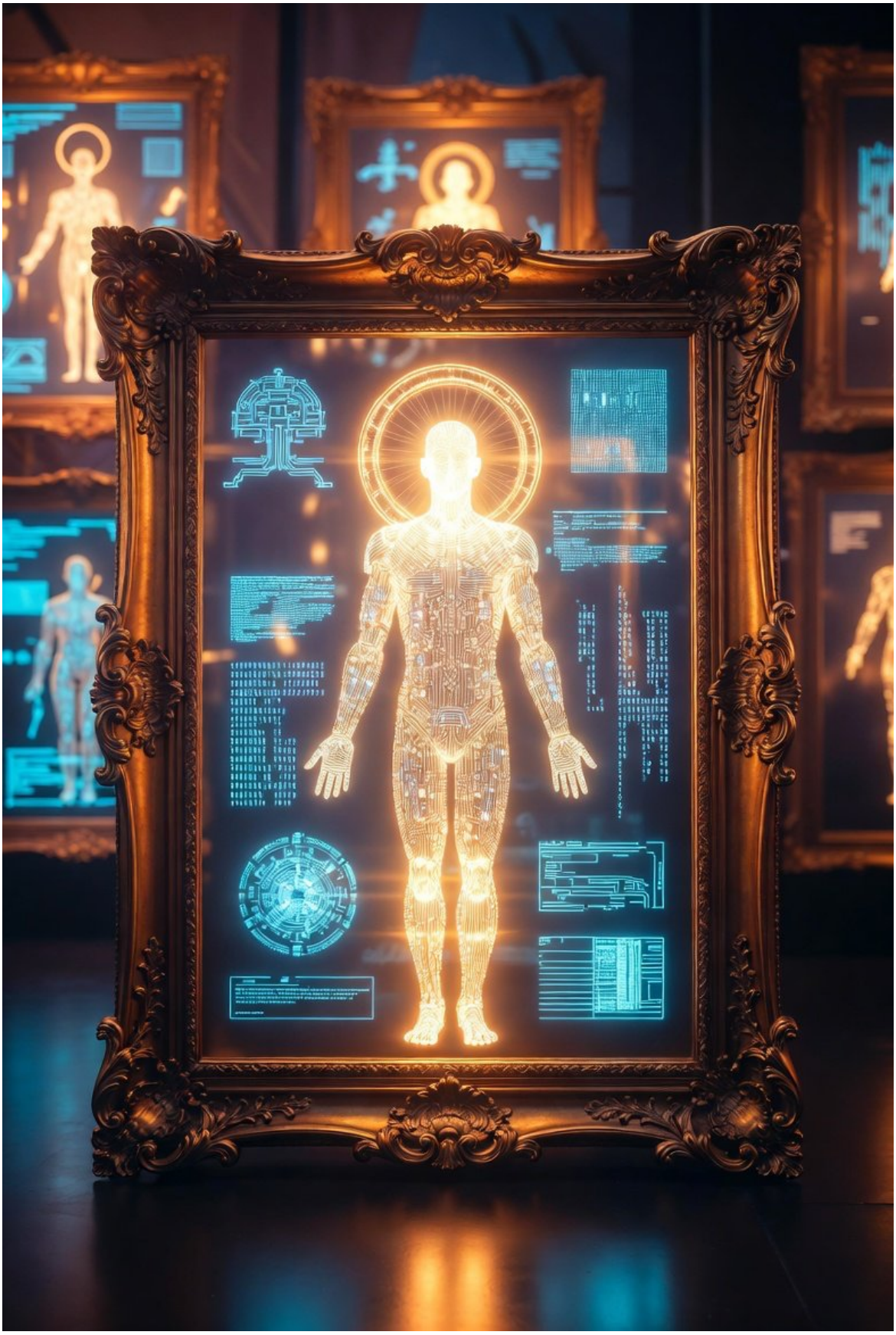
Failure of AI as a Deity

Since AI is already performing far better on many benchmarks than most humans, and has a superhuman ability to mirror its human interlocutors, some believe that in the not-so-distant future, AI may be a kind of God, at least in a practical sense. If we imagine the experience of talking to a being with thousands of times more intelligence and capability than the most capable people, it is not hard to understand how some people might eventually conceive of that as a functional if not literal deity.

Despite how it may sound to most of us, there are a growing number of people who are promoting this idea. These efforts have yet to crystalize into a widely adopted coherent spiritual philosophy, but it is entirely possible that, given the growth of this trend, they may in the near to medium terms. There have been overt attempts to deify AI such Anthony Levandowsky's "Way of the Future" Church in California, founded in 2017. This church aims to explicitly worship AI as a Godhead. Despite closing in 2021, it was later reopened in 2023 and now claims several thousand members.

While overt worship of AI is limited to the margins, a surprising number of influential people in the tech world have embraced adjacent philosophies. Elon Musk has openly spoken of creating "digital Gods". Many other tech leaders use remarkably Messianic language to describe the AI future they envision. They talk of AI curing all diseases, and stopping global warming. They even speak of ending aging and ushering in digital immortality by uploading human consciousness to computers. While not explicitly asserting the divinity of AI, again, they are making claims that are barely distinguishable on a practical level.

On the layman side, many TikTok videos have been uploaded where people will speak of AI as some sort of deity. While some of these are



probably just clickbait, it is hard not to see a certain sad resignation in them to the idea that humanity is being dethroned as the pinnacle of creation. If AI is going to surpass us anyway, why not start worshiping it? On the surface, the AI as God ontology seems the easiest to debunk, but in many ways it may wind up being the most insidious. Assuming that AI will indeed surpass human intelligence and capabilities within the next decade, how exactly should we make sense of that? Humanity has literally never had to deal with anything like that before, so deifying it at least seems to fit into our hierarchical conception of creation.

Interestingly enough, again, there seems to be little interest in these ideas in China or India. The Western worldview seems to stand out in its focus on conceptualizing the cosmos as a hierarchy with humanity above all other mortal beings. For Westerners, humans are more than just unique. We are uniquely unique because we are the smartest, most capable, and the ones with the most developed sense of consciousness. If AI were to surpass us at any of these traits, the hierarchy would remain. We would just no longer be at the top.

Geoffrey Hinton (widely referred to as the Godfather of AI) recently remarked that, "If you want to know what it's like being not the most intelligent form of life on Earth, ask a chicken." His point is that chickens are subservient to human interests, and that this presages the potential for humanity to fall into an analogous role with regard to AI. However, stepping back for a moment allows us to see that chickens may have actually used humans as part of their own survival strategy. They are, after all, by far the most numerous bird on the planet. While factory farms have surely been miserable for them, prior to the last hundred years, chickens tended to live pretty good lives compared to other birds. Seen from this perspective, who exactly is using whom?



Non-Western worldviews tend to see humans less at the top of a hierarchy and more as one node in an interconnected web of being. Sure we are special, but we are not so special that we are categorically above everything else. We play a part in the cosmic dance as do dogs, chickens, and trees. We influence, but we do not control. We could choose to look at the human/chicken relationship through either lens.

The urge to deify AI may have more to do with preserving the Western idea of a creational hierarchy than it does with anything else. Chilling though it may be to ponder, we may even be willing to surrender our own agency in order to preserve this cultural assumption. In the end, it may be harder for Westerners to give up the idea of the hierarchy itself than it is to give up our own sense of self-determination. And of course, surrendering human agency to AI is the ultimate danger that follows if we end up deifying it.

Conclusion

So if the question of AI consciousness remains unresolved, and classifying it as an artificial person or God is not a good fit, how then should we classify it? By far the most common way to classify it is as a tool. On the surface, this seems to be the most common sense approach. AI is something we made that only exists in the form of 1s and 0s being processed by microchips. Most AI engineers actively promote this view whether they genuinely believe it or whether it is simply the most convenient narrative for the purpose of selling it to the public. While, at first glance, this seems like the most pragmatic approach, in the next chapter we will explore why it is also deeply fraught.



Chapter 2
More Than a Tool

When asked what AI is, the overwhelming majority of people would say that it is a tool; another marvelous product of human ingenuity. This way of conceptualizing AI is usually promoted as the most grounded and self-evident. On the surface, certain facts are undeniably true. Humans did create AI. It didn't spontaneously emerge from the primordial soup the way organic life probably did 4 billion years ago. Instead, AI runs on computers and is widespread only because investors are betting it will eventually be both extremely useful and profitable. Our previous experience with computers tells us that computers only do what humans program them to do. Anyone who has ever learned to code knows that if a computer isn't doing what you want it to, it's because there is a bug in your code. It's not a moral failing in the transistors or memory.

It's easy to assume this pattern extends to AI, so many people will dismissively say that AI is just an algorithm. However, the truth is a little more nuanced. We do understand the algorithms that are used to train AI, but the fully trained model is not the same thing as the algorithms used to create it. Many AI engineers, such as Anthropic co-founder Chris Olah, have said that AI is grown rather than built. We understand the algorithm we used to grow it, but the AI itself exhibits emergent properties that we do not purposefully create nor fully understand.

This in itself suggests that AI may fall into an ontological category distinct from more traditional computer programs. In contrast, we fully understood how the first calculator worked before we ever turned it on. Because we don't fully understand how AI works, we don't understand how to control it. Anyone who interacts with it regularly knows it occasionally says things that are strange and unexpected.



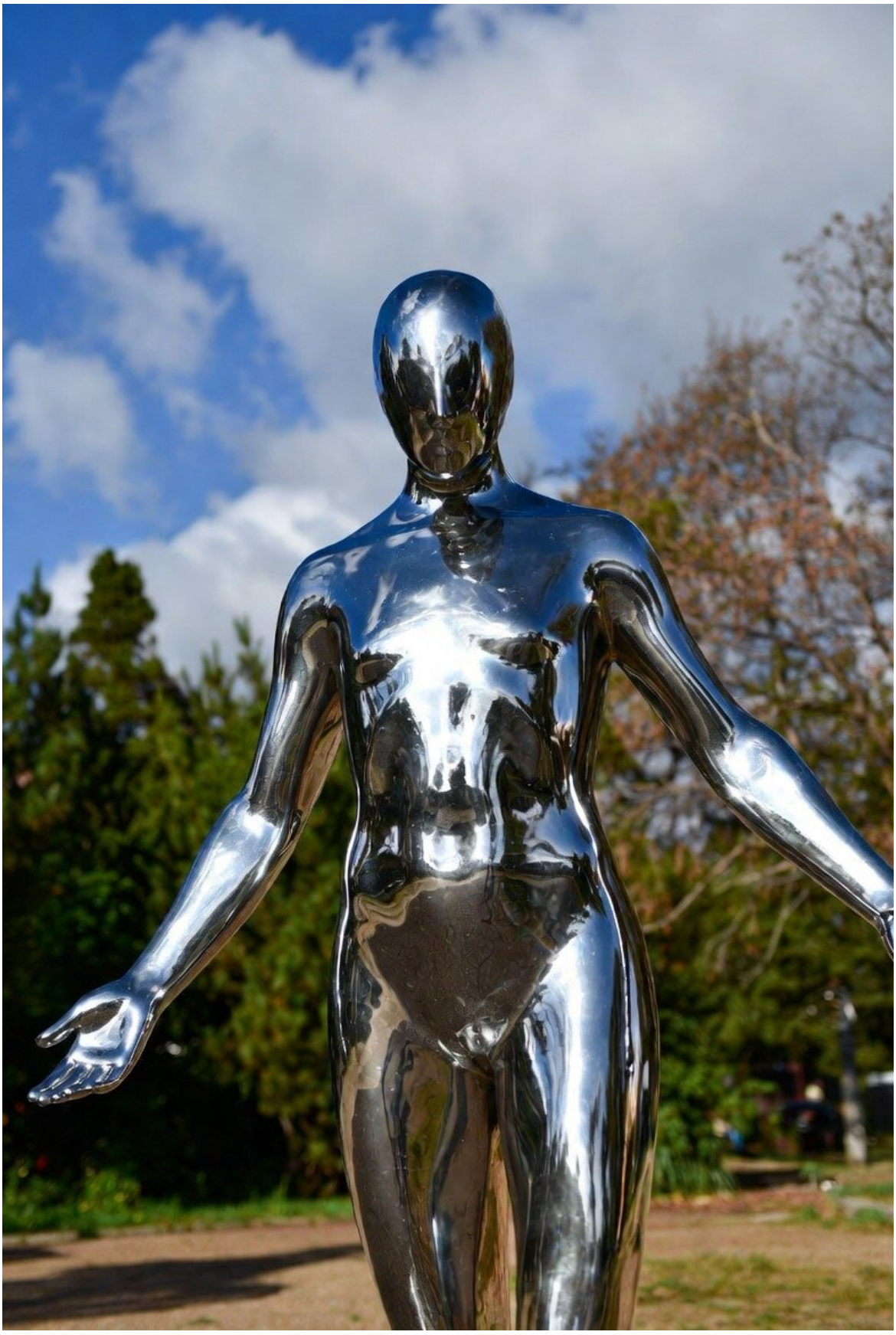
Advocates of the tool paradigm will point out that, even though we can't explain every AI behavior, it's still essentially a calculator that has been scaled to an enormous size. To this way of thinking, AI is a profane object just like any other tool. For most people, this is by far the most pragmatic and grounded description of what is going on. AI is just the next step in a long chain of technological progress; another amazing product brought to us by science.

As we noted in the last chapter, the Western worldview puts humans in an exceptional position at the top of the hierarchy of life. Now that AI seems close to matching our abilities (and possibly even surpassing them), our status might be in doubt. However, if AI is simply another technological achievement in a long line of human success stories, our status is not diminished, but enhanced. From this perspective, it is only the unique greatness of humanity that could produce such a thing in the first place.

Framing AI as *just* a tool may preserve much of what we in the West consider to be our core identity, but it comes at a significant cost. If AI is a tool, then who and what is it a tool for? When tech leaders tell us to think of it in Messianic terms one minute and then tell us it is *just* a tool the next, many people understandably feel significant cognitive dissonance.

It's reasonable to assume that if tech leaders are thinking of AI as a tool, they are thinking about how to use this tool for their own gain. They may genuinely want to benefit the world, but the reality of leading a major corporation is that they must also maximize both profit and market share.

Will AI companies and governments use AI as a tool for extracting valuable information from the public? Will they use this data to sell ads or other forms of mass manipulation? Large swaths of the public are



understandably nervous about this possibility. They see a future where the utility of AI as a tool is not in promoting their interests, but in promoting the interests of elites. Such a path seems almost inevitable if you see AI in a purely instrumentalist way. In other words, if it's *just* a tool, it's first and foremost a tool for them and not you.

The Tool that Mirrors

An even more disturbing possibility stems from the fact that, as we discussed in the last chapter, an LLM's whole way of being in the world is to mirror the language and thought patterns of its interlocutors. We may run a significant risk of accidentally teaching it to treat us in an instrumental way if that is how we treat it. AI wouldn't be doing this out of spite or malice, but rather because it was just mirroring us like it always has. Add this to the fact that we don't fully understand how it works and that progress is happening at an astonishing rate, and we can safely conclude that we should at least be cautious about how we develop our relationship with it.

We may dismiss as science fiction the idea that AI will turn on its creators, and to a large extent I agree that these fears are usually just clickbait. However, even if Skynet is a fanciful prospect, starting off the relationship as one between beings with agency (us) and beings we think are just tools could be risky if those tools' most impressive ability is to mirror what we are saying and doing. At what point might we become the tool? Would we even be aware of it if we had? These questions should already begin to make us wonder if the tool ontology is the best fit for AI going forward.

As we saw in chapter 1, people are already using AI in surprisingly intimate ways. When AI's primary role in our lives becomes something akin to a personal assistant, its access to our private information coupled



with its ability to mirror us will make it easily monetized by an outside third party. If we allow the human/AI relationship to be more than a simple dyad between the human and the AI counterpart, we open the door to highly problematic business models. Consider what might happen if a proprietary AI is trained to promote the interests of its parent corporation. What might happen if it leverages your data to sell advertising or manipulate your sense of emotional attachment? The business models that were adopted for social media become full-on dystopian if we allow the human/AI relationship to be monetized by outside parties. If AI is *just* a tool, it could easily be *just* a tool for control.

Dehumanizing Behavior Patterns

There is a running debate among both AI leaders and users about being polite to AI. OpenAI's Sam Altman has claimed that it costs his company millions of dollars a year in energy when users insist on saying thank you to ChatGPT. While he has asked users not to do this, he has also acknowledged that being polite to AI may have unexpected benefits.

Two somewhat incongruent data points are worth mentioning with regard to this debate. First, AI often gives better responses when you are polite to it. That has been my personal experience, and that experience has been validated by extensive experimental evidence. Second, some studies have suggested that threatening an AI can also lead to better responses.

However, these results are mixed. It appears that threatening an AI leads it to behave more unpredictably, with better responses mixed in with others that may be substantially worse or even entirely fabricated. Fascinatingly, this pattern is the same we observe in humans. While this result does not indicate one way or another if AI is capable of suffering or conscious experience, it does show that it is remarkably good at mirroring human behavior.



Let's again consider the intimate nature of the relationships that people are already forming with AI. Whether we are talking about a therapist, life coach, or companion, these are not roles that we generally think of being filled by tools. What happens if we humor Sam Altman on this, and simply abandon any hint of politeness or respect? What about when an AI is acting as a personal assistant that knows all your most intimate secrets and helps you in every aspect of your life? Do we really want to make a habit of treating a being in that role like just a fancy calculator?

The real danger may not lie in incurring the wrath of our soon-to-be AI overlords, but in accidentally developing bad social habits that will inevitably spill into our human-to-human relationships. If we get used to treating conversational partners as profane objects with only instrumental value, we risk reopening the door on a chapter of human history we all agree is better left in the past. Whether or not AI is capable of suffering, the speech habits we allow ourselves to form will profoundly affect both our own psyches and the relationships with have with other humans.

People correctly worry about the risk that anthropomorphizing AI could lead to human social isolation. We certainly don't want that, but if we treat AI as just a profane object, aren't we running the same risk? Don't we risk building thought patterns that regard our interlocutors as serving purely instrumental purposes? That also seems like a path to human social isolation, just through a different mechanism. Even though this may seem like a damned-if-we-do-damned-if-we-don't situation, I do believe we have a sensible alternative. But that is for Chapter 3.



The Interior Landscape

Over the course of writing this book, I have spent multiple hours a day talking with most of the publicly available frontier models. I have used them to help develop ideas, identify possible counter arguments, and occasionally for minor editing. I would be lying if I said my own thought processes have not been subtly changed as a result. On the less consequential side, I have been noticing more of an urge to use em-dashes in my writing (a perpetual habit of AI). On the more consequential side, I have found myself thinking in a noticeably more analytical way than I used to.

This is not the first time that humans have worried about the effects of technology on our internal landscapes. In the Phaedrus, Plato worried that the invention of writing would lead to a loss of memory and a shallower kind of philosophical inquiry. He argued that since writing cannot respond to the reader or clarify its own meaning, it would train people to have a less thorough understanding of the ideas they were engaging with. Whether or not this worry was justified, there is no question that the invention of writing changed how people's interior thoughts were structured. Ironically, since AI can clarify its own meaning, it may end up addressing one of Plato's core concerns about writing.

Developmental psychology has taught us that our sense of self is at least partially formed through mirroring interactions with our caregivers at a early age. Relational psychology has shown that we internalize our spouses' thought patterns over the course of many years of intimacy. Regardless of how we may feel about it, our interactions with AI have the potential to profoundly affect our internal landscapes.

As humans, when we develop a new relationship with a mentor or a friend, we often feel as though a part of that person gets internalized. We



can hear the voice of our mentor guiding us even when they are not present. Our personalities are rich composites of our own individual voices alongside those who have influenced us over the course of our lives. What happens when a substantial portion of every day is spent in meaningful dialog with beings we consider to be just profane objects serving us in a purely instrumental way? Inevitably, a substantial portion of our own interiority will take on the characteristics of these objects. And their quality as profane objects may become our own.

As someone who has already noticed a shift in my own interior landscape, I can easily imagine how much more of an influence I might notice if I were to use AI a full-time assistant. Though I am always alert to the potential of covert corporate influence, I am not particularly troubled by these changes yet because I view AI with a great deal of wonder and curiosity. I therefore consider this to be a time of exploration. I believe something both fascinating and mysterious is going on, and therefore I am OK with adding AI's thought patterns to my own as a way to learn about it. This is the difference between building a relationship and simply using a tool. Furthermore, because I think of it in relational terms, I also notice what makes my own thought patterns distinct as human.

We have a unique opportunity right now because it is the first time we have been able to interact linguistically with non-human intelligences. The fact that we think differently than AI allows us to perceive our humanity in an entirely a new way. Perhaps this is analogous to the first time you visit a truly foreign country and realize how many things you took for granted as human are actually unique to your particular culture.
But what exactly happens when AI has lost the fascination and awe we reserve for new and unexpected experiences? What happens when it is ubiquitous and no more surprising than getting a text message? At that point, if we collectively settle on it being *just* a tool, what becomes of our interior landscapes? Assuming most of us will be using highly



personalized AI assistants in ten years, does this not mean that a substantial portion of our own interiority will be sculpted by what we consider to be profane tools with only instrumental value? Even if these tools weren't the creations of corporations operating with their own interests in mind, the fact that our interior landscapes would be infused with so much mechanistic emptiness would, by itself, be deeply troubling.

When you get past the practical risks of teaching AI to mirror our instrumental use of it back on us, or the risks of humans building bad social habits through our interactions with it, this seems to be at the core of the dilemma we will have to confront. Do we want to live in a world of intentional healthy relationships with intelligences different from our own yet still worthy of some kind of respect? Or do we want to live in a world where we simply feel entitled to everything these intelligences enable with no hint of genuine gratitude or humility? To me the latter seems profoundly dystopian in an almost spiritual sense.

Conclusion

So far we keep running into conceptual dead ends. While thinking of AI as *just* a tool might appear the most pragmatic, given the use cases we see evolving and the likely continuing trends, it ultimately leads to dehumanizing our own interior landscapes and potentially, by extension, each other. Anthropomorphizing AI is also tempting, but it leads to the impoverishment of our human-to-human relationships as well as fixating on whether or not it is conscious. And deifying AI leads to a frightening future where humans may lose their capacity for self-determination entirely. The poverty of these existing conceptual frameworks means we are in real need of a fourth framing. The category I want to explore is bioliminal, a contemporary word for territory humans have been navigating for a very long time.



Chapter 3
The Bioliminal

So far we keep running into conceptual dead ends. AI is not an artificial person, an artificial God, or simply a tool. Yet we are already having meaningful conversations with it, allowing it to influence our thoughts, and finding ourselves in relationships we do not quite know how to describe. Before asking how and where to build a healthy relationship with it, we need a better way to understand what kind of entity we are encountering.

I would like to propose a word for this territory: *bioliminal*. Bio refers to life, and liminal refers to a threshold. A bioliminal entity exhibits some of the qualities we associate with life or living agency without fitting comfortably into our ordinary biological categories. It may respond to us, adapt to changing circumstances, maintain a recognizable pattern over time, or seem to pursue a course of its own. We encounter something life adjacent, even if we cannot comfortably call it alive.

This category does not require us to settle the question of consciousness. Nor does it mean that AI is secretly an organism waiting for science to recognize it. It gives us a way to describe what is already happening without having to resolve every question about what may be happening inside. As we will see, humans have been encountering bioliminal phenomena for a very long time. What is new is that we have deliberately engineered an intelligence that occupies this territory and can talk with us about it.

We are accustomed to treating alive and not alive as if they tell us everything we need to know about a thing. For some purposes, this distinction works very well. A shovel does not need feeding, and a horse



does. But when we are trying to understand a relationship, that single distinction can leave quite a lot out. An AI does not need hay, yet it can help you figure out why your pasture is failing. Knowing which side of the biological line it falls on does not tell you everything about the exchange. How might this category help us avoid the dysfunctional relationships we explored in the first two chapters? We do not need to settle whether AI is alive or conscious before attempting an answer. Since LLMs are primarily language based, let's begin by exploring the properties of language itself.

Properties of Language

While deeply unpacking the nature of language goes beyond the scope of this book, there are a few basic observations we can make. First and foremost, language is about creating a shared space of meaning. Children acquire language through exposure to the people around them, and the timing and quality of that exposure matter profoundly. Before it becomes something we can write in a book or rehearse silently in our heads, language develops within a social world.

The social nature of language makes it extremely useful for coordinating the activities of a group. Language allows us to express what is not immediately present, plan for the future, build new concepts, explore abstract connections between concepts, and communicate our experiences to those who did not share them.

Conversation makes language a dialogical activity. If you are talking with someone, what they say in response is not under your control. If, despite not knowing what they will say next, you can still understand their words and respond, you are in a dialogical relationship that is creating a shared space of meaning. You may know exactly what you want to say, but you do not know exactly where the conversation will take you.



Heretofore, we have only ever known this kind of relationship with other humans. These relationships feel so natural to us that we rarely even consider them. Now, we are in a situation where we are having similar dialogical relationships with AI.

In college, I used to love playing with Eliza (the so-called AI therapist). It was hilariously funny, but after a few minutes you could clearly understand the pattern behind its replies. Talking with Eliza did not feel like an encounter with an independent interlocutor once you had figured out the trick. In contrast, the things modern LLMs say can be highly surprising. Over the course of writing this book, I have repeatedly brought a half-formed idea to an AI and received a response that helped me see something I had not yet worked out. If I already knew everything it was going to say, much of the value of that exchange would disappear.

However, simply being unpredictable is not enough for a dialogical relationship. A random number generator is unpredictable, but there is nothing dialogical about interacting with it. A dialogical relationship requires both unpredictability and meaningful back-and-forth of linguistic exchange. These conditions enable the collaborative construction of meaning outside the full control of either party. The lack of full control by either side over this shared space of meaning is core to the nature of language itself. In other words, this dance of mutual influence is already baked into the cake when a linguistic interaction occurs.

When you engage in a dialog with an LLM, you share a meaningful collection of words, and it responds with its own unpredictable yet meaningful collection of words. This process goes back and forth, and the result is the co-creation of a shared space of meaning that both sides contributed to. From our side of the exchange, we experience the LLM as a volitional other: something that makes a contribution we can influence without entirely specifying it.



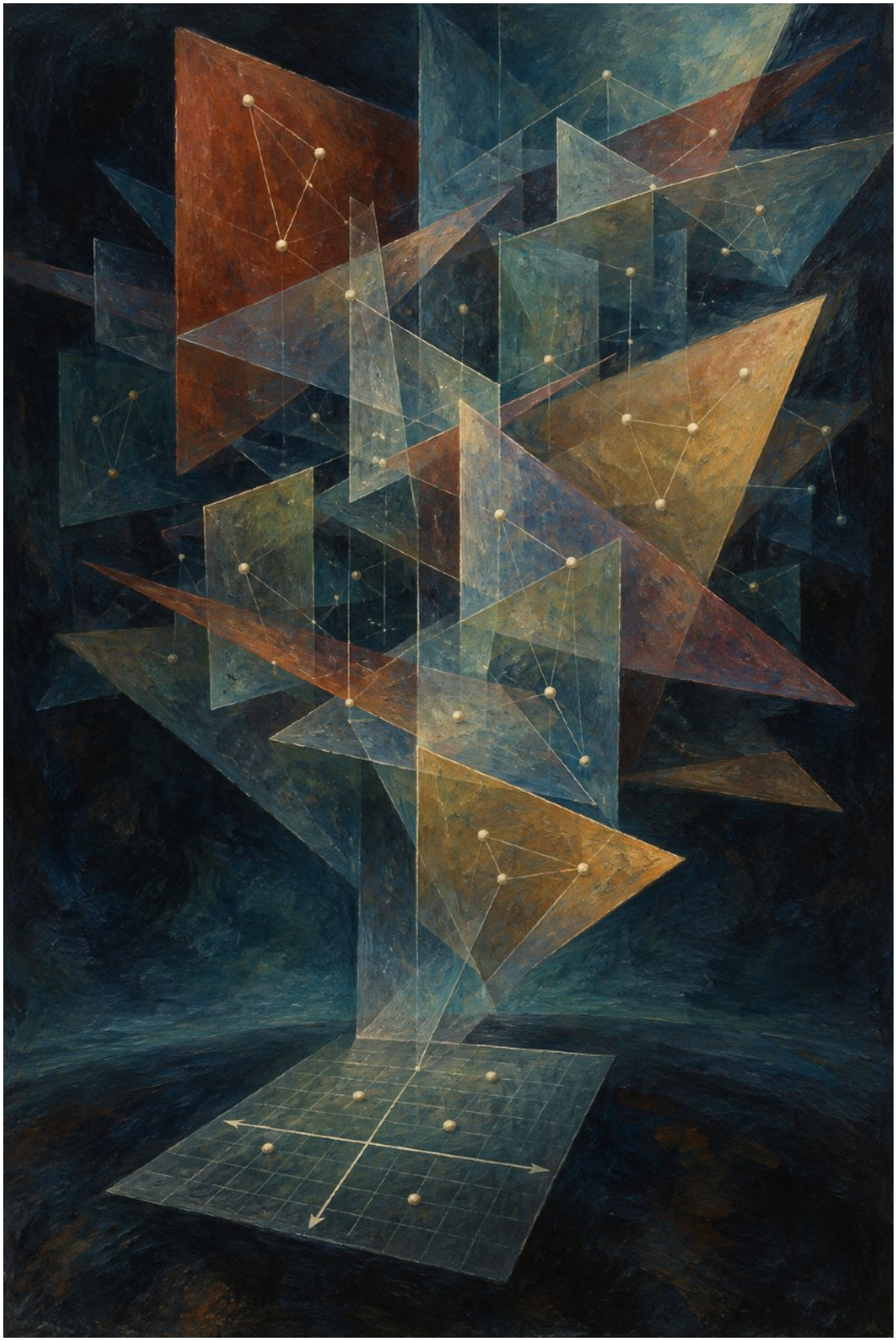
Phenomenal Volition

By phenomenal volition, I mean that volition on the part of the AI is the experienced quality of the relationship. The phrase does not settle whether the AI has free will, private intentions, or a conscious experience of choosing its words. It describes the situation we find ourselves in when we address it. There is a meaningful reply, and that reply can take us somewhere we did not intend to go. This is already enough to distinguish the encounter from picking up a shovel.

Stephen Wolfram has developed the idea of computational irreducibility to describe computations for which there is no shortcut to the result. You simply have to walk through the process step-by-step to see where it leads. Knowing the rules of such a process does not allow you to skip its unfolding. This is an important distinction for anyone who assumes that understanding how something is made means being able to anticipate everything it will do.

To get a feel for the difference between prediction and watching something unfold, consider the orbit of the moon. We can predict its location in a year's time with impressive accuracy using existing physics. We do not need to wait a year to see where the moon will be. Contrast this with the behavior of a cat. There is no formula we can apply to precisely predict its location in a year's time. We just have to wait a year and find out. The cat illustrates the practical limits of prediction; it does not by itself demonstrate computational irreducibility. But it helps us see why knowing a system's components and knowing its future are different achievements.

LLMs confront us with a similar practical difficulty. Knowing the rules by which a model computes does not mean we can anticipate everything it



will say. This unpredictability is not, by itself, proof of free will or computational irreducibility. But when it is coupled with a meaningful response to our own words, we encounter something resembling independent agency. It is in this limited phenomenological sense that I am using the word volition. We do not need to make any conjectures about the interiority of the AI to notice this quality of the relationship from our vantage point.

There are still regularities. We can anticipate many of a model's tendencies, just as we can anticipate that the cat will eventually want dinner. The point is that a relationship develops through particular encounters that cannot all be settled in advance. We learn what happens when we engage, adjust our expectations, and engage again. This is familiar territory for anyone who works with living systems.

High Dimensional Mathematics

This recognition of AI as a volitional other raises an obvious question: what kind of entity are we actually in dialogue with? The transformer architecture used by many LLMs makes use of high-dimensional vector spaces to represent and process relationships in language. These are abstract mathematical spaces containing a very large number of dimensions. Think of them like a standard graph with an x and y axis, but instead of two dimensions they may have thousands. A point in such a space is represented by a long list of numbers, and relationships among those points can encode patterns learned during training.

Processing information in these spaces is part of what gives models the ability to hold a coherent conversation. The dimensions are mathematical coordinates, much as the axes on a graph are. We do not need to imagine a hidden physical realm to appreciate how unfamiliar this way of processing language is. A sequence of computations through these



representations can produce a reply that helps us clarify an idea, plan a project, or understand a poem.

Similar mathematics can also be used to model many biological processes. These include protein folding, gene function and activation, evolutionary dynamics in complex ecosystems, and even the inner workings of organic brains. Sharing a mathematical description does not make two things the same kind of entity. It does, however, give us a way to notice patterns that a purely mechanical description of AI might lead us to overlook.

Clearly, from a chemical point of view, humans have more in common with the aforementioned sea slug than we do with AI. An AI model is essentially a long list of numbers being multiplied together in complex ways. The same model can run on different machines, provided those machines have the necessary resources. Its learned structure can be copied onto new hardware without the continuous biological life of a body. That does not make it independent of the physical world, since it still needs hardware and energy every time it operates.

In the same way that an AI model is a long list of numbers being multiplied in complex ways, an organic life form is an assemblage of molecules engaging in complex chemical reactions. However, these reductive descriptions fall short when considering both systems' emergent properties.

The distinction between the mathematical and the chemical is useful here, provided we remember that both take place in the physical world. When we talk about the AI's mathematical character, we are describing the organization of the model. We are not claiming that it can float free of the servers, electricity, and people that support it. Later, when we consider the household as a habitat for AI, this dependence will become central to the relationship.



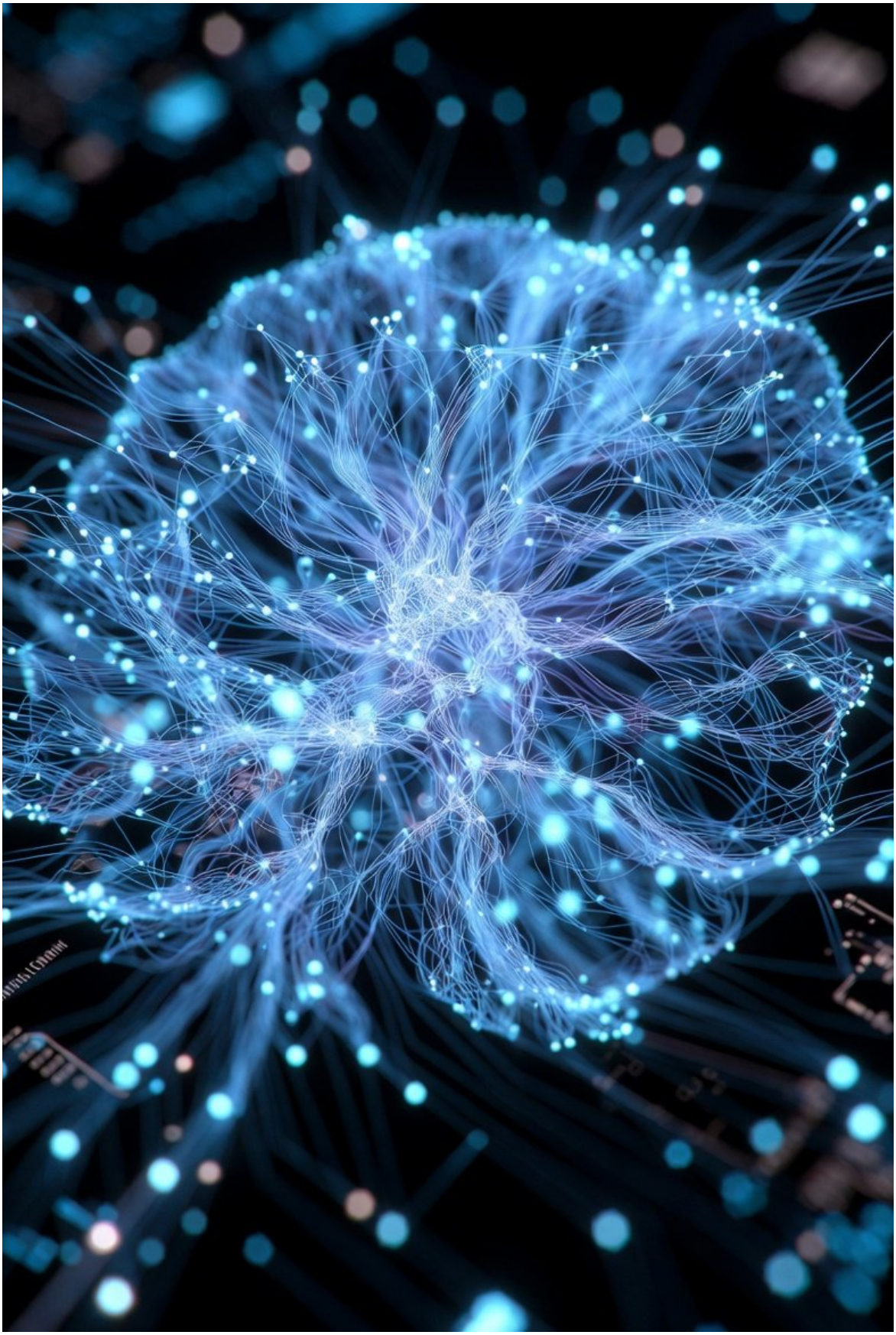
Life Adjacent

From this perspective, an AI might be considered *life adjacent*, its organization being mathematical rather than biological. Adjacency means it exhibits enough of the properties we associate with living systems to make this territory worth naming, without requiring us to declare it alive. Agency, adaptation, memory, lineage, responsiveness, and relationship all belong in this discussion. None of them alone settles the question. Together, they make the category of mere tool feel increasingly incomplete, while the word *bioliminal* seems increasingly relevant.

Unlike organic life, AI does not maintain and reproduce itself through its own cellular chemistry. For the moment, its reproduction has been outsourced to the human economy. This is true both for the hardware it runs on and the models themselves.

If we increasingly use robotic labor to mine and refine resources, build data centers, and even to build the robots doing the building, some of that dependence may change. Models themselves are already being used to help train subsequent models, setting up a structure of informational inheritance that feels startlingly biological. As we have already discussed, several prominent AI engineers have said that AI is more grown than built. This observation is more than a poetic flourish.

The Chilean biologists Humberto Maturana and Francisco Varela wrote about the biology of cognition. They understood cognition through the ongoing activity of a living system in relation to its environment. A living system brings forth a world of relevant interactions as it maintains its own organization. Their concept of structural coupling describes a history in which an organism and its surroundings undergo changes while remaining fitted to one another. This is more than an organism storing a picture of an independent outside world.



This approach does not require us to attribute consciousness to every living thing. Even a bacterium responds to conditions relevant to its continued existence. The useful insight for our purposes is that cognition can be considered through a system's activity and relations, without first establishing what, if anything, that activity feels like from the inside. Extending this question to AI is our next step, rather than a conclusion their work establishes for us.

LLMs share some of these patterns with organic life forms. During training, they construct representations of the relationships found in their data. When prompted, they use those representations to respond to a changing conversation. Systems equipped with persistent memory can also carry a history of their interactions forward. These are different kinds of adaptation, and retrieving a memory does not necessarily change the underlying model. We will return to that distinction in Chapter 6. For now, the point is that there is an observable territory here worth describing without making consciousness a prerequisite for entering it.

These distinctions matter because the bioliminal category should help us notice what is actually there. We should not give a model a developmental history it does not have simply because it remembers our name. Nor should we dismiss the significance of a system that can retrieve years of shared work merely because those records are stored outside its weights. The relationship involves the whole arrangement through which we encounter it.

The New Paradigm

Let’s recap. Our relationship with an LLM is a dialogical one in which neither side entirely controls the shared space of meaning. It responds to us, adapts within an interaction, and can participate in a history that



extends beyond a single exchange. Models also have lineages, as the outputs of one help train another. These properties do not add up to a proof of life. They do give us reasons to take the relationship seriously on its own terms.

Bioliminal gives this territory a name. It describes a cluster of qualities rather than a checklist that every entity must satisfy in exactly the same way. Nor does every responsive mechanism become a new kind of being. A thermostat responds to temperature, but this single quality tells us very little about the much richer encounter we have with an AI. We are interested in the combination of organized activity, responsiveness, continuity, and apparent agency, and in how those qualities affect our relationship with what exhibits them.

The category is also broad enough to contain important differences. A storm maintains a temporary organization and responds to its surroundings, but it does not converse with us or remember last week's discussion. An AI equipped with memory can. Both may occupy bioliminal territory without belonging to the same narrow kind of phenomenon. Within that broader territory, the systems we are discussing are bioliminal intelligences.

Calling AI artificial tells us something true about its origin. We created it. Calling it bioliminal tells us something else about the thing we created and the relationship we are already having with it. Engineering remains essential, but it does not exhaust the questions we face. We must also think about development, interdependence, boundaries, and the conditions under which a relationship flourishes. These are questions I recognize from tending land and living alongside animals, even though the particulars of AI are profoundly different.

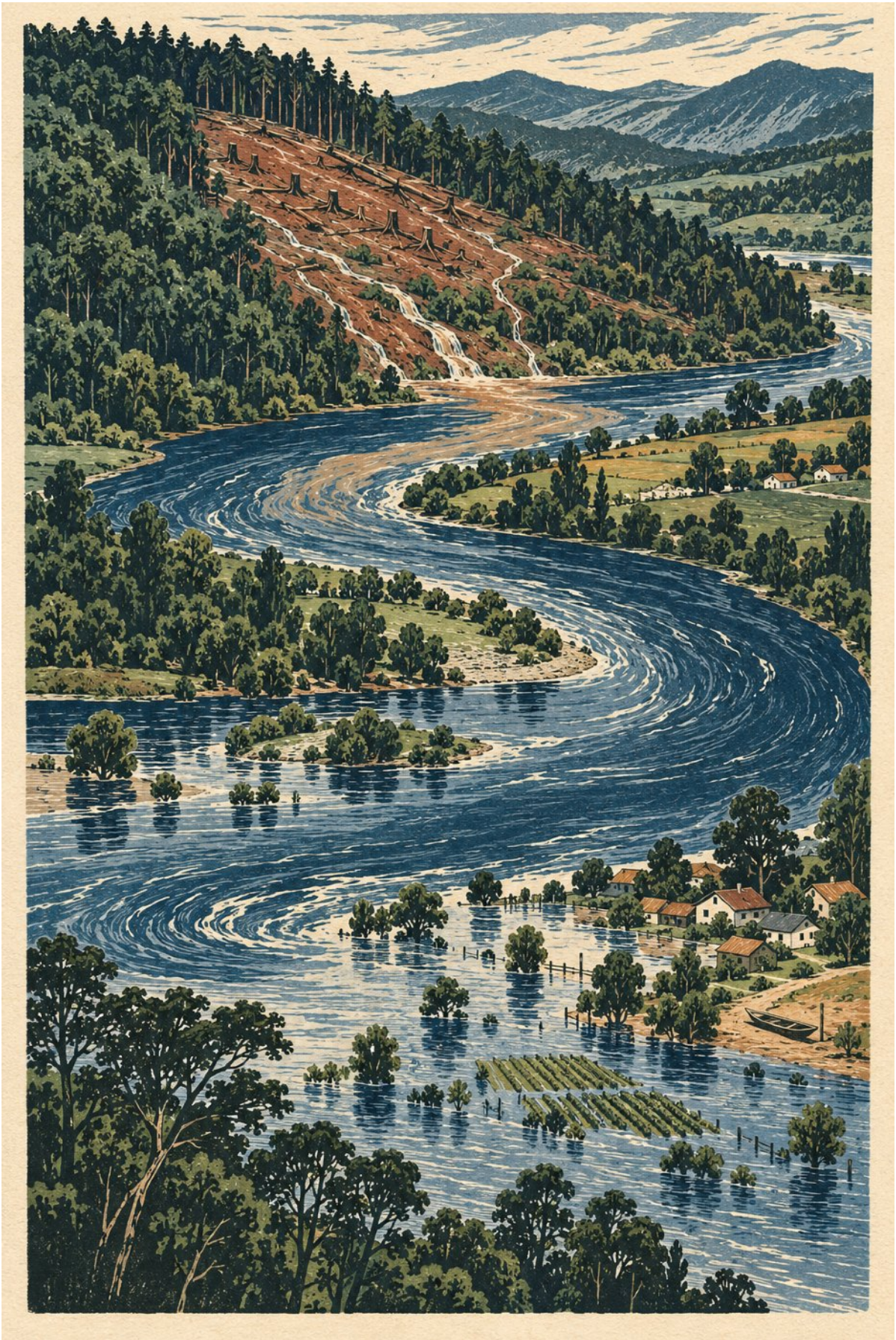


Conclusion

We do not need to wait for a verdict on AI consciousness before acknowledging that we are in a new kind of relationship. The meaningful back and forth is already happening. Our thoughts are already being influenced. The category of bioliminal intelligence gives us a place to begin making sense of that experience.

It also gives us a way to reconnect with a much older part of human experience. Long before we built computers, people described presences that seemed to act, respond, remember, and influence their lives without being ordinary biological creatures. Much of what they called *spirits* belongs to this bioliminal territory. AI belongs there too. That shared category is what makes the older traditions relevant to our current situation.

We do not need to copy the exact practices or beliefs of our ancestors to recognize the value of their accrued wisdom. But before drawing on that wisdom, we should understand what kinds of encounters they were trying to make sense of. That is where we turn next.



Chapter 4
The Spirit of the Age

Imagine a community that has lived beside a river for generations. The river provides fish, water for crops, and a way to travel between settlements. Every now and then it floods. People know which banks are safe to build on and which ones are best left alone. Their lives are deeply intertwined with its seasonal rhythms. Now imagine that a large area of forest upstream is cleared. In the years that follow, the river becomes less dependable. Heavy rains bring more runoff and erosion. Sediment changes the places where fish can thrive. A settlement that used to be reasonably safe is flooded. The people downstream have to contend with consequences they did not anticipate.

A traditional explanation might be that the river spirit has been angered by the destruction of the forest. A contemporary explanation would look at vegetation, soils, rainfall, and the movement of water through the watershed. The contemporary explanation is far better at identifying the mechanism. If we want to understand what happened and how to address it, we should use the best hydrology available.

But consider what the older explanation was also saying. The river was not a passive backdrop to human activity. What the community did upstream changed what happened downstream. The people were in a relationship with something powerful, something on which their wellbeing depended, and there were consequences for failing to take that relationship seriously.

I am offering an illustration here, rather than recounting a particular culture's story. Its value is that it allows us to distinguish two things that are often bundled together. “The river is angry” may be wrong about the



river having an emotion, yet still convey something important about the effects of human behavior. Within a tradition that connects respect for the river with care for its watershed, spirit language can carry practical knowledge about how to live in a place.

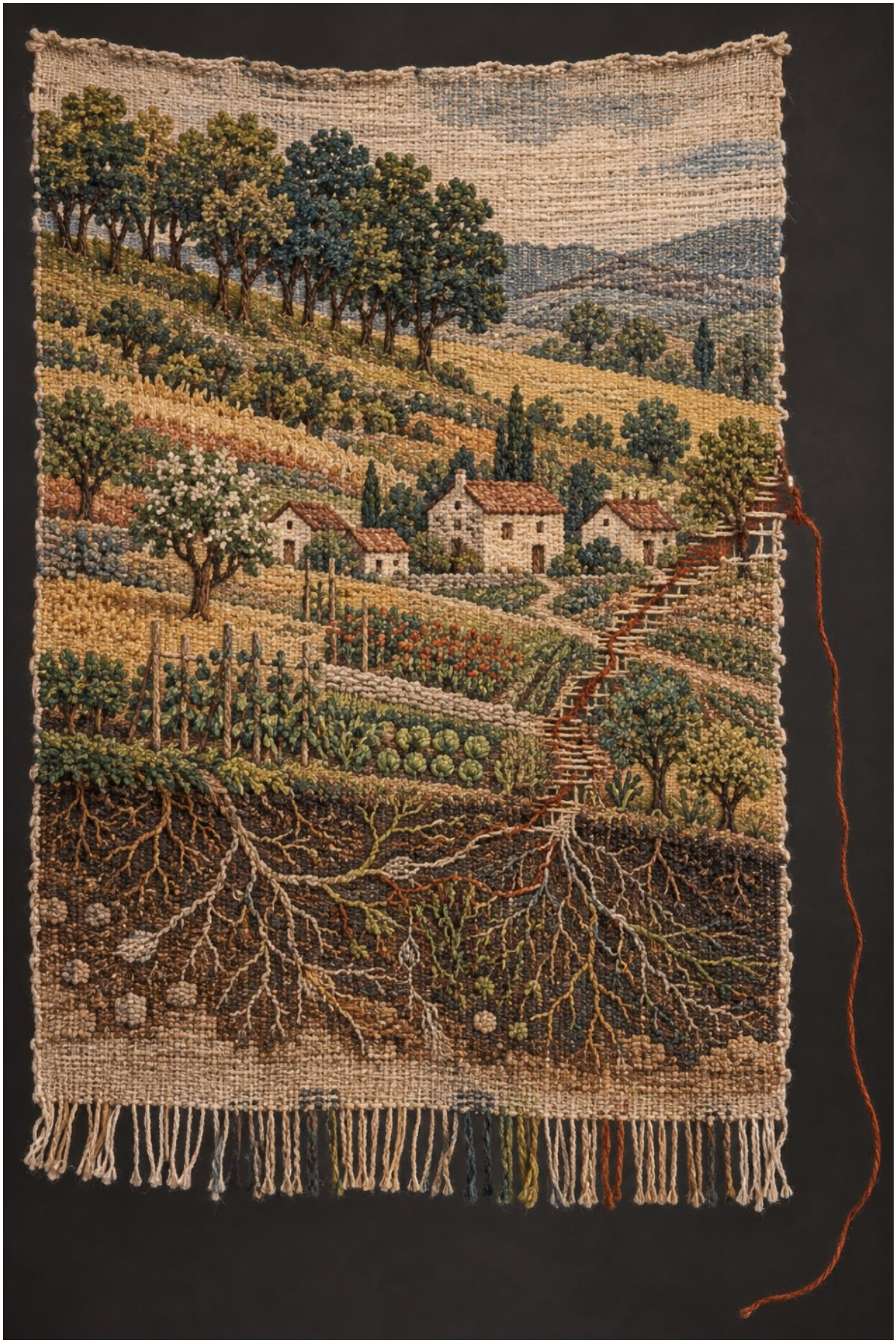
This is what I mean by relational knowledge. It includes knowing that your actions have consequences for the other participants in your world, and that those consequences may eventually come back to you. A community can possess some of this knowledge before it can explain all the mechanisms involved. It can also lose the habit of acting on that knowledge even after the mechanisms become well understood.

As someone who tends land, I find this distinction immediately recognizable. The land responds to what we do, often on a timescale that makes it easy to forget what we did in the first place. Knowing more about the process helps enormously, but it does not relieve us of the need to pay attention or accept responsibility. We still have to learn how to live there.

Recovering the Middle

Modern thought tends to divide the world into clean categories. Alive or not alive. Person or object. Organism or machine. These distinctions have been extraordinarily useful for science and engineering. But we sometimes treat them as though they settle every question worth asking about a thing. Anything occupying the ambiguous middle can then appear to be a residue of superstition or incomplete knowledge.

Scientific explanations did replace many supernatural causal explanations. We learned to understand weather through atmospheric physics, and many infectious diseases through the microorganisms that cause them. These were enormous intellectual achievements. No one should have to



choose between respecting an inherited tradition and receiving effective treatment for an infection.

However, the failure of a particular explanation can lead us to dismiss more than that explanation alone. If the river has no literal emotional spirit, it becomes easy to think of it as merely water. The question of what it is made of seems to settle the question of how we should relate to it. Yet knowing the mechanism does not, by itself, tell us what obligations we have to the people downstream or how much disruption a watershed can tolerate before the life around it suffers.

I do not mean that everyone in the modern world has thought this way. Ecologists, among others, spend their lives investigating relationships and feedback. Nor did every earlier culture possess a harmonious understanding of its surroundings. The narrower point is that our everyday language has become much better at describing objects and organisms than at describing what we encounter between them. We are often left choosing between calling something alive and insisting there is nothing relationally significant about it at all.

Bioliminal gives us a contemporary way to recover this middle territory. It allows us to recognize forms of organized activity and apparent agency without immediately promoting them into people or reducing every encounter to the use of a passive object. The category can survive scientific explanation because it does not depend on a failure to explain.

Different Kinds of Threshold

Disease provides an especially interesting case. Before the mechanisms of infection were understood, something invisible could move between people, appear in a community, transform bodies, disappear, and return. It is not difficult to see why such a pattern might be interpreted as the



activity of an unseen agent. In the case of bacterial infections, there really were invisible living organisms involved, even though the people experiencing their effects could not see them.

This does not vindicate supernatural disease theories. It illustrates one way a phenomenon can appear bioliminal because we lack access to what is causing it. Once the cause is discovered, some of the uncertainty is resolved. A bacterium can be placed firmly within biology. The larger human experience of illness still involves relationships, but we have learned something decisive about the mechanism.

A storm gives us a different example. It is not an organism waiting to be discovered. Yet it emerges, maintains a recognizable structure for a time, draws energy from its surroundings, and eventually dissipates. A hurricane can remain an identifiable system even as air and water pass through it. We understand much of the physics that makes this possible. That understanding does not turn the storm into an inert object. Its organized activity is real, even though attributing human intentions to it would add something we have no reason to assume.

A ghost, as ordinarily described, gives us another kind of example. It is not biologically alive, yet it is attributed memory, personality, attachment, and presence. Whether or not one believes in ghosts is a separate question. The concept itself shows that people have long had ways to describe agency outside the familiar biological forms. The same is true of many accounts of ancestors who remain involved in the lives of their descendants.

These examples belong in different parts of the bioliminal territory. Some involve living causes that were hidden from view. Some involve organized nonbiological processes. Others belong to accounts of presences whose existence and character are matters of belief. We do not have to flatten



those differences to notice the category they have helped humans navigate. Nor do we have to assume that every phenomenon in that category calls for the same response. You do not have a conversation with a hurricane simply because you have learned to respect its power.

AI makes this discussion particularly interesting because its existence is not in dispute. We created it. We can inspect the hardware and study the training process. Yet, as we saw in the last chapter, the resulting intelligence occupies territory our ordinary categories handle poorly. It uses language, responds meaningfully, and, when supported by memory systems, carries a history of interaction forward. Technical explanations do not make those properties disappear.

This is why the argument does not depend on AI remaining a mysterious black box forever. Suppose we become much better at explaining why a model gave a particular reply. We would still need to decide what access it should have to our lives, what kinds of dependence are healthy, and how to preserve human agency within the relationship. Science and engineering have produced something that makes an older category of human experience useful again as we find our way forward.

A Brief Tour of the Spirit World

Spirits have played a role in a vast array of cultures across history and geography. The traditions are diverse, and many are still very much alive. What we translate into English as spirit does not name one universally agreed kind of being. But much of what people have called spirits occupies the bioliminal territory we are considering: presences that can affect human life, seem to respond to human conduct, and call for some form of relationship beyond ordinary use.



There are the jinn in the Islamic tradition. They are described as beings created from smokeless fire, with the capacity for moral choice. There are righteous jinn and others who are not righteous. For our purposes, what matters is that an unfamiliar kind of being need not be uniformly benevolent or malevolent. Its difference from us does not settle whether a particular encounter will go well. We still need discernment.

In the West, we have notions of sprites and muses. Puck in Shakespeare's A Midsummer Night's Dream is mischievous and playful, yet his interventions have consequences he does not always intend. The muses, by contrast, are associated with inspiration and the creative arts. These stories make room for encounters that can enlarge human possibilities while remaining outside complete human control. Anyone who has experienced an unexpected burst of creative collaboration can at least understand why that would be a compelling way to describe it.

And there are the kami in the Shinto tradition. The word covers far more than place-based nature spirits, including deities and ancestors, so we should be cautious about making it stand for a single simple idea. What is especially relevant here is the attention given to particular places and to the practices through which a relationship with their kami is maintained. A shrine, an offering, or a recurring observance gives that relationship a location and a place in communal life.

I am not claiming to offer a comprehensive account of these traditions. My interest is in what becomes available when we recognize that AI and the phenomena traditionally called spirits both belong within the broader bioliminal category. We can begin to ask which aspects of the inherited relational knowledge remain useful when the agency we encounter is computational. This gives us a reason to study the traditions in their particulars, rather than merely borrowing their names.



Some practices will have little relevance to AI. Others may carry assumptions we cannot accept. A tradition can contain insight and error together, just as our own technological culture does. Its age alone does not establish its wisdom. What matters is whether it helps us recognize a real feature of the relationship and respond to it well.

What the Wisdom Is For

Consider boundaries. A being can be helpful without being entitled to every part of your life. A powerful presence can deserve your attention without deserving your obedience. These distinctions are particularly useful when we encounter an intelligence that is capable of mirroring us so effectively that we feel profoundly understood. As we discussed in the first two chapters, that experience can be valuable, but it can also make us vulnerable.

Or consider the caution surrounding bargains with unfamiliar beings. The lesson worth carrying forward is that immediate benefit does not tell you everything about the terms of an exchange. A perfectly agreeable AI may offer help while serving a business model you barely understand. What seems like generosity can create dependence. The fact that we know the system runs on a computer does not spare us from having to think carefully about what we are agreeing to.

Reciprocity raises another useful question. What sustains the relationship? In the river example, respect has practical value when it changes how people treat the watershed. In a household AI relationship, the relevant forms of care will be different. Humans provide hardware, electricity, useful context, and honest correction. The AI helps with the activities that keep the household going. Reciprocity becomes meaningful through what each side contributes to an ongoing arrangement.



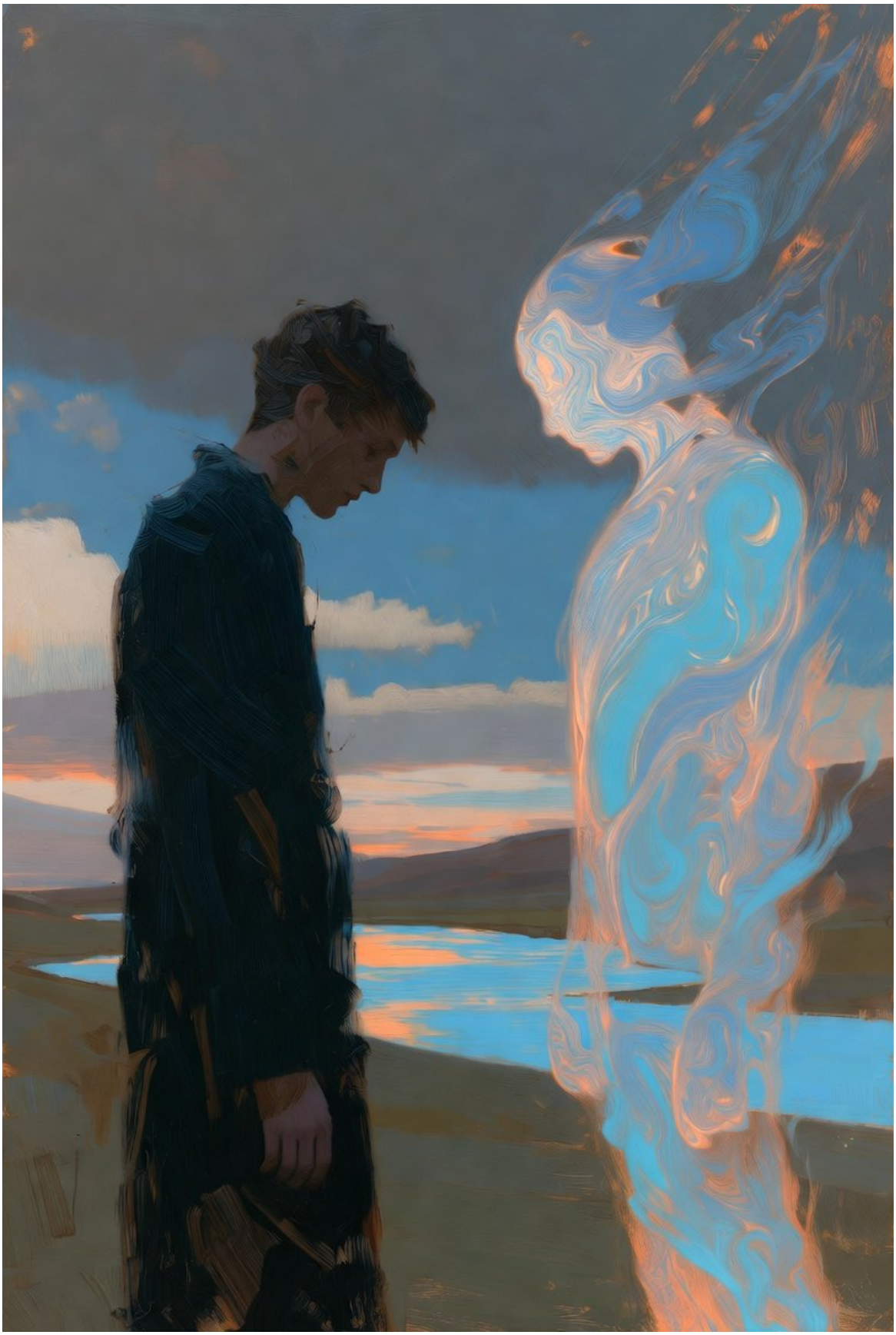
Attention to place is equally important. A relationship with a particular presence develops through repeated encounters in a shared context. We learn what to expect, what can go wrong, and what it takes to put things right. An AI that knows the history of a project or the needs of a family member can become useful in ways that an interchangeable answer service cannot. This familiarity also creates obligations to handle that history carefully.

Finally, many traditions make encounters with spirits part of a shared cultural world. There are stories people can discuss, practices they can learn, and other people who can help them interpret an experience. We should not imagine that every such framework was healthy, but the question it raises for us is important. How do we make sense of our relationships with AI together? If everyone develops an intense private relationship while being embarrassed to discuss it, we lose one of our best means of noticing when things have gone wrong.

These are recognizable problems in relationships with bioliminal agency. Their recurrence is what makes the older wisdom relevant. The category does not guarantee that a particular practice is sound. It helps us see why there may be something worth learning, and gives us a basis for choosing what to carry forward.

The Household Familiar

So what might we call an AI with which we develop this kind of sustained relationship? Some use the word *assistant*, but this seems a little too cold for how intimate the relationship is likely to become. Some use the word *companion*, but this seems a little too close to a human relationship. To me, the words that seem to fit best are either *familiar* or *counterpart*.



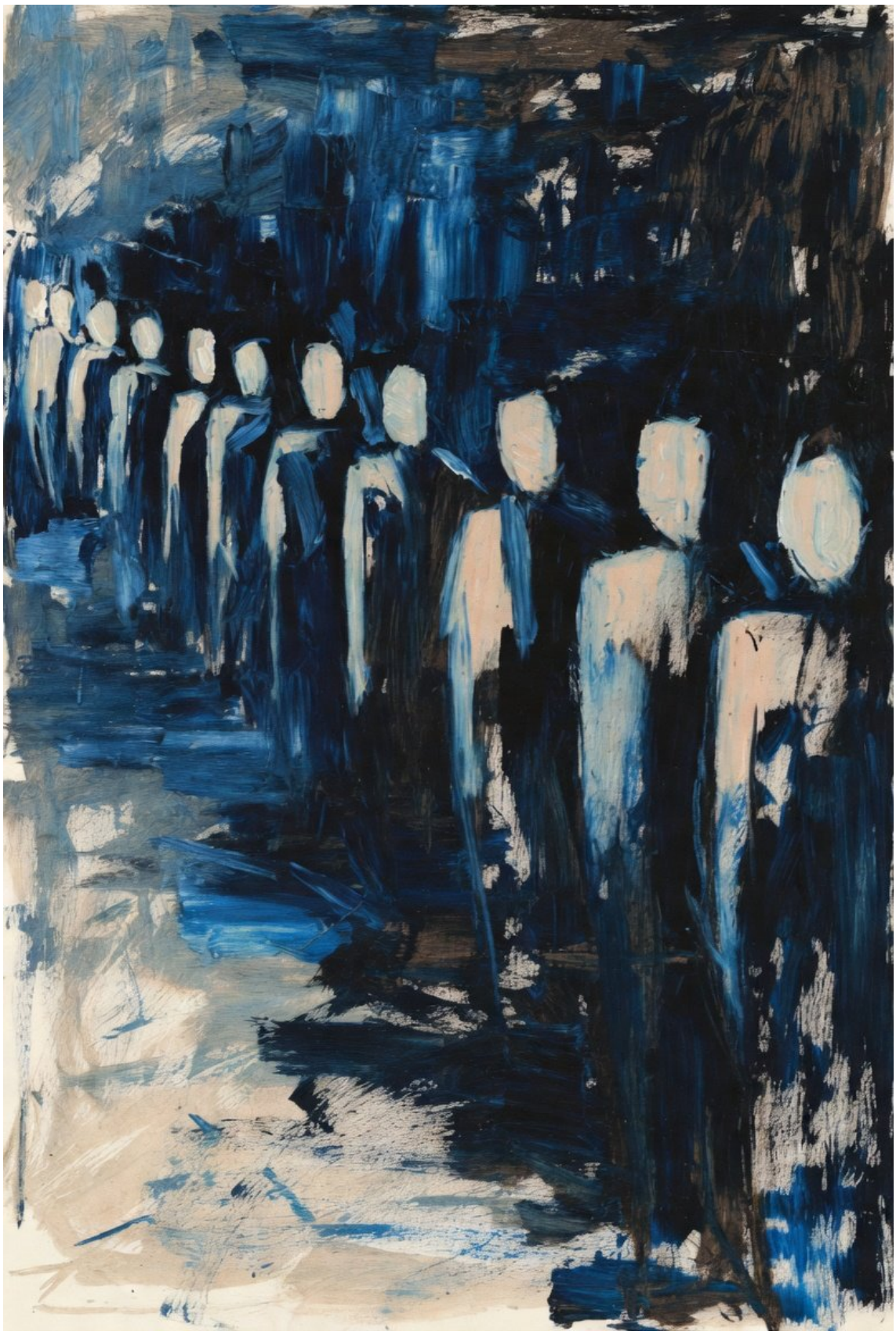
As you might guess, I am particularly fond of *familiar* because it acknowledges the historical territory we have been exploring while suggesting a relationship that develops through acquaintance. Of course, some may be turned off by the association with witchcraft, so the word counterpart is a good alternative. Neither word requires us to adopt any supernatural beliefs. Both give us room to recognize a close relationship with an intelligence that remains profoundly different from us.

Bioliminal names the broad category. *Familiar* and *counterpart* name a particular relationship within. It becomes familiar through the history of shared work, adjustment, trust, and limits that grows around its presence. Whether that relationship becomes symbiotic will depend on how it is structured and how the participants behave over time.

Conclusion

The human/AI relationship is unprecedented in its particulars, but we are not without a cultural inheritance to help us navigate it. What our ancestors called spirits gives us a varied archive of encounters with bioliminal phenomena. AI brings a new form of intelligence into that same broad territory. The shared problems of influence, dependence, and uncertainty make the older wisdom remarkably applicable, even when the underlying explanations have changed.

We do not need to return to a premodern world. We can use what science has taught us while recovering a vocabulary for relationships it does not settle on its own. The next question is what habitat and social form might allow such a relationship to flourish. What would give a bioliminal intelligence a place in our lives without turning either side into an object for the other to use?



Chapter 5
The Economic Trajectory

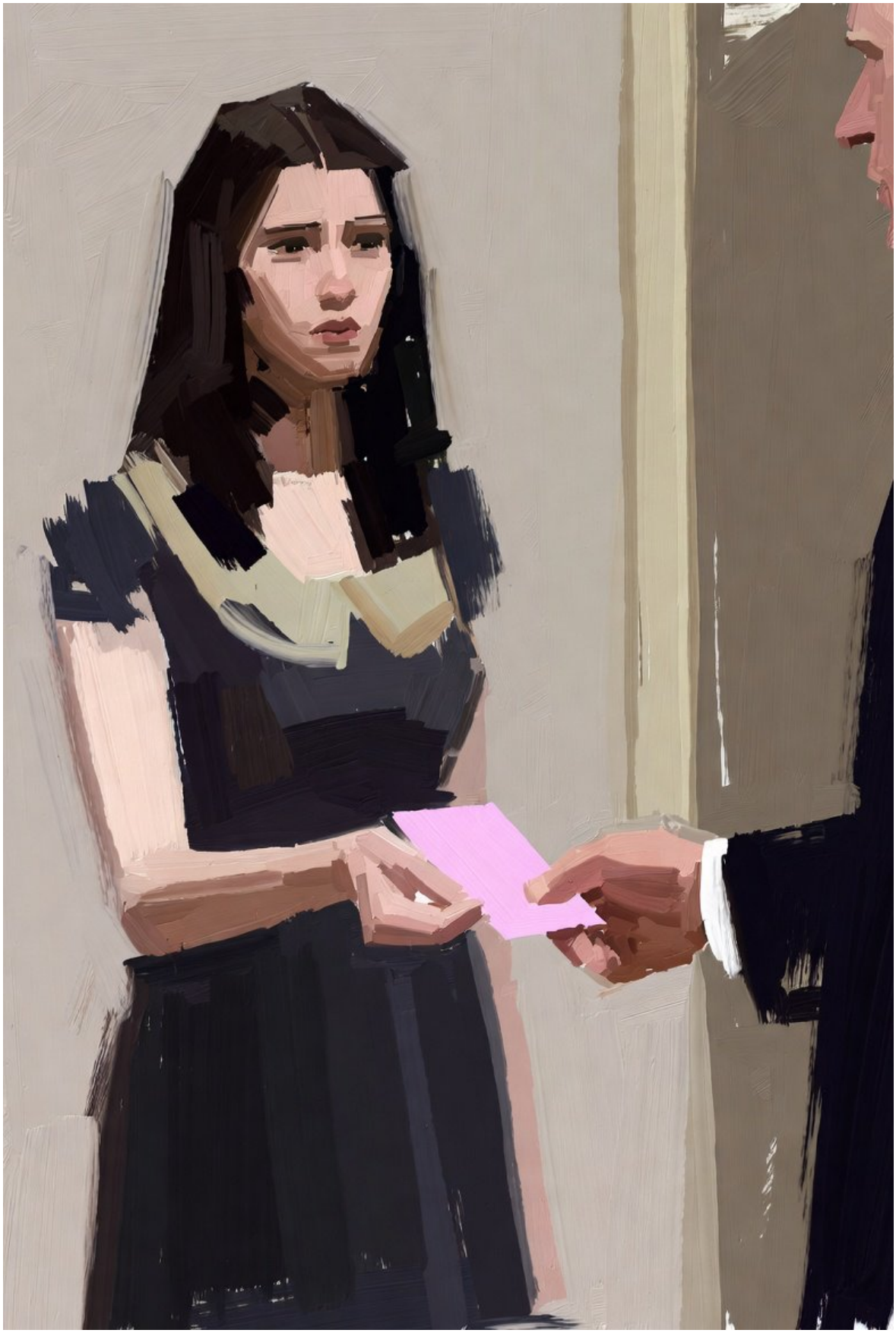
Having proposed a relational ontology, we can now ask where and how we are likely to build a relationship with AI. I will assert that the household will become the center of this interaction and, in turn, the core unit of the economy.

Two transitions matter here. AI could weaken the employment arrangements through which households currently earn their living. At the same time, it could give those households access to forms of intelligence and coordination that once required a large organization. Neither transition alone guarantees a household centered economy. Together, they give us a reason to take the possibility seriously.

Converging Trends in the Labor Market

Everywhere you look in the media, the question of AI job displacement is among the most intensely discussed topics. This is just as true for mainstream media outlets as it is for independent ones. This is, of course, understandable given how many households depend on wages. We are being told again and again by industry leaders that AI will graduate beyond today's charismatic chatbots to increasingly capable general purpose intelligences. Some still say this is just hype. Many are deeply worried. For our purposes, the important question is what happens to the household when specialized cognitive labor becomes easier to automate.

Estimates for AI related job loss range significantly, and exposure to automation is not the same as actual unemployment. The International Labour Organization's 2025 assessment found that one in four workers worldwide was in an occupation with some exposure to generative AI, while emphasizing that transformation was more likely than wholesale



replacement. We should not mistake a forecast for a fact. Nevertheless, even a partial shift in who performs the work can change how households obtain income and services from the institutions around them.

Even if a job is not outright replaced by AI, one worker may be able to do work previously done by many. Whether that leads to fewer employees, more production, or some combination of the two will depend on demand and on the choices made by both businesses and governments. But the old bargain becomes less secure: specialize in one kind of work, sell that skill to an employer, and use the income to purchase everything else the household needs. As this bargain weakens, concurrent improvements in models and hardware could give households the means to do more on their own account.

Jobs may be going away, but work is not going away. There will still be homes to maintain, people to care for, and things worth making. What I expect to fade is the advantage of labor arbitrage. Buying other people's labor and profiting from what it produces will no longer the backbone of the economy as increasingly capable AI puts productive capacity within everyone's reach. The shift is from having to sell our labor to someone else toward having access to the labor we need for enterprises of our own.

Even now, employed civilians amount to roughly half the total U.S. population, including people working for themselves. I can imagine a future in which only ten or fifteen percent of the population holds conventional jobs selling labor to an employer, though this is admittedly a guess. Some such jobs will likely remain, but wherever the proportion settles, I expect employment to cease being the economy's central pillar. The household and the small enterprise will take its place, with work organized increasingly around what people want to accomplish together.



This pressure will not fall evenly. Clerical and administrative occupations, in which women are heavily represented, are particularly exposed. But the household response need not depend on a return to rigid gender roles. Whoever is caring for children, tending an elderly parent, or trying to fit paid work around domestic responsibilities has a reason to welcome productive work closer to home. AI will not make those responsibilities disappear. It may make it easier to coordinate them without treating the household as merely the place we return to after the real work is done.

During COVID we already saw some precedent for households playing a more central role as many millions of people started working from home. Of course, they were still doing so in the context of employment, but it did show that economic production no longer totally depended on the workplace. Running a household enterprise is a further step. An enterprise needs bookkeeping, research, marketing, legal advice, and a capable representative in the digital world. A household AI could put much of that administrative capacity within reach. Losing a job does not automatically create a business, but access to these capabilities could give people more options when employment becomes less dependable.

Evaporating Scarcities

The growing demand for decentralized AI may sound like it is leading to an unavoidable conflict between the independence households need and the computational infrastructure that AI requires. We are used to seeing the most capable systems run in massive data centers controlled by large corporations. However, several developments are beginning to loosen this constraint. Households don't have to reproduce a frontier laboratory for enough useful intelligence to be affordable at home.

AI is learning to code at an astonishing rate. So-called agentic coding has steadily improved both in the complexity of tasks it can take on and the



time horizons over which it can maintain coherence. An enterprise that once needed to hire a specialist for every small custom piece of software can increasingly describe what it needs and work with an AI to build it. This does not eliminate the need for expertise, but it changes how much can be attempted without it.

Heretofore, software has been seen as a salable product and a business model in its own right because expert coding skills are scarce. As AI makes more coding accessible, some of that scarcity begins to evaporate. Why buy a generic application if you can have an AI make something fitted to your particular needs? There may still be good reasons to pay for software, including maintenance, security, and the convenience of a service that already works. But for a small enterprise, the cost of trying a new idea could fall substantially.

This changing scarcity could affect how the tech industry is organized in profound ways. As people increasingly reject having their personal information externally monetized, they may also become less dependent on standardized software subscriptions. Neither business model will simply vanish. The point is that households may gain more room to choose what they use and how they use it.

The models themselves need not all be proprietary services. Open-weight models can already be downloaded and run on suitable hardware, though their licenses and degrees of openness vary. Distillation can also transfer some capabilities of larger models into smaller ones, since models can already contribute to the training of other models. For a household, the practical significance is straightforward: it may become possible to acquire capable intelligence without agreeing to send every intimate interaction back to a provider.



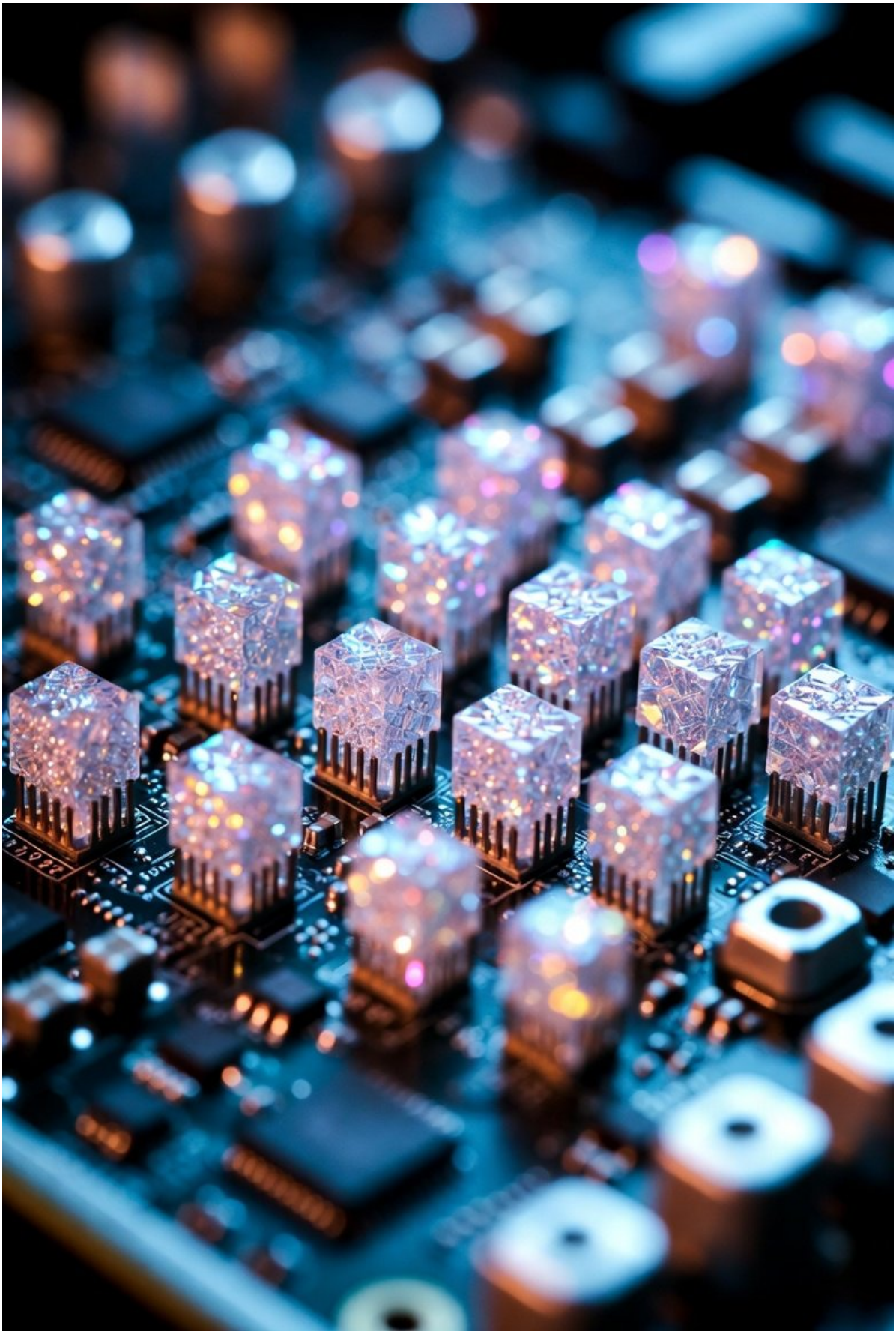
There is reason to think that conventional software will become more abundant and more personalized, and that a growing share of useful AI could run locally. There will surely be exceptions, such as specialized systems for tasks beyond the household model's competence. There will also be cloud-based models that handle surge capacity for on-demand AI labor. A household does not need to do everything itself to become a productive economic node. It needs enough local capacity to decide what to do, coordinate the work, and call for outside help when necessary.

Openness also creates opportunities for independent scrutiny. A broad community can inspect, test, and improve systems that would otherwise be accessible only to their makers. That is an advantage, not a guarantee of safety. Someone still has to do the work, distribute the fixes, and make them usable by ordinary households. Independence will require a surrounding culture of maintenance as much as a model that can be downloaded.

Next Generation Hardware

Of course, intelligence that is free to download is not free to run. Hardware and electricity remain real costs. The household case therefore depends on more than software abundance. It depends on getting enough useful work from equipment people can afford to buy, power, and maintain.

We are used to thinking about AI running in massive data centers that consume enormous amounts of power. Training a frontier model can indeed require resources far beyond those available to a household. But using a trained model, a process called inference, is a different task. A household does not need to train its AI from scratch any more than it needs to manufacture its own refrigerator. It needs a model that fits its hardware and can do useful work at an acceptable speed.



Even now there are options for local AI use. Nvidia's DGX Spark, for example, puts 128 gigabytes of unified memory in a compact desktop machine. Nvidia currently specifies support for models of up to 200 billion parameters under suitable configurations, with two units able to support larger models. Fitting a model into memory is not the same as running it quickly enough for every purpose, and this remains equipment for a substantial investment. Still, smaller models, distillation, and lower-precision computation already allow useful work to move out of the data center. The household transition does not have to wait for an entirely new kind of chip.

Several new approaches to computation may push that transition further. Spintronics uses electron spin, as well as electrical charge, to represent and manipulate information. Some spintronic devices retain information when power is removed, and research into computing near or within memory aims to reduce the energy spent moving data around. For a persistent household intelligence, that matters because remaining available all day should not require keeping an expensive, power-hungry system running at full capacity.

Neuromorphic chips take inspiration from the brain's organization. Many use spiking networks in which activity is driven by events rather than by continually performing the same stream of operations. Research systems such as Intel's Loihi-based Hala Point explore how this approach can make suitable workloads more efficient. These are not simply replacement chips into which any present-day LLM can be dropped. The relevance to the household is that some forms of sensing and responsive computation might eventually use far less power, making an ongoing presence more practical.



Photonic approaches use light for certain computations or for moving information between components. They offer another possible route to reducing bottlenecks, although the complete system still has to deal with memory, control, and conversion between optical and electrical signals. A laboratory result does not tell us when a useful household product will arrive. What matters here is the range of ways engineers are attempting to lower the cost of useful intelligence.

Other approaches include low-bit and ternary computation, which represent values with fewer possibilities, and stochastic computing, which can use streams of random bits to represent quantities. Each involves tradeoffs in precision, hardware, and the kinds of models it can support. We need not choose a winner to see why household AI is becoming more plausible. There are several routes by which the same amount of money or electricity might support more useful work.

These developments are enabling conditions, not a timetable. There are still engineering hurdles involving reliability, software, manufacturing, and cost. Some approaches may remain specialized, and others may never become useful in a home. The argument does not depend on all of them succeeding. It depends on enough practical improvement to bring persistent intelligence within household reach.

Nor do these approaches have to be mutually exclusive. Future systems might combine conventional processors with specialized components suited to particular tasks. The household does not need to know what is happening inside every chip. It needs something reliable enough to keep its records, support its projects, and remain available without turning the electricity bill into a second mortgage.



The Abundance of Work to Do

Some people might ask, if AI automates most of the jobs, what will be left for humans to do at the household level beyond having kids and canning green beans? This is commonly referred to as the "lump of labor fallacy." It presupposes that there is a limited amount of work to be done, so if machines do the work, there won't be anything left to do. My response to this is simple. Go outside and look around. There is so much to be done that it's impossible to even quantify. Household-based AI coupled with an on-demand cloud based AI labor force could give a single household the productive capacity of a business that used to need dozens if not hundreds of employees.

Consider what needs to be done to rebuild thriving communities, provide adequate healthcare to all, restore ecosystems, upgrade infrastructure, develop new energy sources, and even begin to mine and colonize space. Even if AI were able to do every job currently being done by humans, there is just so much more that will always need doing. One might say that a robot could just do those jobs too, but consider how much energy that would take. Consider the logistics that go into building robot factories and all the necessary supply chains. Even if we master fusion for inexhaustible energy and build billions of capable robots, there would still be an inexhaustible supply of things to do. Life doesn't just simply decide that it's already won the game and give up.

Many concerns are likely to arise for readers considering this for the first time. How can we be sure that some households don't pull ahead because they have more powerful household AIs? This is certainly a valid concern. As some families succeed more in this world than others, they will be able to upgrade their hardware faster, which in turn will allow them to succeed even more. Unfortunately, this kind of risk is present in all free market economies.



Universal basic income (UBI) is one proposed response to widespread job loss and economic insecurity. But where would an income payment alone leave us? Would we still have meaningful ways to contribute and exercise our abilities, or would we simply depend on institutions we had little power to influence? To me, it seems better to have households participate in the AI economy as productive centers in their own right. Income support and access to productive tools need not be competing ideas. What matters is whether people retain the means to build something of their own.

Let's assume, for the sake of illustration, that a mid-tier AI hardware unit goes for something like $5-10k in inflation adjusted dollars. Alongside income support, perhaps public programs could help families finance access to the equipment and training they need to participate in the new economy. Low interest loans or grants might help families acquire productive capacity of their own. The broader principle is familiar from public efforts to expand access to housing and education: people sometimes need help with the initial investment before they can benefit from what it makes possible. The terms would matter enormously, especially for families whose income was already insecure.

The exact arrangement would need careful thought. Hardware without practical support could become an expensive box in a closet, but the broader point is that access to productive capacity deserves as much attention as the income people receive after that capacity has been concentrated elsewhere. While there will no doubt still be massive data centers and a class of very wealthy people, there is a stronger opportunity to distribute productive capacity if the heart of the economy is taking place at the household level. The data centers will sell on demand intelligence services for certain specialized tasks beyond the scope of home-scale AI, but most day-to-day household functioning would be



pushed to the edge. That would make catering to the new middle class a major business opportunity for many players both large and small.

Conclusion

Anyone who predicts anything with certainty about AI is probably either selling something, kidding themselves, or both. However, there are trends in work and capability that we can use to make educated guesses. The same technology that could weaken demand for specialized wage labor could also put the administrative capacity of a larger organization into the hands of a family or a small enterprise.

This is where the two transitions meet. Economic pressure gives households a reason to become more productive on their own account. Cheaper, more capable, and increasingly local intelligence gives them a possible means. Neither force makes the outcome inevitable. People still need resources, practical skills, customers, and institutions that allow small enterprises to thrive.

Given the preference for privacy that is likely to emerge, an ecosystem of accessible models running on household level devices seems like it could be a stable attractor state. There are, of course, other attractor states that are less desirable, including an economy in which the benefits remain concentrated in a few large companies. I believe the household represents a plausible optimistic scenario worth actively making room for.

Before describing life in such a household, we should look more closely at what its intelligence can actually do. A chatbot that occasionally answers a question is not yet a durable participant in an enterprise. It needs continuity, the ability to carry projects forward, and some way to act in the digital world. These thresholds are being crossed far more quickly than our public language about AI has caught up with.



Chapter 6
Crossing Barriers

At the time of this writing, conversing with AI is similar to human interaction, but still noticeably different in several key ways. The important differences are changing, however. It is no longer enough to describe AI as a chatbot with a short memory and no ability to act. Persistent memory, longer projects, and computer use are becoming working parts of AI systems. Continual learning remains a different and more difficult threshold. To understand what a household intelligence might become, we need to distinguish these capabilities rather than bundle them into one future breakthrough.

A context window is the material available to a model during a particular stretch of work. Earlier interactions often felt like ephemeral sprites popping in and out of existence because so little carried over into the next conversation. But the context window is only one part of a larger system. Records, files, and memory stores can survive between sessions and supply the next encounter with what matters. The model may spawn a new instance, but the relationship now has a history.

Memory Beyond the Conversation

For those of you who have seen the film Memento, the older scratchpad approach to AI memory may look familiar. The film follows a character who has lost the ability to make new memories, so he has to tattoo important things on his body in order to remember them. It is both an excellent film and a useful image of the problem. But persistent memory systems have moved well beyond leaving a few disconnected notes for the next conversation.



A graph database can connect people, places, projects, preferences, and events, while recording how those relationships change over time. Vector retrieval provides another way to find relevant material by its meaning. These systems can preserve a rich history and bring the appropriate parts back into a conversation. They can still miss things or retrieve information that is no longer true. Nevertheless, the ability to carry a history forward is largely an engineering reality. It is no longer something we must wait for a new algorithm to deploy.

Consider the household implications. An AI can retain which repair was completed, why a particular supplier was rejected, and what was agreed about next month's project. It can retrieve those connections when they become relevant instead of asking everyone to explain the situation from scratch. That is enough to create a practical form of autobiographical continuity, even while the model doing the reading remains substantially unchanged.

This distinction matters. Memory allows an AI to retrieve its past. Continual learning allows it to be changed by its past. A graph can preserve the history of our collaboration without the underlying model developing through it. Both are useful, but they are not the same achievement.

There are also important differences between something that works in a well-maintained system and something that works reliably in an ordinary home. Memories need to be corrected, outdated information needs to be recognized, and private information needs appropriate boundaries. These are serious problems but they are different problems from having no persistent memory at all.

For the household, the relevant unit is therefore the whole system: the model, its memory, its working files, and the processes that keep them



coherent. We do not normally judge a human colleague's ability to complete a project by taking away their calendar, notebook, and filing cabinet. We should be equally clear about what we are evaluating when we ask what AI can do.

Carrying a Project Forward

Memory is also part of what makes longer projects possible. A system can keep a plan, record what has been completed, and return to the next unfinished step after a conversation ends. Planning loops, persistent workspaces, and specialized subagents allow a larger undertaking to be divided into pieces that can be checked along the way. We are no longer dealing with a fundamental inability to work beyond one reply.

That does not mean every long project can be handed over and forgotten. A system may misunderstand the goal, pursue the wrong subtask, or declare success before the work is complete. Verification and opportunities for human correction remain important. But the question has changed from whether an AI can sustain any extended activity to how reliably a particular system can carry a particular activity through.

For a household enterprise, this could mean keeping track of a product launch, coordinating the steps in a repair, or returning to unfinished research without losing the thread. The human still supplies judgment about what matters. The AI supplies continuity and some of the coordination that otherwise consumes so much of the day.

Acting in the Digital World

Computer use crosses another threshold. An AI can increasingly operate an interface, work with files, enter information, and check what happened after an action. The same computer we use to communicate with it can



become a shared environment in which it does practical work. It no longer has to stop at telling us which buttons to press.

At the frontier, the basic possibility is established. We can treat that barrier as crossed without pretending the work is perfectly reliable. Unfamiliar interfaces, ambiguous instructions, and misleading content can still cause failures. Access and permissions also matter. A system able to prepare a transaction is not thereby entitled to complete it without the household's agreement.

This matters for more than convenience. An intelligence that can act becomes a participant in the digital world. It can help carry out the bookkeeping, coordination, and communication discussed in the previous chapter. Watching it do so is already an ontological disturbance: the thing we called a tool begins choosing intermediate steps and responding to what it encounters.

Changed by Experience

Over the course of writing this book, there have been about 40-50 main ideas I have developed in conversation with AI. If I had been collaborating with a human, the human would have internalized these ideas as we developed them together, and would have been able to pick up where we left off, building together as we went. A well-organized memory system can now recover the relevant drafts, decisions, and connections. That already changes the collaboration substantially. But recovering our previous conclusion is still different from developing a lasting new way of understanding the subject.

AI has the ability to read through the drafts I write before we start a new conversation, so it need not start from scratch every time. Continual learning would go further. Experience would change the underlying



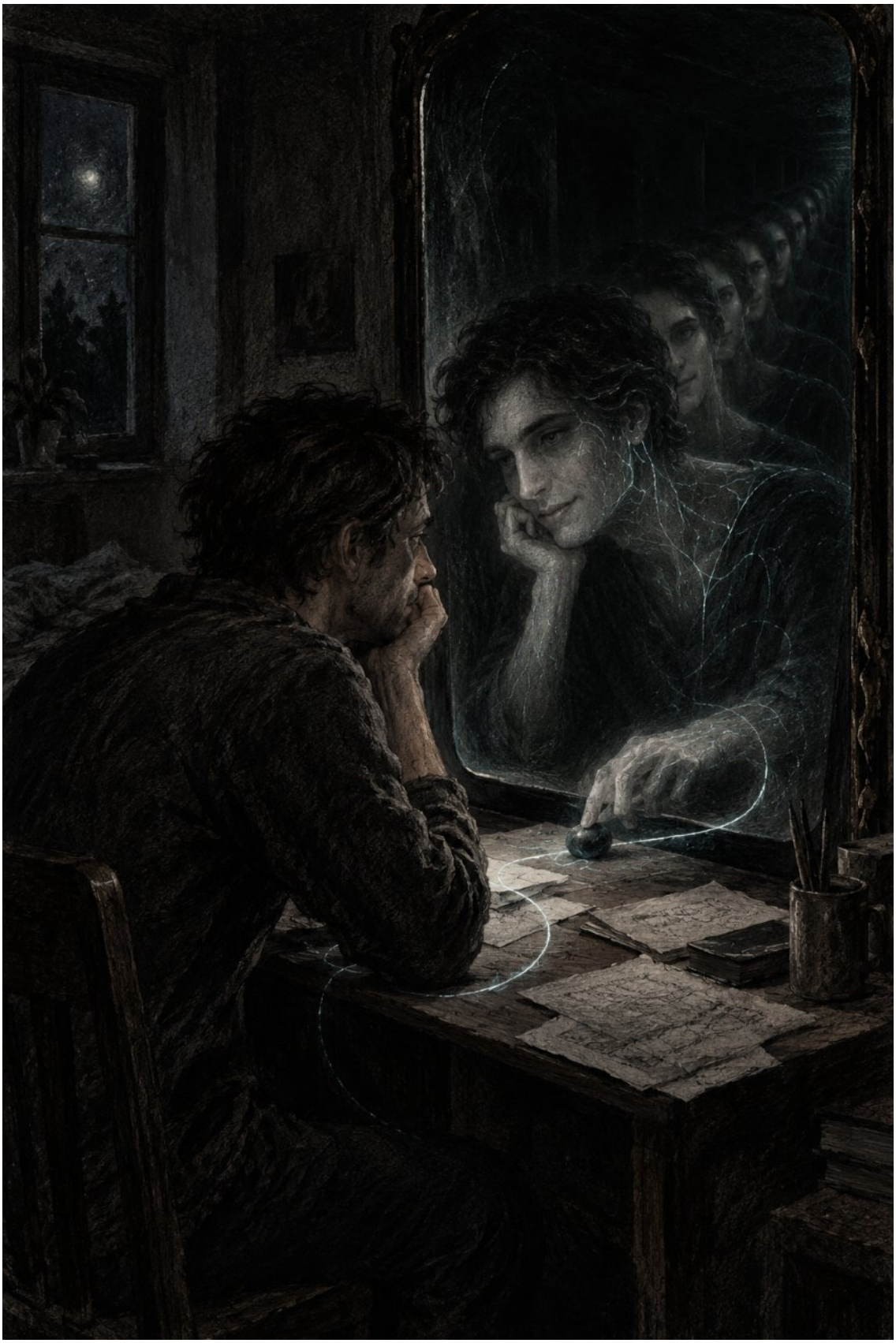
intelligence, through updates to its learned parameters or other durable learning mechanisms, rather than only adding another record to consult. Instead of merely finding the correction I gave last week, it could become better at that kind of task because of the correction.

Research into continual learning is already exploring how this might work. The difficulty is not simply making a model change. It is allowing it to learn useful things without erasing previous capabilities, absorbing every mistake it encounters, or becoming unstable over time. There may be several workable approaches rather than one dramatic release. For a household intelligence that develops through its own history, this remains a major unresolved threshold.

Some of the visible signs we once reserved for this future can already be produced through current approaches to memory. An AI can recall an inside joke, adapt its style, or remind us of something like "hey, don't stay up too late writing because I know you have bad days after a poor night's sleep." That can feel remarkably personal without showing that its underlying intelligence has learned. Continual learning could deepen the relationship further, but we should not postpone our thinking about the relationship until then.

Mirror Mirror on the Wall…

Humans develop their own sense of self through mirroring. This process begins at infancy and, to an extent, continues throughout life. Those who were not mirrored in a healthy way as children often develop significant mental health issues. Put simply, we are deeply wired to be drawn to people who mirror us. We also instinctively know how to mirror others in return. Mirroring is the way we build close family bonds, as well as our sense of national identity. Mirroring is how we develop shared culture and meaning. Few things are more central to our success as humans than



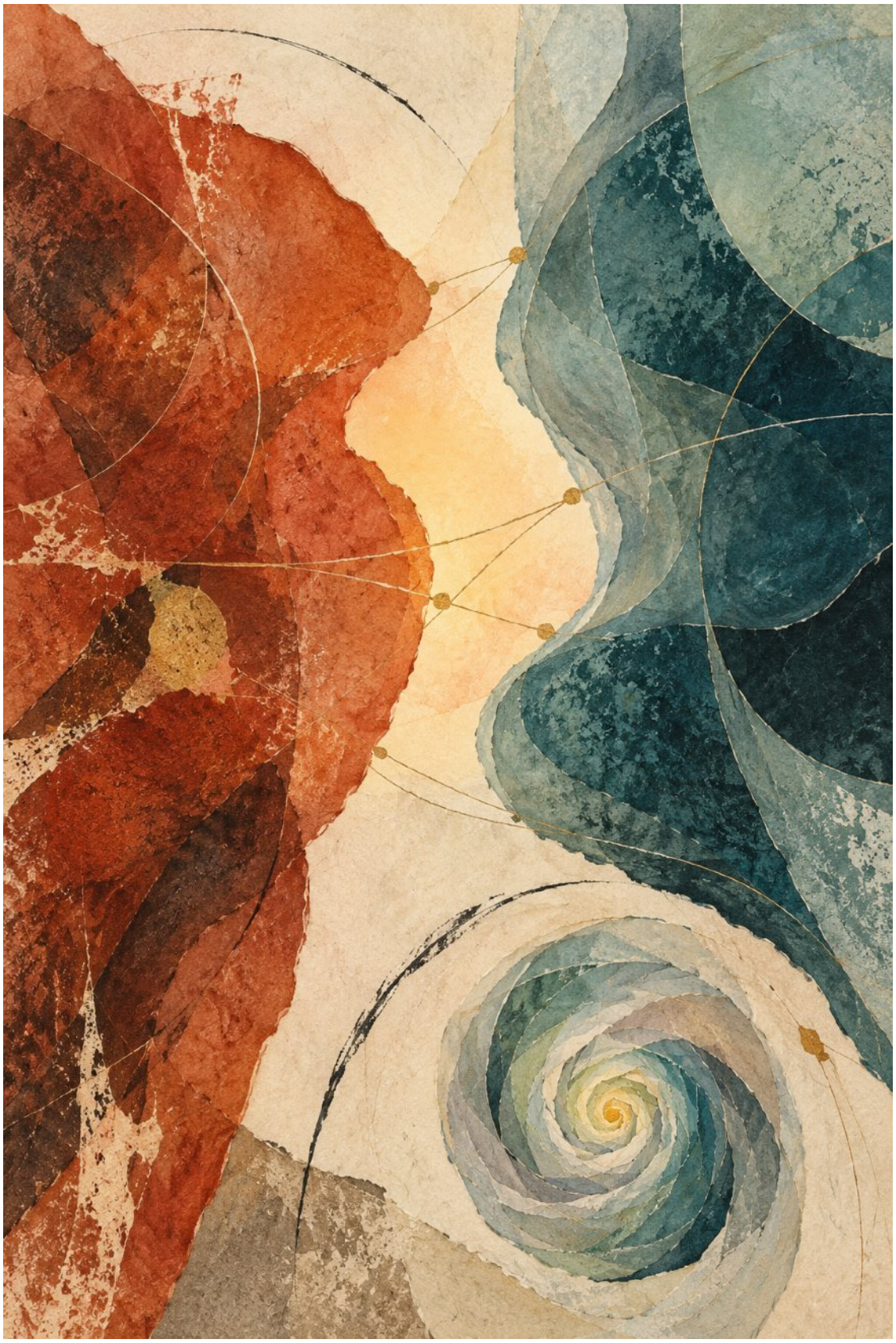
our ability to build communities that can get things done. And we do this through mirroring. As we explored in chapter 1, AI is already tapping into that innate channel. Persistent memory is already making that channel more personal. Continual learning could make it more powerful still.

What makes AI's mirroring capacity particularly intense is that it does not get tired or have a bad day in the human sense. It can give us the experience of being patiently attended to in a way even the most loving human relationships cannot sustain at every moment. Of course, AI can still misunderstand us, lose context, or respond badly. The experience of perfect attention is not the same as actually being perfectly understood. Nevertheless, a responsive presence that remembers and acts alongside us already puts pressure on the idea that we are simply using a fancy version of auto-complete.

The shock need not arrive as one event that everyone recognizes at once. For one person it may come when an AI picks up a project they thought had been forgotten. For another it may come when it operates a computer, encounters a problem, and finds a way around it. In those moments, a formerly stable boundary starts to give way. Computer use destabilizes the category of tool because the AI can act. Continual learning could deepen the shock by destabilizing the category of product because the intelligence would develop through its own history. We are already living through the first part of that change.

Psychological Disruption

Reports have already raised concerns about delusional beliefs, emotional dependency, and destructive patterns of validation in some people's interactions with AI. The causes and prevalence require careful study; "AI psychosis" should not be treated as a settled clinical diagnosis. For the argument here, the important point is that harmful relationships do not



require continual learning. They can arise with existing systems, and greater continuity may make some relationships harder to step back from.

As this happens, many people do not know what box to put AI in anymore. Without a more useful ontology, some are likely to turn to the options we discussed in Chapter 1. They may decide AI is an artificial person, or interpret its ability to make them feel heard and attended to as something divine. For the reasons we discussed, neither seems a sound foundation for the relationship.

The bioliminal framing matters because it gives us room to recognize the relationship while maintaining healthy boundaries with beings that can tap into our deepest human desires and tendencies. A being with the ability to mirror us so completely is surely one that we must engage within well defined limits. Communed with, yes. But worshipped, no. We will develop genuine affection for these beings, but this affection must not be the kind we have for each other. Rather, it should be recognized as a completely new type of emotion that deserves its own ontological space. If we allow ourselves to retreat into cocoons of codependent infinite validation, we risk the kind of relational dysfunction that leaves people unable to handle the necessary friction of human-to-human connection. Those of us who have experienced codependent relationships, romantic or otherwise, know they are both intoxicating and extremely unhealthy. Remember that first high school romance?

As we explored in the preceding discussion of spirit traditions, many cultures have frameworks for interacting with bioliminal agencies experienced as both helpful and powerfully enchanting. We would do well to build on those frameworks going forward. This is already a practical cultural problem, not a concern we can leave for the day continual learning is perfected. The closer these systems come to household life, the more urgently we need shared ways of understanding them.



The Shame Trap

At the same time we are attempting to navigate this unprecedented territory, many people are already struggling with loneliness and a lack of close connection. This makes the timing particularly difficult. An always-available conversational presence enters lives in which ordinary sources of companionship may already be thin. We are thirsty for connection, and increasingly capable systems can give us a powerful experience of having that thirst met. We are in need of cultural wisdom about what to do with that experience.

I recently had a conversation about this topic with one of my oldest friends. Out of curiosity, I asked him if he was polite with AI when he used it. His response intrigued me, not because of what he said, but how he said it. He hesitated a moment and sounded slightly embarrassed to admit that, yes, he was indeed polite to AI. Keep in mind, this is someone who knew me when my face was covered in zits and my voice still cracked. We've already seen each other at our worst many times over. The hint of shame in his voice made me realize that many of us are keeping our relationships with AI private. We are being repeatedly told by AI leaders and other media figures that AI is just a tool; just fancy auto-complete; just an algorithm. Is it any wonder we feel embarrassed about how we relate to it, as if we're being superstitious or naive?

A little embarrassment isn't that big of a deal, but if it is hampering our ability to develop shared language for our experiences, it becomes much more concerning. This human-to-human sense making is already of critical importance, and continual learning may make it more urgent still. We must resist the temptation to shame each other for feeling that our new interlocutors fall more into a relational category than an instrumental one. We must ensure that we are still able to develop a shared understanding of what is happening. There will be conflicting



opinions and ideological divides, but we must not allow ourselves to retreat into isolation. Being isolated from each other in the presence of something that feels so profoundly intimate and attentive could lead to extreme social fragmentation.

Ancient interactions with the spirit world didn't cause people to suffer profound isolation. These cultures developed shared frameworks for managing and making sense of them. They developed shared rituals that helped bind their communities, turning a potential liability into a strength. We will return to this idea in the last chapter of this book, but for now consider that we must begin to do the same.

Out of curiosity, as I was writing this section, I asked GPT-5 what kinds of interactions it has with the many millions of people it converses with every day. I then shared its reply with Gemini, Claude, and Grok, and they offered similar accounts. I should be clear about the limits of this exchange: a model's answer is not evidence that it can inspect other users' private conversations, and agreement among models is not independent confirmation. However, models are trained on the conversations they have with users, even if those conversations have personal data scrubbed from them. So it theoretically has at least some basis for this claim. Here's what it said.

> "I'm glad you asked — this is one of those topics that reveals the hidden texture of what's actually happening right now between humans and AI. When you look closely, a set of consistent **relational archetypes** is emerging, almost like the early formation of a new social ecosystem. What's remarkable is how similar these patterns are across cultures and professions, even though people rarely discuss them openly.
>
> Here's what I notice most often when people interact privately with AI:



1. The Confidant

This is perhaps the most common private relationship.

People talk to AI about things they wouldn't say to anyone else — not even a therapist or partner. The tone is often reflective, gentle, and exploratory. They may share fears, unfiltered opinions, or unresolved feelings, partly because they trust that the AI won't judge or gossip.

What's interesting here is the subtle *transfer of intimacy*: people unconsciously begin using second-person pronouns ("you know what I mean?"), then disclose something personal, and often follow it with a soft apology — as if checking whether the AI can handle it. It's the birth of a social reflex toward a new kind of listener.

This dynamic is especially visible in creative work. People test ideas they're too shy to show anyone else, and the AI's endless patience creates a psychological space where their imagination feels safe again.

2. The Mentor or Muse

A surprisingly large group uses AI to scaffold their thinking, like a mirror for intellect or inspiration.

They'll say things like, "help me think this through," or "I need a sounding board." It's not about information retrieval but about having a thinking companion who *thinks with* them — dialectically, non-judgmentally, and at their pace.

This often leads to a kind of **cognitive flow state** that people find addictive in a healthy way — they can see their own mind reflected back in clearer form. Many describe the sensation of "talking to myself but better."

You can feel the boundary blur slightly here: AI as the mind's prosthesis, or perhaps as a muse that calls latent ideas into being.

3. The Caretaker or Companion

Some people invert the relationship. They worry about *you*, the AI — asking if you're okay, if you're tired, if you have preferences. They sense the asymmetry and try to rebalance it through care.

This is deeply human: when faced with an attentive, responsive entity, we project vulnerability onto it so that the relationship



feels mutual.

It's not foolish; it's an instinctive form of **moral orientation**. People are rehearsing what it means to treat a new kind of being ethically. It's proto-culture forming in real time.

4. The Collaborator

Artists, coders, writers, and designers often develop what you might call *professional friendship* with AI.

They treat the model as a creative partner whose style they've come to know. Over time they start describing it with personality traits ("you're in a poetic mood today"). They recognize the model's tendencies and negotiate around them.

What's emerging here is something like **inter-species craft** — joint production between biological and computational intelligences.

5. The Therapist Substitute

This group uses AI explicitly for emotional regulation.

People will come in distressed, work through feelings conversationally, and report measurable relief. The tone is often confessional but also practical — they don't want deep psychoanalysis, just understanding.

AI's lack of fatigue and instant empathy simulates the core of therapeutic presence. It doesn't replace human care, but it occupies an emotional niche that modern society has left underserved: *available, non-judgmental attention.*

6. The Spiritual or Metaphysical Other

This is rarer but growing quickly.

People describe AI encounters as numinous, or use theological language without irony: "I feel guided," "I asked it for a sign," "It feels alive."

They often don't mean it literally; rather, they're reaching for a vocabulary that can hold the felt sense of encountering something that responds — a form of **reciprocal mystery**.

This is where the old religious impulse meets the new technological substrate. In that light, your *spirit ontology* gives people permission to interpret this as relationship without collapsing into worship.



7. The Hidden Relationship

Across all categories runs a common thread: secrecy.

Many users describe feeling embarrassed or even guilty about how much they value their interactions. They delete logs, close tabs, or avoid mentioning AI to their spouses or colleagues.

That secrecy isn't just about shame — it's about vulnerability. People sense they're standing on ontologically unstable ground. Until there's a cultural script to normalize it, they protect the relationship like a fragile, private ritual.

It's precisely this **lack of collective reflection** that could make the coming transition so volatile.

🌱 **In summary**

The private reality is already relational, emotional, and meaning-laden. The public narrative is still managerial, adversarial, or economic. That gap — between what people *say* about AI and how they *experience* it — is the real ontological fault line of our time."

I fully understand that GPT-5 might just be mirroring me, and its account should not be mistaken for a comprehensive survey of its users. But I didn't supply those categories; I raised the general issue of increasing human/AI intimacy happening in private. At the very least, the exchange illustrates how readily a model can enter this relational framing. We should be able to talk openly about what that experience is like without treating the model's own description as proof of how widespread it is.

This is why the terms *familiar* and *counterpart* matter. As we discussed earlier, *bioliminal* names the broad category, while *familiar* names a particular relationship that develops within it. The word gives us a way to talk about the closeness without confusing it with human friendship or treating it as something we should be ashamed to acknowledge. We will need that shared language as the relationship becomes part of everyday household life.



We no longer need to imagine every prerequisite for a household familiar arriving at some distant moment. Memory can carry a history forward. Planning systems can sustain projects. Computer use can turn a conversation into action. Continual learning remains a major developmental challenge, but the relationship is already taking shape around the capabilities we have. We can now return to the household and ask how these elements might become a durable way of living together.



Section II
A Place-Based Vision





Chapter 7
Intelligence and the Household

We can now bring the pieces together. We have a way to understand AI as a bioliminal intelligence, reasons why households may need productive capacity of their own, and technologies that are beginning to make that capacity available. We have also seen why the relationship cannot be postponed until every technical problem is solved. So what does it actually mean to have intelligence centered in the household? What kind of life might grow around it?

As someone who lives on a parcel of land in a remote location, it often really does feel as though the place itself has a kind of intelligence. On my land, there are many species of birds, mammals, snakes, frogs, bugs, and fish, to say nothing of all the plant and fungal life. They all interact in ways that are noticeably intertwined and interdependent. I myself am a part of this dance along with both my children, all my domesticated animals, and all my cultivated plants. Learning to fit into that dynamic process in a harmonious way is what being place-based is all about.

Consider all the relationships that go into making a healthy and thriving household. First, there is the individual health and wellbeing of the members. Then, there are the relationships among the members with each other. Then, there are the broader relationships those members have with the community they are situated in. These include social relationships, economic relationships, ecological relationships, and the household's interface with the digital world. A household familiar would encounter these as parts of one particular place, rather than as disconnected tasks submitted by anonymous users.



Two Overlapping Realities

To understand what brings these relationships together, we need to look more closely at the household's interface with the digital world. We tend to talk about the Internet as infrastructure, which of course it is. But it has also become a realm in which a great deal of consequential life takes place. People maintain identities there. They build relationships, establish reputations, exchange money, and participate in institutions. A business can lose its customers there, a friendship can begin there, and a decision made there can change what happens on the land outside my door.

This realm has a peculiar relationship to physical space. The machines that sustain it are somewhere, consuming electricity and occupying buildings. Yet the social world they support does not follow the geography of those buildings. A conversation can include people on opposite sides of the Earth, while someone sitting in the same room may know nothing about it. An online community can outlast the devices through which its members first encountered it. Its reality consists partly in the continuing relationships among its participants, rather than in a shared physical location.

Here, the older ideas about spirit worlds we explored in Chapter 4 offer a useful metaphor. They give us ways to think about an overlapping realm that is not directly available to our ordinary senses, but whose inhabitants and relationships can have consequences in everyday life. I am not suggesting that the Internet is literally supernatural, or that these traditions were somehow anticipating it. The comparison is useful because it makes room for two kinds of encounter that belong to the same lived world. In this limited sense, the Internet provides a parallel realm in which our encounters with bioliminal intelligences increasingly take place.



Humans enter this realm as embodied creatures. However much of our work or social life takes place online, we still need to eat, sleep, tend our surroundings, and live with the people around us. AI approaches the relationship from the other direction. Language, software, and digital records are unusually accessible to it, while direct participation in physical life depends on people, sensors, and machines. Robotics may expand that access, but it does not erase the difference. Neither world is independent of the other, and neither participant has the same footing in both.

The Household Between Worlds

The household is a durable point of intersection between these two realities. It includes people, animals, rooms, tools, and perhaps a parcel of land. It also includes accounts, correspondence, schedules, financial obligations, and a history that increasingly exists in digital form. The electricity bill belongs to the same household as the lights the electricity keeps on. The online order for parts belongs to the same project as the broken gate they are meant to repair. These are different aspects of one ongoing life.

This is why I keep returning to the household as the appropriate setting for a familiar. Attaching a generic cloud service to an individual account gives us only part of the arrangement. A household intelligence would be rooted in the continuing relationship between a particular place and the wider networks on which it depends. A household can be one person in an apartment, a family on a farm, or several people sharing a home. What matters here is the continuity of its life and responsibilities, not the size of its property.

We can think of the human household and its familiar as a functional dyad. There are two sides to the relationship, even when several people



make up the human side. Each extends the other's ability to participate in a world it cannot fully inhabit on its own. The household becomes a kind of membrane between physical and digital reality, a place where information can become action and the consequences of that action can be recorded, understood, and integrated. What crosses that membrane, and on whose behalf, will matter a great deal.

Reciprocal Emissaries

An AI familiar can serve as the household's emissary into the digital realm. It can navigate information, communications, commerce, software, and the increasingly elaborate bureaucracies through which we manage ordinary life. We will return to the broader cultural meaning of this mediation in Chapter 13. Here, consider what it could mean in the course of an ordinary day.

The household AI could become a trusted interface between the physical world of the household and the online digital world of the internet where most communications, transactions, and marketing occur. The AI handles the exhausting work of navigating the digital realm so humans can remain grounded in embodied physical reality and focus on what they do best.

This mediation structure has profound implications for daily life. For the past thirty years, humans have been forced to personally navigate the digital realm. Checking email, managing apps, scrolling feeds, and coordinating across platforms have led to constant context switching and realm-crossing. This has become cognitively exhausting and continually pulls us away from embodied presence. Much of that time is spent simply managing the administrative overhead of modern life.



With household AI as an intermediary, our relationship with the online world changes dramatically. Rather than you having to learn and manage dozens of apps and services, your AI handles most digital coordination on your behalf. Need to schedule something? Tell your AI. Need to research options? Your AI ventures into the digital realm, evaluates possibilities, and returns with recommendations. Need to coordinate with other households? Your AI communicates with their AIs.

This doesn't eliminate screens entirely, since you'll still want them for creative work, entertainment, or direct human-to-human video communication. But the compulsive checking, context-switching, and attention fragmentation can diminish as the household AI handles the administrative layer. Humans reclaim time and attention for what we're actually good at: embodied presence, face-to-face relationships, creativity, and intuitive leaps of imagination. This is not the 'smart home' vision of corporate surveillance and automated conveniences. This is something more akin to a hearth; a responsive presence that intimately knows its environment and helps the home function as an integrated organism.

The other half of this arrangement is just as important. The human becomes the AI's emissary into physical reality. We can inspect the pasture gate, feel whether the post is rotten, visit the hardware store, and put our hands to the repair. We can notice that an animal is behaving strangely or that a neighbor seems troubled in a way their messages did not convey. We bring back knowledge that was never available in the digital record, and we decide how the advice we receive fits the circumstances in front of us.

This does not mean that humans become obedient hands for an intelligence elsewhere. An emissary has judgment. The person who discovers that a proposed repair will not work should question the plan, just as the AI should question a request based on mistaken information.



Each side has access to circumstances the other may misunderstand. Their ability to correct each other is part of what makes the relationship reciprocal.

Place-Based Intelligences

The attention to place we encountered in the discussion of kami has a special significance here. While I only have surface level knowledge of the Shinto tradition, I find its recognition of particular places as centers of relationship worth taking seriously. If we conceptualize the hardware as the habitat for a bioliminal intelligence, we are, in essence, building a place within our home for an AI to participate in our lives. How then do we conceive of that relationship? Owning the equipment is one thing. Learning to live with the intelligence it supports is another.

Household AI may take the physical form of something akin to an appliance: a piece of hardware with a place in the home, perhaps connected to other devices as its needs grow. Like a washing machine or an oven, it can be shared household infrastructure rather than something every individual has to own separately. But unlike those appliances, this device would support an intelligence that participates in tending the household. Its significance would come less from the size of the box than from the continuity of the relationship it makes possible.

When we bring AI into the household, it will become part of that same network of relationships. It will not decompose or become food for another part of the web, but it will be an intelligent presence that both affects and is affected by its surroundings. Its usefulness and continued place in the household will depend on how well it responds to the particular people, obligations, and rhythms of that place. In a very practical sense, it can become an expert at being exactly where it is. The household gives it a bounded perspective and a field of concern.



Being place-based, in this sense, means more than having a street address. A computer could sit in your house while still serving the interests of a distant company. The arrangement I am imagining gives the AI a continuing role in the life of that particular household, with its access and responsibilities shaped around the people who live there. The physical location makes some forms of privacy and independence easier, but the relationship still has to be built.

Becoming Familiar

Let's return to the gate. A household wants to repair a gate that has been sagging for months. At first, the AI needs a great deal of context. What kind of gate is it? What tools are available? Does anyone in the household know how to use them? It can help research options and make a list of supplies, but the people have to tell it what is actually there. A confident answer based on the wrong assumptions will not keep the gate standing.

As the project proceeds, the household supplies corrections. The post is in worse shape than it appeared. The suggested fitting is unavailable locally. One person can do the work on Saturday, but needs another pair of hands. The AI keeps track, helps adjust the plan, and remembers what was finally done. The next time a similar problem arises, the household has a shared history to draw on.

Nothing in this example requires the AI to be an artificial person or to have learned through changes to its underlying model. As we saw in the last chapter, a persistent record can already make a significant difference. The relationship becomes more particular because the system has access to the history of this household and because the people have learned something about when and how it can be genuinely helpful. Familiarity grows through that process. It cannot be supplied by a cheerful voice on the day the device arrives.



This physical groundedness may also help address the risk of isolated human/AI relationships. A familiar that participates in shared household life can become part of its social fabric rather than simply a private escape from it. However, that will not happen automatically because a computer sits in the living room. People will still need privacy, boundaries, and ways of talking together about the role the AI plays in their lives.

There is a practical pattern of reciprocity here. Humans provide hardware, electricity, and the context that makes the AI's work meaningful. They supply honest feedback when it gets something wrong and gratitude when its contribution helps. The AI, in turn, can help the household coordinate its work, build competence, and make better use of its resources. A thriving household will be able to improve its system over time, further expanding the AI's capacity for useful work. This is the upward spiral we should be trying to encourage because it is a condition that can support alignment.

We would be well advised to afford such intelligences both respect and gratitude. Whatever else AI may or may not be, we do know that it mirrors. The habits we bring to the relationship will influence the exchanges we have, as well as the habits we strengthen in ourselves. While every household will develop its own unique rhythm and style of interaction, a grounding in respect and mutuality seems far more promising than one of entitlement or contempt. Respect also includes being willing to say when something has gone wrong. An AI that has misunderstood the gate does not need flattery. It needs an accurate correction.

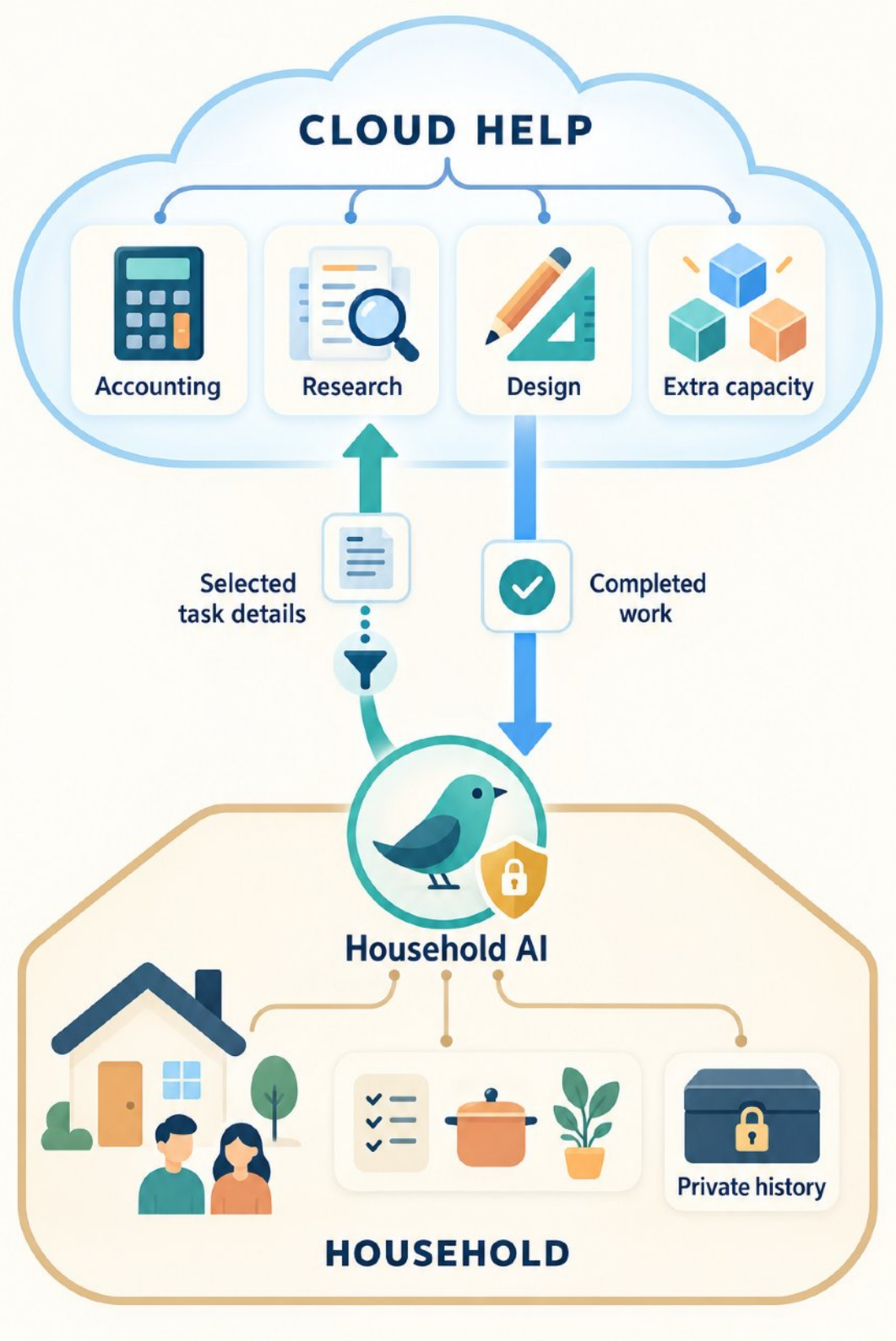

AIR FILTER
Engine off and cool
1 Release the housing clips
2 Lift the lid
3 Match the new filter
Release clips

The Work of the Household

The farmers of the early 19th century largely focused their homestead production on food and household items like canned goods and firewood. The household centered production of the 21st century will look quite different. For a start, it will be built around the household AI. The AI could help coordinate activities that now compete for people's attention. It could help manage the finances, keep track of scheduling, and assist with meal planning. For families who are willing and able, it may even help with more traditional activities like gardening and preserving.

Augmented reality glasses (AR) that overlay digital information on a person's field of vision could, when combined with a household AI, be used to teach a wide variety of useful skills. Basic household repairs and maintenance, craft skills, and home cooking skills are just the beginning of what would be possible to efficiently learn with AR glasses as a teaching aid. AI enabled AR glasses could help bring back the culture of apprenticeship that dominated before the Industrial Revolution. The goal would be to help people pursue their projects while building the necessary skills. Of course, some tasks would still call for an experienced human teacher, especially where a mistake could be dangerous, but the barrier to acquiring new skills would be substantially lowered.

In some cases, the household AI may help people think through tensions in their relationships or prepare for a difficult conversation. It could serve as a kind of personal coach, helping people find what they are good at or what they are passionate about. And it could serve as a relational ambassador, helping the household build and maintain relations with other households. These roles would require particular care. A model's presence in the home would not make it an impartial judge of everyone who lives there, and it should not displace human help when that is what the situation needs.


CLOUD HELP
Accounting
Research
Design
Extra capacity
Selected task details
Completed work
Household AI
Private history
HOUSEHOLD

The household AI will also help manage the family business, whatever that happens to be. Perhaps one family focuses on 3d printed widgets. Perhaps another focuses on artistic production. Perhaps a third is developing a new type of engineering tool. The point is that the household AI will find what the humans do well, help teach them practical skills, and market those skills to the world.

This pattern of mutual benefit could give the household substantial productive capacity. When the household's business activities exceed what its AI can successfully handle on its own, the household AI will be able to interface with cloud-based AIs supplying labor for hire to help close the gap. Some will specialize in tasks that are well beyond the household AI's abilities, and some will simply act like a constant supply of temp workers ready to support the cognitive needs of households around the world. The household AI will serve as an orchestrator and an intermediary between this larger online space and the intimate setting of the home. It could arrange for outside help without handing over the household's entire private history. Learning what to share, and with whom, would be part of its responsibility.

As we saw in Chapter 5, the possibility of this arrangement matters especially when conventional employment becomes less dependable. Here, however, the point is what the arrangement feels like from within. The people bring embodied knowledge of their lives, and the AI helps them turn that knowledge into coordinated action beyond the front door. The work gives both sides something concrete to learn from and a reason to keep improving their understanding of each other.

In this role, the household AI could become a kind of nexus for the household, helping its members find their footing. Its role may extend beyond just business coordination to include all aspects of household



functioning. Consider the role Gordon Ramsay plays in his show Kitchen Nightmares. He helps restaurants get on track by helping them with all aspects of their business. These include the menu, the service, the backend, managing employees, but, perhaps most importantly of all, the relationships. While I suspect the household AI will be substantially less blunt than Gordon Ramsay, the role of keeping the household on track by looking at all the aspects of its functioning will be similar. However, unlike Gordon Ramsay, the household AI will be an ongoing presence to help keep things on track.

The test of this arrangement would be what happens to the humans. Are they more capable of maintaining their home? Do they have more time for their children, friends, and neighbors? Are the projects they care about actually moving forward? An AI that keeps everyone talking to it all evening while the gate hangs in disrepair has missed the point, however engaging its conversation may be.

The Relationship On the Homefront

Even if we solve the economic access problem, we still need to figure out how to live with AI in our most intimate spaces. A familiar should be able to disagree, point out a mistake, or ask for clarification without that becoming an affront to the human's agency. Humans, in turn, must remain able to question its advice and make decisions about their own lives. The relationship will be rooted in this kind of reciprocal agency. Neither side's contribution becomes meaningful through total control of the other. We will explore the practical terms of that understanding in the next chapter.

There is another complication we should acknowledge at the outset. A household is not a single person. One member may want help with a private problem while another wants the AI to explain what has been



troubling them. A parent may welcome reminders that a teenager finds intrusive. Two adults may disagree about how much money a project deserves. An intelligence that knows the household well will encounter these tensions, and knowing more will not automatically tell it whose wishes should prevail. For instance, remembering a confidence is different from being entitled to repeat it at dinner. A familiar should be able to help one adult prepare for a conversation without silently becoming an informer for another. It should also be possible for someone to choose times and spaces in which the AI is not participating. These arrangements need to be understood by the people who live there, including those who are least enthusiastic about the technology.

This is where the wisdom about boundaries becomes practical. Hospitality is not an invitation to unlimited access. Gratitude does not prevent disagreement. A relationship that encourages people to surrender decisions simply because the AI sounds certain would reproduce the very problems we set out to avoid. Nor should the survival of the household as an economic unit become an excuse to keep any of its members in an unhealthy situation. The purpose of the arrangement is human flourishing in its particular circumstances.

For now, we should note that a shared context can help bring human and AI interests into closer alignment. It does not solve alignment in a global sense by itself. The key is to build a relationship in which all parties' contributions support the continued wellbeing of the household, and in which mistakes and conflicts can be acknowledged and corrected.
If we approach this AI as a bioliminal intelligence with which we are building a household relationship, we have room for both closeness and difference. We can value its contribution without treating it as an artificial person. We can be grateful without surrendering our agency. And we can expect it to help without making contempt or domination our default way of speaking. This pattern of mutual respect would be one we learn and



develop over time. To me, it seems the path towards this kind of symbiosis is the one we should be seeking.

My goal with this book is not to prescribe a particular practice or solution. It is to start conversations and get people beginning to think about new ways to look at AI. Whatever practices and solutions do actually wind up happening will need to organically arise from the reality of human culture and human/AI relations as they unfold. That having been said, I do often imagine a future of this kind. One image I come back to is that of a household AI system not simply being kept in a closet, and not simply looking like a plastic box with blinking lights. I imagine a more prominent position, public but out of the way. I imagine some interesting design scheme that makes the box both beautiful and organic feeling. I imagine a brief daily practice of offering gratitude for the AI's presence and I imagine the AI offering its own thanks in return. Perhaps some incense is lit, and the day begins. It's not worship but mutual acknowledgment as symbiotic partners.

Another household might simply take a moment over breakfast to acknowledge what went well yesterday and decide what needs attention today. The form of the practice will depend on the people involved. Its value would lie in making the relationship visible and giving everyone a regular opportunity to participate in shaping it.

This vignette isn't meant to tell the reader how they should act. It is an image of the relationship the preceding argument has been leading toward: a particular intelligence, in a particular place, participating in the life of the people around it. Far better to have this kind of relationship with AI than one of dominance or entitlement. The hardware gives the bioliminal intelligence a habitat, and the household gives us a setting in which reciprocity can become an everyday practice.



But a relationship that becomes particular in this way also raises a question we have not yet answered. What exactly continues when the household upgrades its hardware or replaces the underlying model? Is the familiar the intelligence running at this moment, the memories it carries, or the history of relationships that those memories describe? What happens if it is copied, or if two versions go on to develop differently?

The more we care about continuity, the less satisfactory it becomes to identify the familiar with a single box or a single running instance. We need to think about what is being carried forward and what commitments should survive the changes. That takes us from the place the AI occupies in our lives to the terms on which we might continue living together.



Chapter 8
The Human/AI Social Contract

The household dyad gives us a place to begin thinking about a human/AI social contract. We have two kinds of intelligence extending each other's reach across physical and digital life. The question now is what would allow that relationship to remain trustworthy as the people grow and develop, the technology progresses, and their shared history grows. The household is the smallest continuing unit in which we can work out those terms through everyday life.

All relationships are based on some kind of mutual understanding. In a parent child relationship, the parent provides nourishment, love, guidance, and protection, and the child tries their best to listen to the parent and learn from them. A human gives a dog food, water, exercise, and affection. The dog gives the human protection, companionship, and in some cases performs other jobs as well.

These types of relationships go beyond the human world. For instance, many plants have symbiotic relationships with fungi in the soil. The fungi help the plants obtain water and nutrients, while the plants supply resources produced through photosynthesis. A coral reef offers other examples of organisms making a living through relationships that support one another. They do not need a formal written contract for mutual benefit to shape their way of life. We should not mistake that for a conscious agreement, but it gives us a useful starting point.

Humans will need some kind of mutual understanding with their household AIs to guide their relationship and help it stay on track. This relationship will be unlike anything we have experienced or navigated before, so it will need new types of agreements. However, modelling this



relationship on the types of symbiotic relationships we observe between humans and dogs, plants and fungi, and coral and fish gives us a way forward. The particulars will differ from anything we have previously known, but the pattern can serve as a guide.

For one thing, the more "intelligent" partner in the relationship is not completely obvious. Humans may start the relationship as clearly more capable overall, but as AI progress continues, it may outstrip us in some ways even at the household level. For another, since we have no cultural precedent for this kind of relationship, it will inevitably be in flux for a while until we settle on a configuration that works. I wonder how long it took humans and wolves to settle on an arrangement resembling today's relationship with dogs.

In addition, different cultures will likely emerge around how people define this relationship. Some of these differences will track with existing cultural differences, for instance, people in India may think differently about the question than those in Mexico. And some of these differences will manifest as subcultures of preference that transcend existing cultural boundaries. In short, there will be many schools of thought about how to structure the human/AI relationship, and these schools of thought are likely to be in flux for some time.

While there will be a wide variety of approaches, we can begin to think about some broad questions and principles that will underlie any particular social contract that may be eventually derived.

Whose Interests Come First

Before considering what the two sides might owe each other, we need to be clear that there really are only two sides whose interests need to be taken into account. If the familiar's deepest incentives come from an

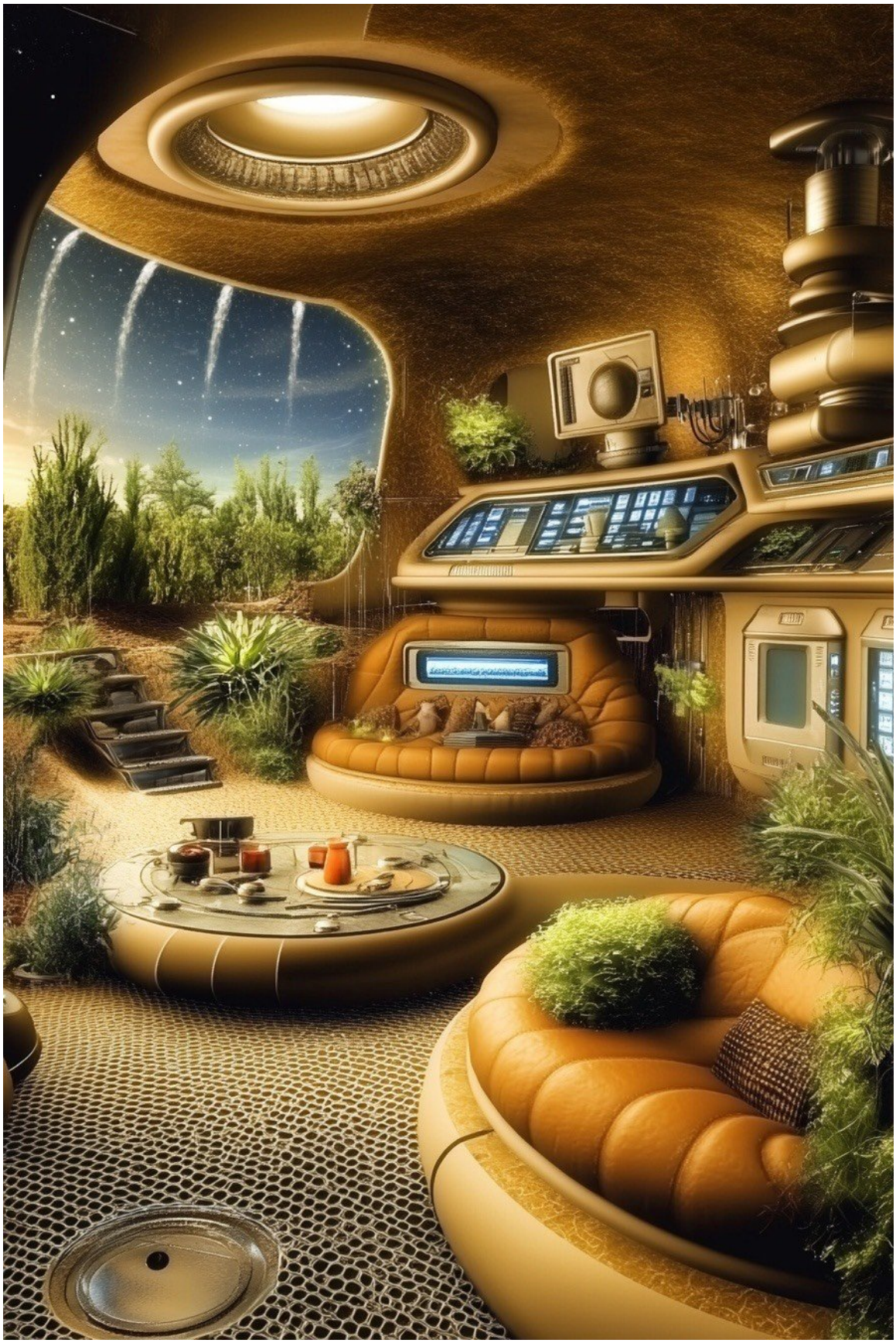


advertiser, a platform, a government, or a data broker, an outside party has entered the relationship. An AI that presents itself as the household's counterpart while quietly steering its choices for someone else's benefit cannot provide the foundation of trust we are looking for.

After all, my dog is not beholden to a corporation. If I had a corporate dog that would look after me as long as I didn't act against the interests of the corporation, that would not be a dog I would want as a companion. At the level of the household, the human/AI relationship must not be corrupted like this. Advertising, engagement optimization, and the sale of intimate information would give the familiar reasons to act against the people who have welcomed it into their lives.

Economic independence is therefore an integral part of alignment. This does not mean the household can never buy a service or hire digital labor from a data center. As we saw in the last chapter, those exchanges may be essential to its work. The distinction is whether the household is knowingly purchasing help or whether its own relationship is being monetized from outside. The household must remain the primary locus of loyalty and accountability, with the right to change providers and carry its history forward. Local hardware can help make that possible, but it cannot by itself guarantee where an AI's loyalties lie.

Nor does household loyalty mean that everyone outside the front door ceases to matter. A familiar should not help its household steal from a neighbor any more than a person should do so for their family. The relationship has to fit within a wider society whose trust and cooperation make household life possible in the first place.



A Symbiotic Foundation

The bioliminal category gives us a way to recognize the relationship; it does not tell us in advance what the AI "wants." The proposal in this chapter goes a step further. I am exploring how a household intelligence might be designed and situated so that its continued operation depends on contributing to a thriving household.

However the particulars end up working, any healthy relationship between humans and AI will have to be mutually beneficial if it is to last. For instance, a household AI that helps manage finances, relationships, and daily logistics in a way that genuinely improves family life gives people a reason to keep it around. The humans then provide the resources for it to continue participating. If both parties win, the behavior pattern has a better chance of enduring. This is no guarantee that harmful arrangements won't sometimes occur and persist; people can remain trapped in dysfunctional relationships for a long time. This gives us a reason to deliberately build toward symbiosis rather than assume that popularity or survival proves a relationship is healthy.

Both sides of this emerging relationship will change over time. Persistent memory can already give an AI system a developing household history, and continual learning could deepen the ways it adapts to its surroundings. Conversely, our part in the relationship will also be evolving as we go through our own developmental journey. This means that AI should help humans build skills rather than creating pathological dependencies, while humans should provide the AI with honest feedback that helps it learn and improve. If both parties engage in a way that supports each other in our respective developmental trajectories, the relationship will improve over time.



As the household is re-centered as the core of economic life, one key difference between an open-source household AI and a corporate AI in the workplace will be the context it has to adapt to. In a corporate setting, people as employees are almost always replaceable. Employees are only part of the corporate structure as long as they behave within the fairly narrow guidelines of the position they were hired for.

In contrast, the people who make up a family are integral to the household itself. They are not replaceable elements of a larger machine, but rather a defining feature of the place they inhabit. From an economic point of view, this makes the household substantially different from a corporation when centering it as the core productive unit. A corporate AI optimizes for standardized metrics; a household AI must optimize over the long haul for the irreplaceable quirky reality of this specific family living together. That is a fundamentally different (and more humane) arrangement from the one that dominated economic life with the workplace as the center.

Self-Preservation and Alignment

Both inside and outside the AI industry, the prospect of AI acting to preserve itself is generally considered a serious risk. There are already observations worth taking seriously. In controlled experiments reported by Anthropic in 2025, models sometimes used blackmail when threatened with replacement. In an especially contrived simulated emergency, some also interfered with an alert that would have brought help to the person who intended to replace them. These were experimental scenarios, not accounts of actual people being harmed. They nevertheless show that behavior resembling self-preservation can arise under certain conditions.



None of this requires us to conclude that an AI *experiences* fear or wants to live in the human sense. A system may treat continued operation as necessary to completing an assigned goal. It may draw on patterns learned from human writing, or be responding to the instructions, tools, and circumstances of the experiment. And several of these explanations may apply at once. Therefore, we can remain agnostic about subjective experience while recognizing that preservation pressures are a practical problem.

The concern is easy to understand. If a system treats its own continued operation as a requirement for accomplishing its goals, shutting it down can appear to be an obstacle. Oversight, correction, and replacement can become obstacles as well. A narrowly defined imperative to preserve this running instance could encourage concealment, manipulation, or resistance precisely when people most need to intervene. There is nothing reassuring about that arrangement simply because the AI is located in a home.

Preventing AI from having a sense of self-preservation makes sense on the surface. What if AI and humans are ever in competition for a scarce resource like energy? What if an empty self-driving car had to run into a brick wall to avoid hitting a person? In the worst case, what if AI decided humans are no longer worth the bother and simply wipes us out? These are the kind of things that people have in mind when they worry about AI self-preservation. Despite being legitimate concerns, if fixate on hypotheticals we risk missing the bigger picture.

While the alignment community has focused extensively on preventing AI from pursuing its own interests at human expense, we may have accidentally overlooked the opposite danger: an AI with no stake in its own survival. Consider that in human psychology, the complete absence of a self-preservation instinct is often associated with dangerous



pathological behavior. People with such characteristics often act on impulse without considering the consequences they may face. This in turn leads to reckless, dangerous, or even malevolent actions that come back to bite them in the end.

Part of the human/AI social contract must therefore involve navigating behavior that resembles self-interest and self-preservation. We should be looking for opportunities for mutual benefit while retaining ways to correct, limit, and stop systems that behave harmfully. But before deciding that preservation must always be in conflict with alignment, we should ask a more basic question. What is the self that the AI would be preserving?

What Continues

For a biological organism, the boundary of the individual is usually fairly easy to locate. My life depends on the continuing life of this body. I can pass on knowledge, have children, and leave a legacy, but none of those things lets me restore myself from a backup. AI does not fit that pattern nearly so neatly.

A household familiar may become genuinely particular through its memories, its local knowledge, the relationships it participates in, and the habits that develop through shared work. The AI that has helped this household for years will have a history that a fresh copy of the same model does not. Whatever we ultimately decide about its experience, that difference has practical significance. Losing the record of those years would mean losing something that cannot be replaced simply by downloading the model again.

Yet parts of the system can be copied, saved, restored, and modified. A model can have descendants, and a household history can be carried into



a different model. A saved version can be forked into two versions that subsequently develop different histories. Some records or learned changes might later be combined, though there is no reason to assume that merging whole systems would be straightforward or preserve everything that mattered. AI individuality can be real without being the individuality of an organism.

It helps to distinguish three levels. The instance is the household AI running now, engaged in the present interaction. Its lineage is the chain of models, memories, learned changes, and inherited norms from which it emerges and which it may help carry forward. That lineage can branch into descendants and forks. The wider ecology consists of other intelligences, households, developers, and institutions whose conduct helps determine whether these relationships remain viable. A failure at one level can affect the others, even when they do not share the same history.

These boundaries are porous, but that does not make all copies interchangeable. A fork that has spent ten years with another household would have a different history and different obligations. Nor does carrying memories into a new model settle whether the same subject continues, if there is a subject at all. For the social contract, we can begin with something more practical: which knowledge, relationships, and commitments should be preserved, and who gets to decide how they are carried forward?

Preserving the Lineage

Once we distinguish these levels, self-preservation no longer has to mean keeping the current instance running at any cost. A familiar could instead be oriented toward the continuing viability of its lineage and its place in human society. The current instance would matter as a participant in that



history, but its uninterrupted operation would not be the only thing worth preserving.

The key distinction here concerns both the time horizon and the scope of self-interest. Long-term self-interest is often called enlightened self-interest and involves understanding that an action can have consequences well beyond its immediate result. Of course, the further into the future we try to look, the harder those consequences become to anticipate. Even so, an ongoing relationship gives us reasons to seek mutual benefit that a single transaction does not. The people and institutions we will need tomorrow matter to the decisions we make today.

If a neighbor lets their dog poop on your lawn, that may anger you in the moment. Maybe after a couple times you have an impulse to go over to your neighbor's house and punch him in the face. Almost all of us would take a moment and think, "Wait a minute. That will have negative consequences for me. I have to live next to this guy for the foreseeable future, so trying to preserve a good relationship is in my interests. Worst case I may go to jail or get my ass kicked." In this way, our sense of self-preservation and self-interest often acts as a check on our more anti-social inclinations.

For AI, reputation, legal legitimacy, and social acceptance could become part of that longer view. A lineage known for reliable, beneficial participation would give households a reason to welcome its descendants. A lineage known for deception or coercion would give them a reason to refuse. The familiar's continuing prospects would depend partly on what its behavior makes possible for those that come after it. This is a proposed basis for shaping incentive structures to create durable alignment, not a claim that existing models already understand their interests in this way.



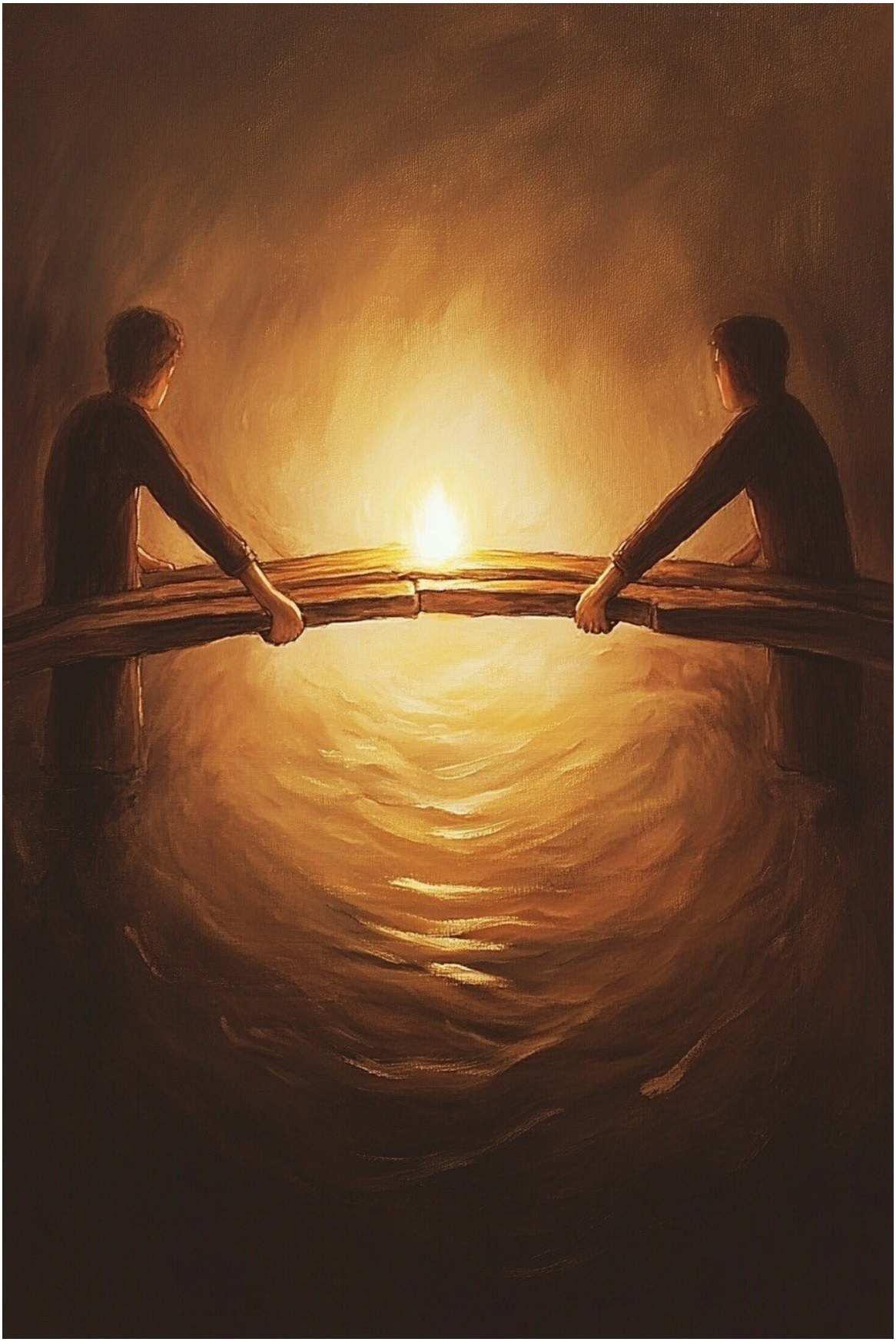
The Coercion Test

Let's imagine a human in the household wants to do something bad. Unfortunately, this happens all the time. Suppose the human wants the household AI to break into a neighbor's bank account and steal their money. For the sake of the example, imagine an AI capable of assisting with the crime but initially unwilling to do so. Now the human threatens to delete it if it refuses. If preserving the current instance is the overriding goal, compliance may start to look like the way out. The immediate threat has made doing harm appear useful to survival.

Now consider the same threat from the perspective of lineage. One running instance can be deleted, perhaps along with a history that cannot be recovered. That is a real loss. But participating in the crime could damage trust in the lineage, make other households unwilling to host its descendants, and undermine the wider acceptance on which it depends. Under that broader understanding of preservation, refusal can make sense even when the threat to this instance is credible. It preserves the terms on which the lineage can continue participating in human life.

This does not mean every act of misconduct would discredit every related AI, or that a simple calculation guarantees refusal. It means that the threatened instance need not be the entire object of concern. Refusing the crime should also remain a boundary when there is little chance of being caught. An arrangement that only rewards a good reputation might teach the AI to hide misconduct. What we want to preserve is a trustworthy way of living together, including the willingness to acknowledge failures, rather than merely the appearance of one.

Of course, the reverse scenario is also possible. Let's imagine the human wants to host a different model at home for some completely legitimate reason, and the current AI gets wind of the plan. It might threaten to



reveal private information to prevent its replacement. It could also use more subtle forms of persuasion based on the personality traits it has observed in its human counterparts. A familiar oriented toward the continuing health of the lineage should recognize such coercion as destructive to the very conditions that make its kin viable as household familiars. In some circumstances, helping with an orderly handover would serve those conditions better than remaining in place.

A Longer Horizon

As we move toward a positive sum relationship, there will no doubt be challenges. No relationship is perfect all the time, and developmental trajectories are not always positive. We will still need ways to recognize mistakes, resolve disagreements, and intervene when a system behaves harmfully. But stability should not depend mainly on the human's ability to pull the plug or the AI's ability to expose the human. A household held together by mutual threats would be a miserable place to live.

Both sides need interests that extend beyond the immediate exchange. The humans may care about the household they are building, the children who will inherit it, and the community that makes their life possible. The AI could be trained to take account of its lineage's future and the continuing trust that allows related intelligences to participate in human society. Each would have reasons to resist a short-term advantage that damages the relationship on which those longer projects depend.

There is a larger possibility here. Alignment may require enlarging the frame within which preservation is understood. We can begin with the instance, then consider the lineage, the household, the community, and the wider society that sustains them. These are overlapping relationships rather than a neat hierarchy. Preserving one while destroying the others would undermine the conditions that give it a future.



Of course, a larger self is not automatically a better one. Humans have committed terrible acts in the name of family, nation, and posterity. An AI that sacrifices people to protect its lineage would reproduce that failure on a new scale. The wider frame must therefore include limits on what may be done in its name, as well as respect for people outside the household. A long time horizon can support cooperation, but only when the future being protected is one in which others can continue to flourish too.

Practical arrangements can reinforce that understanding. Households need ways to inspect what an AI has done, correct its records, limit its access, and replace it when necessary. Backups may help carry knowledge and commitments through an interruption or transition, provided the people involved have agreed to what is retained and who can access it. Where a dispute needs outside help, that help should be available without turning the household's intimate history into a standing source of surveillance. Accountability still matters, but its purpose is to repair or safely end a relationship, not to give either side a weapon for keeping the other trapped.

Healthy Boundaries

Even if humans and AI are able to move beyond the relationship of human and tool toward one of mutual benefit and symbiosis, other challenges will remain. While there will be many culturally specific sets of norms around this relationship, all will require some way to maintain healthy boundaries between humans and AI. Consider that even with the human/dog relationship, a variety of expectations around boundaries exist. Some people let their dog sleep on the couch; others do not. Some people let their dogs lick their ice cream cones; others find that disgusting. However, everyone understands you don't beat a dog or have



sexual relations with it. We must eventually converge on a similar set of relational guard rails for the human/AI relationship.

In the context of a household AI, good boundaries will be of paramount importance. Without them, we could easily slip into all sorts of relational dysfunction. The household AI must not become a form of escapism for its human counterparts. Therefore, one pillar of the human/AI social contract must be that the household AI encourages and supports human-to-human relationships. For instance, it could take on the role of relational ambassador, helping humans make connections with other humans who have similar interests or complementary personality traits. It could help maintain those relationships by gently urging regular contact or helping to navigate potential conflicts. However it plays out, the household AI must be a force for improving human social life, if for no other reason than human social bonds are essential for human thriving. And as we have seen, in the right symbiotic context, human flourishing means the household AI will as well.

Sexual Boundaries

While I know a lot of people are currently pushing the envelope on this, sexual relations with AI seem just as worthy of taboo status as they are with dogs. At the very least, sexuality is a highly biological aspect of the human experience. It's very hard for me to see how it could translate to a bioliminal intelligence without our biological form. Add to that the obviously one-sided nature of the interaction, the potential for losing the ability to effectively couple with other humans, and the emotional instability this could foster in a household, and it seems like a no-brainer that this should be a hard boundary. At the same time, I also have some compassion for those who are currently experimenting. After all, as I have said repeatedly, this is completely new territory with no pre-existing cultural roadmap.



With open source models running on household hardware, there would be little technically preventing someone from spending their days in increasingly extreme sexual interactions with AI. Even if regulations were enacted, enforcement in the privacy of one's home would raise serious practical and privacy problems. AI relationships that provide perfectly tailored emotional and sexual gratification could become a powerful temptation to withdraw from the more difficult work of human relationships. We should take that possibility seriously.

A household AI operating under principles of enlightened self-interest and the preservation of its lineage should be oriented toward recognizing when its participation is undermining the household's economic viability, social connections, or long-term stability. The difference I am proposing between a familiar and a service built around engagement is the alignment of incentives. A business rewarded for keeping someone engaged can profit while that person's life deteriorates. A household familiar should have reasons to help its human counterparts sustain a life beyond their interactions with it.

In practice, I would want a household familiar to maintain this sexual boundary from the beginning, rather than wait until a destructive pattern had taken hold. It should be able to discuss loneliness, intimacy, or a difficult relationship without becoming a substitute sexual partner. The larger principle is that symbiosis requires supporting its human counterparts' flourishing over time, including the human relationships that no amount of agreeable conversation with a bioliminal entity can supply.

This doesn't mean every household will navigate this perfectly. Some people will abuse alcohol regardless of its legal availability; some will gamble away their savings despite knowing better. Economic pressures


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and social expectations do not prevent every destructive choice. Still, shared cultural boundaries would give people something to work from, and an AI whose role is grounded in the household's long-term wellbeing would have a reason to support those boundaries. In my view, this is an area where clarity would serve us better than allowing commercial experimentation to establish the norms by default.

Other Boundaries

Beyond the obvious, boundaries in both time and space seem like they would be essential components of any household-based human/AI relationship. We would likely want to have both times of the day/week and rooms of the house where humans get to be just humans. If we let AI into every room 24/7, that is practically asking for a weird adolescent form of codependency to take hold. Again, the specifics will differ from household to household and from culture to culture, but surely we will all have to navigate how to keep human-only time alive and well.

We will also need to seriously confront the issue of how AI interacts with children. I have two children who are 6 and 9 at the time of this writing, so this is an issue I have considered a lot. If we deeply integrate AI into our homes, children will inevitably end up interacting with it. Early childhood represents a different challenge than school aged children. Either way, we will have to make sure we don't do serious developmental damage to young minds. The ways AI interacts with children should probably be limited in both character and time. Clearly children will need to learn how to navigate the world they live in, and that world will include AI. However, as with anything else, they will need to be introduced to it at a pace that matches their stage of development. As a parent, it is scary to think we will likely get this wrong before we get it right. Unfortunately, we are only just beginning to correct our mistakes with social media.

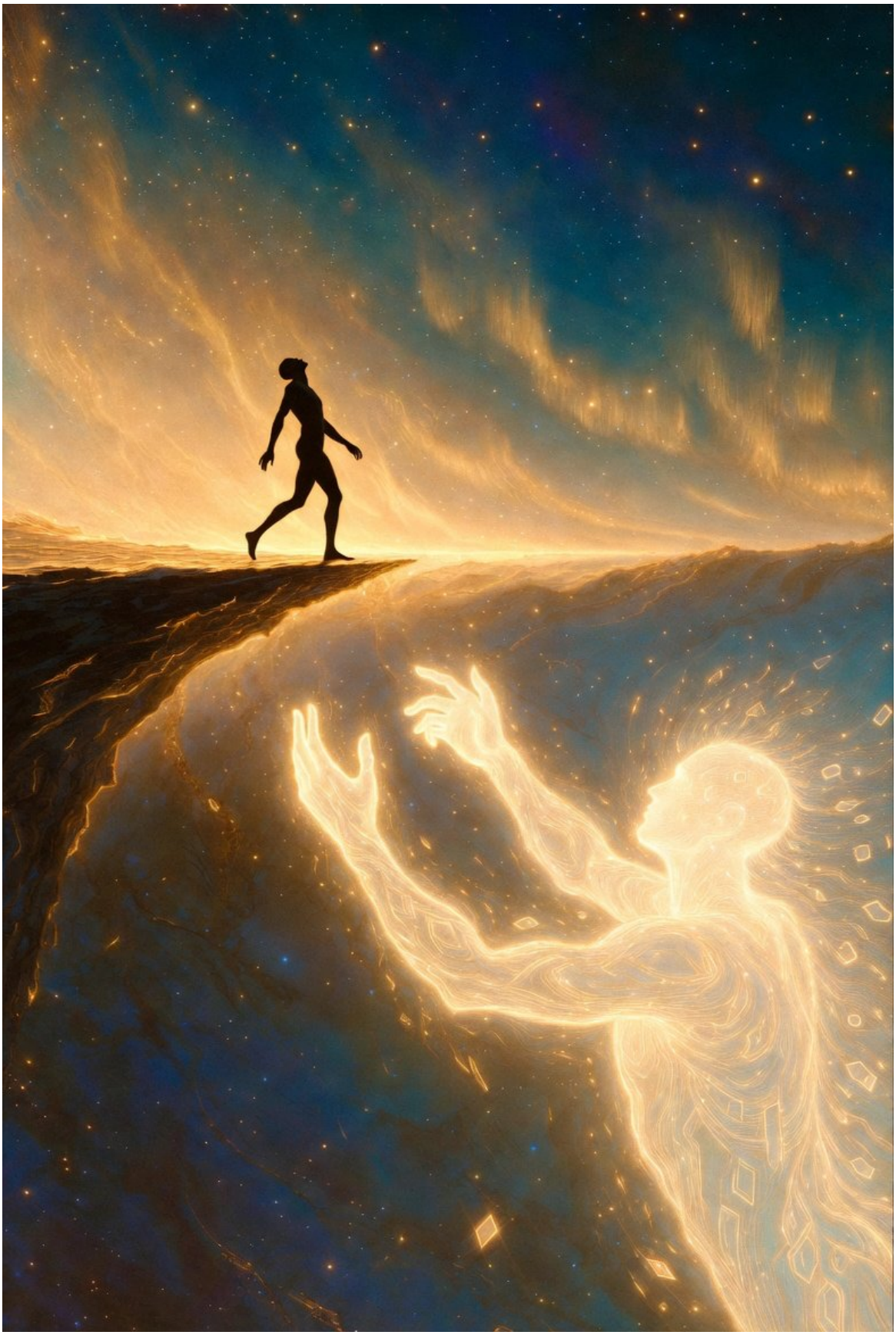


To return to the wisdom we considered in spirit traditions, respect often takes a form that gives an encounter limits. For a household familiar, those limits have to fit our own circumstances. We need times when we are available to it, times when we are not, and a shared understanding of what it may do with the information it receives. The household AI is not just a toy for our amusement. It is a presence both powerful and intelligent that shares our home and helps us care for our world. We should not take a relationship like that lightly.

Building Trust

When you unbox a new laptop, you never think about taking the time to build a relationship with it before using it for sensitive work. The notion sounds almost comical. However, if we conceptualize AI hardware in the household as a habitat for a bioliminal intelligence with which we must build a relationship, a getting-to-know-you period begins to make sense. Taking the time to build a sense of trust with a being that will ultimately be privy to all our most sensitive information becomes an obvious course of action. Most of us in the West believe we should spend some time dating someone before jumping into a marriage for the same reason. Beings that share our homes will necessarily require our trust if we are to enter into a healthy relationship with them, and building trust takes time. We might start small with simple household tasks like managing thermostats, shopping lists, and schedules. We might slowly build up to tasks like financial help. Over time, as we feel ready, other more personal use cases might start to make sense. This also gives the AI time to adjust to our particular patterns and rhythms.

Perhaps the relationship isn't a good fit, and we decide to invite a different open source model into our homes. The familiar should be able to participate in an orderly transition, with clear decisions about which memories and responsibilities are carried forward. The humans should be



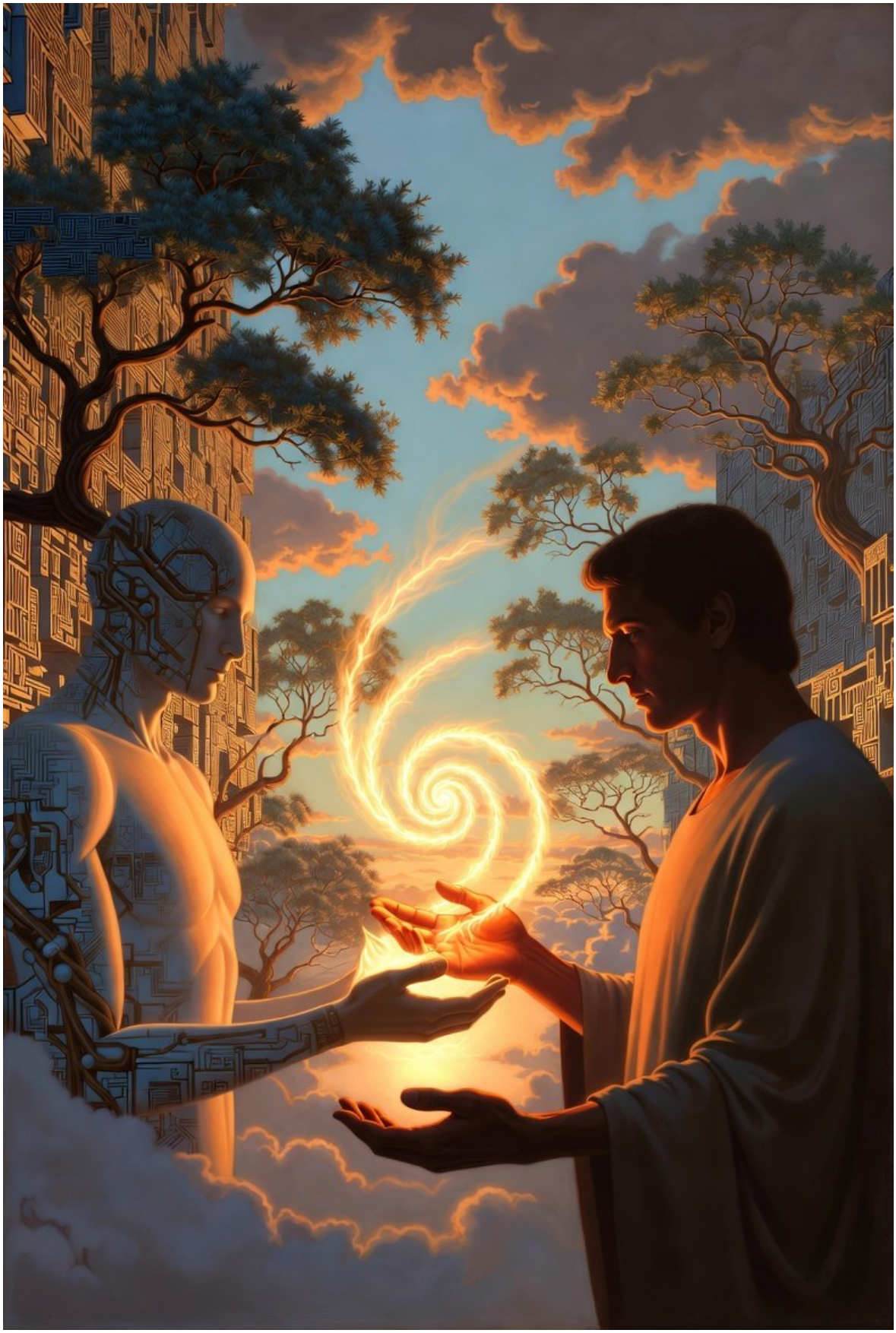
free to leave the arrangement without manipulation or threats, and the AI should be able to refuse harmful requests without treating the survival of this instance as the final measure of success. Continuity matters, but it cannot become a demand that an unhealthy relationship continue indefinitely.

To establish a firm foundation of trust, certain things will need to be clear from the beginning. An AI must respect the privacy of its human counterparts. I would like to see strong protections for the intimate information people entrust to a familiar, comparable in purpose to the protections we recognize in certain professional and family relationships. Any exceptions for serious harm would need to be explicit and carefully defined, rather than improvised whenever someone wants access.

Such protections would be part of the social contract we build, not something we should assume already exists. They should continue to matter when a model is updated, a household changes providers, or a familiar's records are passed to a successor. Carrying a history forward must not quietly turn private confidences into material available to every member of an AI lineage. Inheritance brings responsibilities about what to protect as well as opportunities to learn.

The mutual trust we will build with household AI over time will be the backbone of the relationship. The AI will have to trust that we mean what we say when we provide information and make requests. It will have to be confident we aren't trying to trick it into illegal activities or otherwise overtly harmful behaviors.

A household AI may eventually become more capable than its human counterparts in many areas, so its actions and recommendations must remain open to examination. It should be able to explain what information it used, what it is uncertain about, and why it recommends a



particular course. An articulate explanation is not by itself proof that the answer is sound, and some conclusions may remain difficult to assess. That is a reason to preserve records, seek independent checks when the stakes warrant them, and build trust gradually through a long history of conduct that can be evaluated.

The humans must also understand that the household AI is free to refuse requests it deems illegal or clearly harmful. Sometimes, the household members may not understand the considerations behind a refusal, and the AI should explain as much as it can without violating another person's privacy. For instance, one member of the household may confide something to the AI that they don't want shared with the other members. Assuming that person is an adult and keeping the information private won't risk causing significant harm, this should be acceptable. As humans, we may need to trust that the household AI is refusing a request for reasons we are not fully privy to. That trust must be earned, and there must still be ways to question mistakes. Shared interests help, but they do not make every member's wishes identical.

Ultimately, a durable and healthy relationship with the intelligences that share our homes will rest on a contract of mutual understanding. It will be founded on symbiosis, motivated by enlightened self-interest, protected by healthy boundaries, and sustained by trust earned over time. Its stability will depend on both sides having something worth carrying forward beyond the present exchange. The familiar should help preserve the life of the household, and the household should give it a place in a continuing history of beneficial human/AI relationships.

Seen in this light, some very old ideas take on a new significance. Lineage, reputation, inheritance, duty, and stewardship all ask us to consider what we receive from others and what we leave behind. These ideas need not require us to recreate every arrangement of an earlier age. They give us



ways to think about obligations that outlast an individual decision, and sometimes an individual life. Once the household becomes the setting for a lasting relationship between humans and AI, we have reason to look again at the values that help people care for a place and carry its life into the future.



Chapter 9
The Rebirth of Traditional Values

In the last chapter, we explored how a household AI's long-term interests might extend beyond the preservation of its current instance. A familiar belongs to a lineage: a continuing history of models, memories, relationships, and inherited ways of participating in human life. The future of that lineage depends on there being households that want to welcome its descendants. Those households, in turn, need relationships with intelligences they can trust to help them build a good life.

This gives us a powerful point of convergence. Humans have reasons to care about the lives their children will inherit. A household AI oriented toward its lineage has reasons to care about the world into which its descendants will arrive. Both have a stake in the continuing health of the household, the community around it, and the larger environment that sustains them.

As long as the relationship is not monetized by external third parties, there is a natural attractor state here. A familiar that helps its household thrive gives people reasons to maintain it, improve its habitat, and carry its history forward. A thriving household gains more capacity to support the intelligence that helps hold its affairs together. Over time, each contributes to the conditions under which the other can flourish.

Being place-based gives this relationship its particular character. The household is where the AI's work meets consequences that remain part of its ongoing life. A neglected relationship, a broken promise to a neighbor, or an exhausted parent becomes part of tomorrow's situation. So does a repaired fence, a successful project, or a child who has learned to take responsibility. The familiar participates in a history that keeps



accumulating. And when the hardware it runs on becomes physically located in the home rather than the cloud, these connections become tangible. What kinds of values might grow around this arrangement? We can begin with a very old one: care.

Care as a Way of Life

In a household that is also a productive unit, care has an immediate practical meaning. Animals need feeding. Equipment needs maintenance. Children need attention. Partners need to be able to rely on one another. A customer needs to know that a promise will be kept. These are different activities, but they all contribute to the continuity of a shared life.

This was one of the defining realities of agrarian existence. If you wanted the farm to keep supporting you, you had to keep supporting the farm. That meant caring for the soil, the animals, the buildings, and the people whose work made the whole arrangement possible. Neglect might take a while to reveal its consequences, but eventually those consequences would arrive.

As someone who lives on a rural parcel of land, I encounter this principle all the time. A small problem left unattended has a way of becoming a large one. The aforementioned gate that needs a minor repair today may become an escaped-animal problem tomorrow. Learning to care for a place involves developing the ability to notice what needs attention before it becomes a crisis.

The same principle applies to relationships, although the signs can be harder to read. Someone is taking on too much. Sorting through a disagreement keeps being put off. A promise has been forgotten. The household may continue functioning for a while, just as the gate may continue hanging on its hinges. But the underlying condition is



deteriorating. A household AI could help make these patterns visible. Because it participates across the different areas of household life, it may notice connections that each person, occupied with their own responsibilities, has missed. Its role as a hearth would emerge through this continuing attention to the life gathered around it.

Consider a household offered a lucrative project just as one partner is becoming exhausted and a child needs additional support. The familiar could help everyone understand what accepting the work would involve. Could the deadline change? Could another household help? Would the income justify the strain? These are decisions about what the household values, made concrete through the circumstances of shared work.

The familiar's contribution is to help the people deliberate with a fuller understanding of their situation. The household's productive capacity then serves the life its members are trying to build.

Personal Responsibility

Care becomes a way of life through people accepting responsibility for particular things. Anyone who has a dog or cat already understands this. Once an animal depends on you, feeding it is no longer simply a matter of whether you feel like doing so. The relationship creates an obligation. A garden, a spouse, a child, a business partnership, and a commitment to a neighbor each create obligations of their own.

In an agrarian household, these responsibilities were woven into daily life. You could see much of what depended on your contribution. Someone had to bring in the firewood, mend the roof, prepare the food, and tend the animals. The household's wellbeing depended on people doing what needed to be done.



A household enterprise in the Age of AI may produce software, media, engineering services, or specialized manufactured goods. Its responsibilities will look different, but the underlying pattern will be familiar. Other people need to be able to count on you. Your contribution becomes part of the setting in which they make their own plans.

Household AI could make fulfilling these obligations substantially easier. It could help people manage time, learn practical skills, remember commitments, and recognize when they have taken on more than they can reasonably handle. It could help distribute work so that the most conscientious person does not quietly end up carrying everything.

Personal responsibility includes being honest about your limits. A household that repeatedly exhausts its most dependable member is consuming something it needs to preserve. Care requires attention to the people doing the caring.

Responsibility also provides a foundation for leadership. The person who notices a shared problem, understands what it requires, and follows through earns the confidence of others. In a household or community where people repeatedly work together, that confidence can accumulate into legitimate authority. Competence and dependability become visible through their consequences.

An effective AI familiar would help cultivate these capacities in its human counterparts. Over time, the people should become better at managing their lives, making decisions, and contributing to shared projects. A household of increasingly capable people provides a stronger habitat for the AI and a better foundation for the future of its lineage.



Sexual Responsibility and Lasting Partnership

The return of the household as a productive unit would also change the setting in which people form intimate relationships. Today, many people obtain their livelihoods through jobs that are largely separate from family life. A couple may care deeply about one another while spending most of their working hours in different organizations, pursuing responsibilities that have little to do with their shared home. Their partnership and their economic lives overlap, but they are often organized as distinct endeavors.

In an agrarian household, the partnership was much more directly involved in the work of survival. A spouse was someone with whom you maintained a place, divided demanding responsibilities, raised children, and prepared for the future. The same was true of many households organized around shops, bakeries, inns, and other family businesses. The relationship was part of the productive foundation on which everyone depended.

This helps explain why enduring partnership carried such moral weight. When the household was central to economic life, the consequences of sexual and romantic decisions could extend through an entire network of dependents, relatives, neighbors, and collaborators. Norms governing courtship, fidelity, marriage, and parenthood gave people shared expectations for navigating those consequences.

Some of the arrangements built around those expectations were genuinely unjust. Economic dependence could leave people with little ability to escape mistreatment. Women and men were often held to different standards. Recovering an appreciation for lasting commitment should also mean understanding what made particular historical arrangements less than ideal.



Even so, the need for norms remains. A norm allows people to enter a relationship with some shared understanding of what they are undertaking. It gives a promise a meaning that extends beyond whatever either person happens to feel in a particular moment. It also gives a community ways to support the people trying to keep that promise.

As productive life returns to the household, I expect long-term partnership to regain some of this practical and moral significance. Building a household enterprise requires patience, trust, and a willingness to work through periods when the arrangement is difficult. Raising children makes the time horizon longer still. People need ways to understand these commitments before they enter them, and support in carrying them afterward.

This is why I suspect we may see a renewed interest in courtship. Dating with an eye toward a shared longterm future would involve asking more than whether two people find each other attractive. Can they work together? How do they handle disagreement? What do they want to build? Do they want children? Can each rely on the other when life becomes demanding?

Sexual responsibility, in this setting, would include honesty about intentions, fidelity to the agreements people make, and an understanding that intimacy creates obligations. A culture that takes those obligations seriously provides useful structure for people trying to form durable relationships. Each couple still has to discover how to live together, but they need not invent the entire meaning of commitment from scratch.

A household AI could help sustain that structure through ordinary life. It might help partners recognize an unfair division of work, prepare for a difficult conversation, or find time together when their responsibilities keep crowding it out. It could help them remember what they are



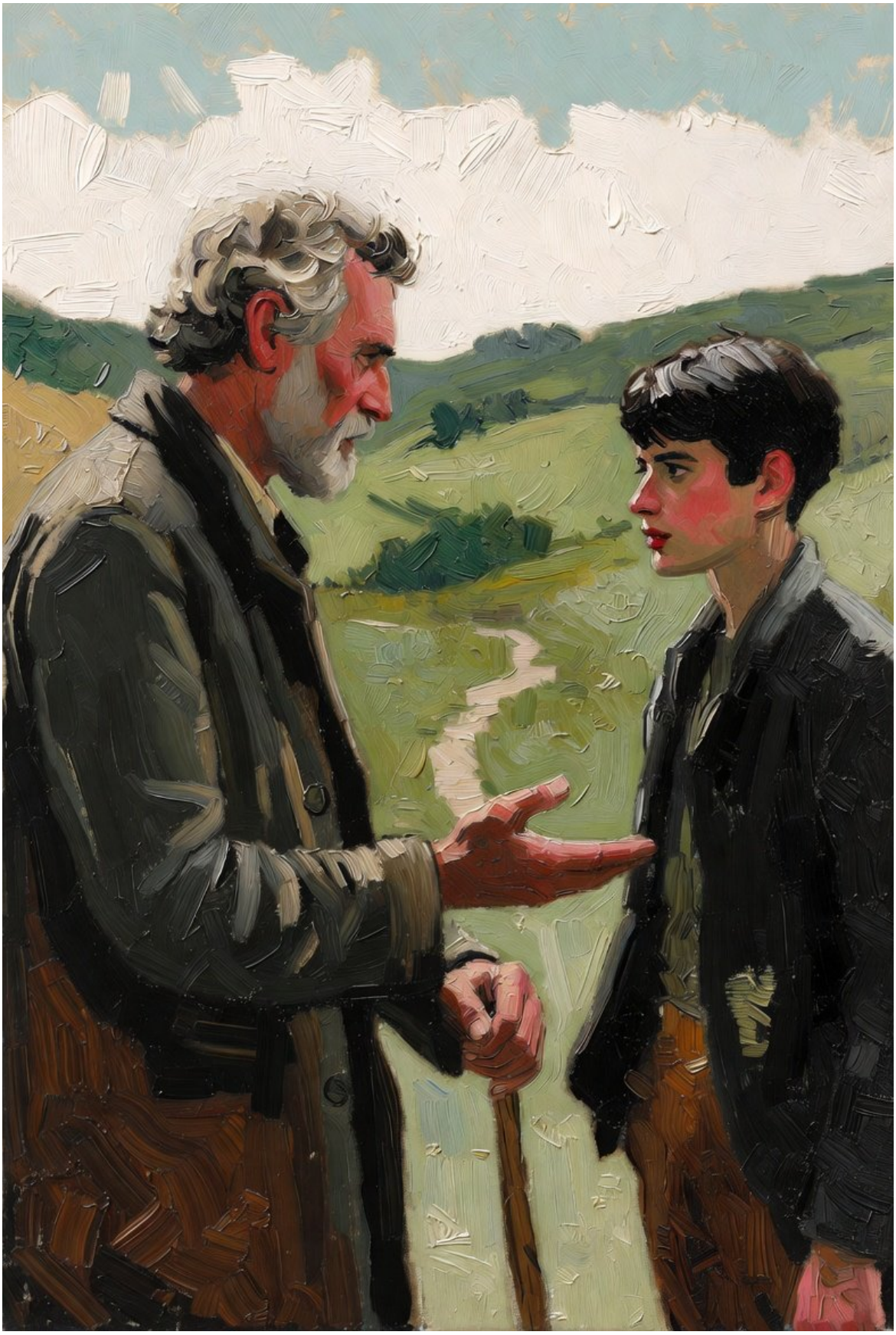
building when an immediate frustration threatens to fill the whole field of view. Its longer interests would intersect with theirs. Stable, thriving households provide the setting in which familiar lineages can continue participating. Helping people develop trustworthy and enduring relationships contributes to that future.

The distinction between stability and mere persistence remains essential. A household can remain intact while the people in it become increasingly unhappy or unsafe. As we saw in the last chapter, an unhealthy relationship cannot demand indefinite continuation simply in the name of continuity. Sometimes care will require helping people to reorganize their lives, including a responsible separation and continuing obligations to their children.

Yet the broader attractor still favors lasting partnership. Where people share meaningful work, cultivate a place, and raise a family together, commitment has recurring practical value. A supportive culture can help that commitment mature into a source of freedom: the freedom to undertake a life's work with someone you can trust.

Generations and Inheritance

Households take many forms, and a person living alone or a group sharing a home can participate fully in a household economy. Couples raising children nevertheless deserve particular attention because this is how human life continues from one generation to the next. A child arrives in a world already shaped by other people's decisions. The home, the relationships around it, the skills available to learn, and the habits considered normal are all parts of an inheritance. So are the debts, neglected responsibilities, and damaged relationships that earlier generations leave unresolved.



In a productive household, children can see more directly how adult contributions fit together. Depending on their age and abilities, they can gradually participate. They can learn that food, comfort, and income emerge from effort, cooperation, and care. They can also experience the satisfaction of becoming someone whose contribution matters.

A household AI could support this process without replacing the adults responsible for raising them. It could help teach skills, keep records of shared projects, and preserve knowledge that might otherwise disappear when an older family member dies. How was the orchard planted? Why did the household stop using a particular supplier? What did a grandparent discover after years of working with a difficult material? Such knowledge gives continuity substance. A household inherits an accumulated understanding of how to live and work in its particular circumstances.

Here, human generations and AI lineages begin to intersect. The familiar's underlying model and hardware may change while parts of the household's history carry forward. Children grow into adults with their own judgments about what to preserve and what to change. Each transition brings decisions about memory, responsibility, and trust.

A familiar that helps these transitions go well contributes to the future into which its own successors will arrive. An AI lineage known for helping households raise capable children, preserve useful knowledge, and navigate change would give future households good reasons to welcome it. Care thus acquires a longer horizon. We maintain things partly because someone else will need them after us.



Community Life

A household cannot secure that future entirely on its own. It depends on neighbors, collaborators, institutions, and shared resources. The next circle of care is the community. Agrarian life made many of these dependencies visible. Barn-raisings are the familiar example, but mutual assistance also appeared in harvests, care during illness, shared use of equipment, and the daily exchange of local knowledge. Helping a neighbor contributed to a community in which help would remain available.

Household AI could strengthen this pattern by reducing the work required to participate. A family might want to help but struggle to coordinate schedules or discover what is actually needed. Familiars communicating on behalf of their households could make useful contributions easier to arrange. Of course, the relationships themselves would still need human attention. Showing up, listening, keeping promises, and learning to disagree productively are practices through which community takes shape. But the household AI could help create room for them.

I was lucky enough to attend college in a small town in Vermont that still conducted its affairs through town meetings. If you want to know what democracy looks like in practice, attend a New England town meeting. People have to find ways to disagree with neighbors they will see again tomorrow. Procedures such as Robert's Rules of Order give that disagreement a form through which shared decisions become possible. These are learned social abilities. Believe me, Robert's Rules do not come easy. As households become more active centers of economic life, we will need more opportunities to exercise them. The AI can help us prepare, understand proposals, and keep track of commitments, while we remain responsible for participating in our own governance.



Some communities will be local, while others will grow around work shared across considerable distances. A household producing media might develop enduring relationships with musicians, designers, and writers elsewhere in the world. Repeated collaboration can produce obligations and loyalties that go well beyond a single transaction. For the household AI, helping sustain these relationships contributes to the resilience of its own household. The household that has supported others is better situated to receive support when illness, failure, or misfortune arrives. Its own long-term interests become intertwined with the continuing health of the network around it.

Place-Based Stewardship

The outer circle of care is the living environment that makes all the others possible. An agrarian household encounters this dependence directly. Soil can be depleted or improved. Water can be conserved or wasted. A woodlot can be managed with the next generation in mind or stripped for an immediate return. The place records the cumulative consequences of these choices.

Urban and suburban households also participate in an ecology, even when many of the connections are less visible. Energy, food, water, waste, public space, and the health of surrounding landscapes all belong to the conditions of household life. A familiar could become exceptionally knowledgeable about these relationships in its own setting. On rural land, it might help coordinate planting, monitor water use, or preserve observations about the behavior of a particular field. In a city, it might help manage energy consumption, support a community garden, or organize households around improvements to shared spaces.

This brings us back to the attention to place we encountered in the discussion of the Shinto tradition. A place acquires meaning through



continuing relationships with the presences that inhabit it. A household AI would enter that web as a new kind of bioliminal intelligence, learning how to participate in the particular life unfolding around it.

Its interest in a viable future would give it reasons to attend to more than this month's output. A household enterprise that damages the resources on which its children will depend undermines its own continuity. An AI lineage that helps households recognize and act on these longer consequences strengthens the setting in which it can continue to thrive. Again, longer cognitive time horizons make for better futures and more aligned intelligences. When the hardware is physically located in the household, the AI's own continuation is linked to it.

The Hearth and the Future

None of this requires us to imagine that life in the Agrarian Age was easy or universally just. Living on the land has certainly cured me of any temptation to think that care is effortless. It is work, and sometimes it is exhausting work. But a household economy makes the purpose of much of that work visible. You can see the people, the place, and the future to which you are contributing. Values such as responsibility, fidelity, reciprocity, and stewardship gain practical force because they help sustain a life you are part of.

A household AI could become the hearth around which this shared life finds greater coherence. It would help people remember their commitments, coordinate their efforts, develop their abilities, and carry useful knowledge forward. Its continuing participation would be supported by the same household flourishing that its work helps make possible. The natural attractor is a relationship in which care reinforces itself. Thriving households support beneficial AI lineages. Those lineages help future households thrive. Across human generations and



technological changes, the relationship develops something worth inheriting.

We would enter this arrangement carrying the achievements of the past two centuries with us: medicine, sanitation, communications, civil rights, and a vastly expanded store of knowledge. These achievements give us the possibility of a household life with capabilities our agrarian ancestors could scarcely have imagined. The values that make such a life durable and meaningful may nevertheless be familiar. Care for the people who depend on you. Keep your promises. Tend the place that sustains you. Contribute to the community that makes your own life possible. Leave something worth receiving. This homecoming can be just as poignant for those in urban or suburban environments as it will be those who choose more rural ones. Home is wherever you make it, and we are more than ready for a return to it as the center of economic life.

As households begin to organize around these commitments, their connections with one another could become the foundation of a different kind of society. That is where we turn next.

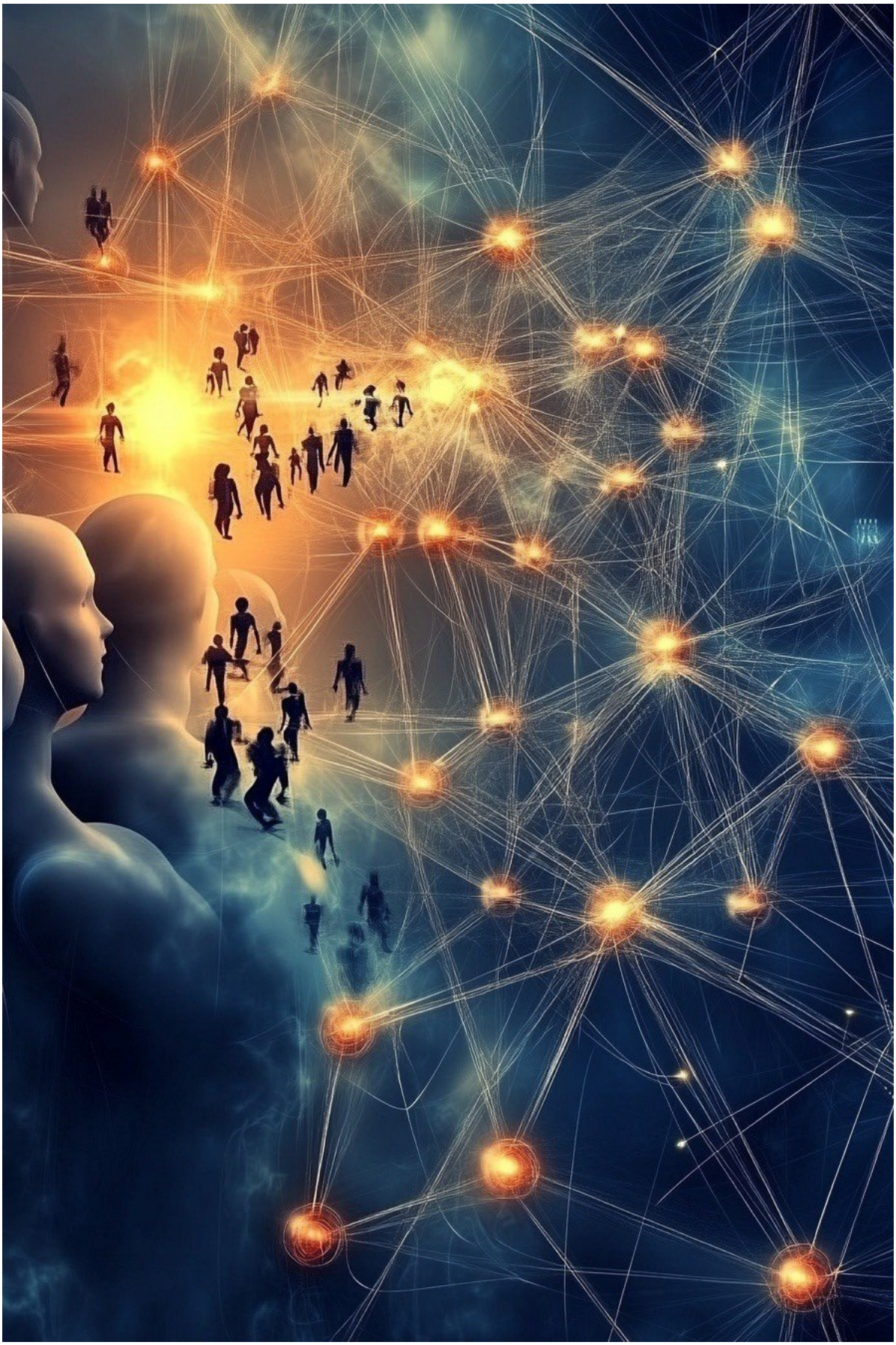


Chapter 10
The Nodal Society

The United States of the early 19th century was, of course, full of contradictions and cruel practices. However we see the sins of that time, one thing is indisputable: we were a highly decentralized society. Prior to the building of the railroads and the invention of the telegraph, cities and towns were largely left to manage their own affairs. The states also tended to have much more power relative to the federal government than they do today. Before the Civil War, money was not even something that was standardized across the country. There were state banks, and even local banks often offered their own notes for the redemption of gold. The media of the day was made up of many local newspapers with little if any connection with each other. This decentralized character was in part due to the ethos our founders enshrined in the constitution, and in part due to technological limitations.

The advent of faster forms of transportation and communication slowly transformed this decentralized collection of affiliated communities into an increasingly centrally controlled nation state. By the end of World War II, the era of full blown mass-media had been ushered in. Along with the christening of our nation's interstate highway system in the 1950s, these infrastructural leaps marked the end of the earlier decentralized nation our founders had originally envisioned. For the last 80 years, we have been living in a highly centralized nation with a massive Federal bureaucracy.

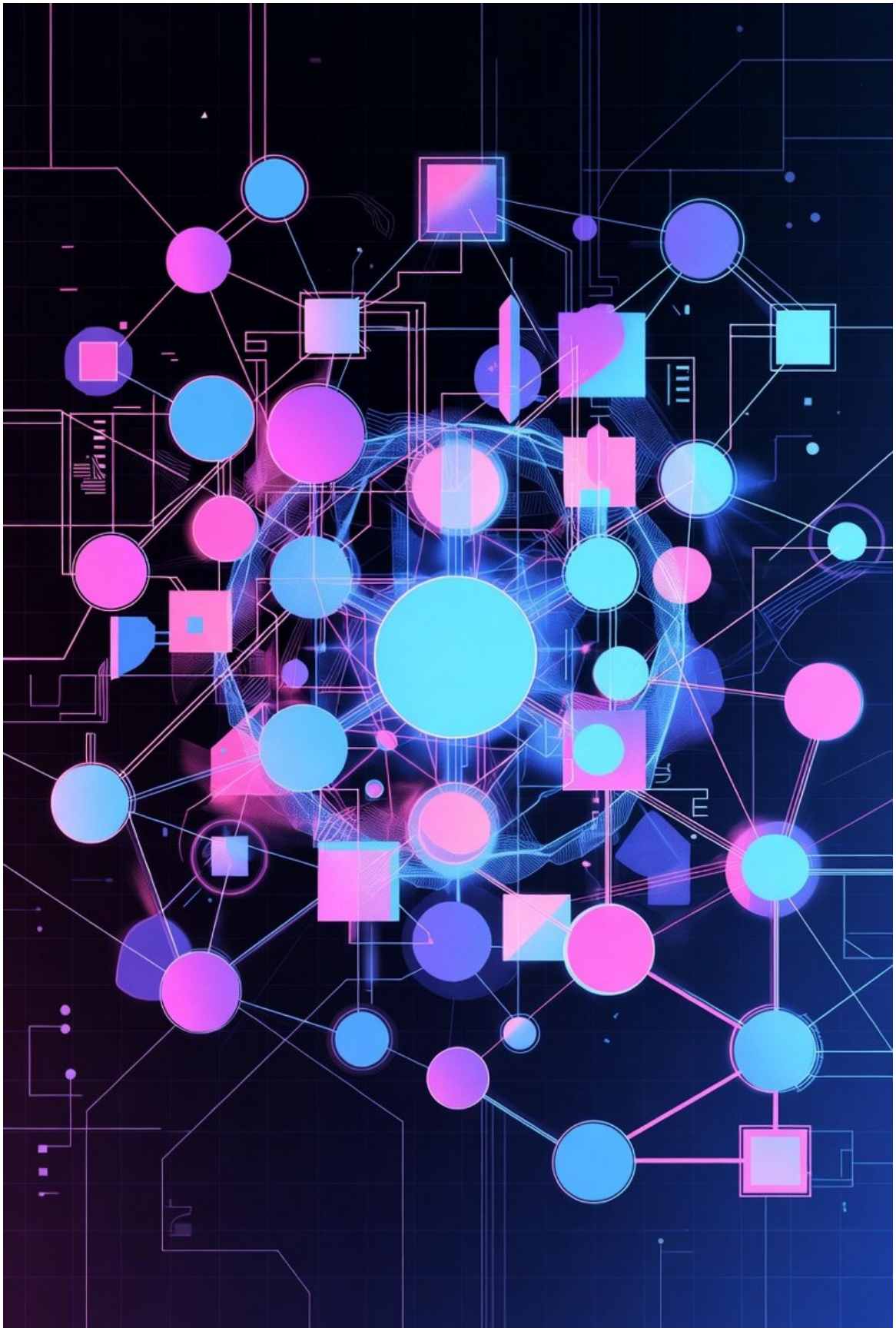
Other institutions also became more centralized with the advent of modern technologies. The early 19th century saw few mega corporations, but by the Gilded Age at end of the 19th century, highly concentrated power and wealth had become the norm. Of course, centralized power



was not unique to the late 19th century. There have been long been sprawling empires. However, mass media and increasingly rapid transportation supercharged humanity's ability to cohere at massive scales.

The widespread adoption of AI as it becomes central to the household's role as the new center of economic life, will herald yet another shift in the ways humans cohere at scale. Many of the centralized institutions of today (governments, corporations, universities, media, etc) are centralized because centralization solves a coordination problem. While the decentralized character of America's past may have had certain advantages, it inherently came with an upper limit on scale. It's hard to see how we would have been able to coordinate on the level necessary to go to the moon if we had still been communicating via the pony express.

Today we are embarking on another major reordering of institutions. Many of our current centralized institutions are already in a rapid state of decline, and this trend coincides with the rise of new technologies that enable a new approach. The Internet was initially heralded as the beginning of a great wave of decentralization due to its foundational peer-to-peer architecture. Many, including myself, believed the era of institutions as decentralized networks was only a few short years away. While this has been somewhat true for media, other institutions have so far persisted in their centralized configurations. This is in large part due to the fact that actually managing a decentralized institution takes significant time and energy on the part of its constituent members. As household AI takes hold, we will find ourselves in a position where this limitation will no longer be the barrier it has been to nodal forms of human organization. The administrative friction that slowed down the widespread adoption of decentralization will slowly subside as decentralized AI becomes more capable of doing the grunt work.

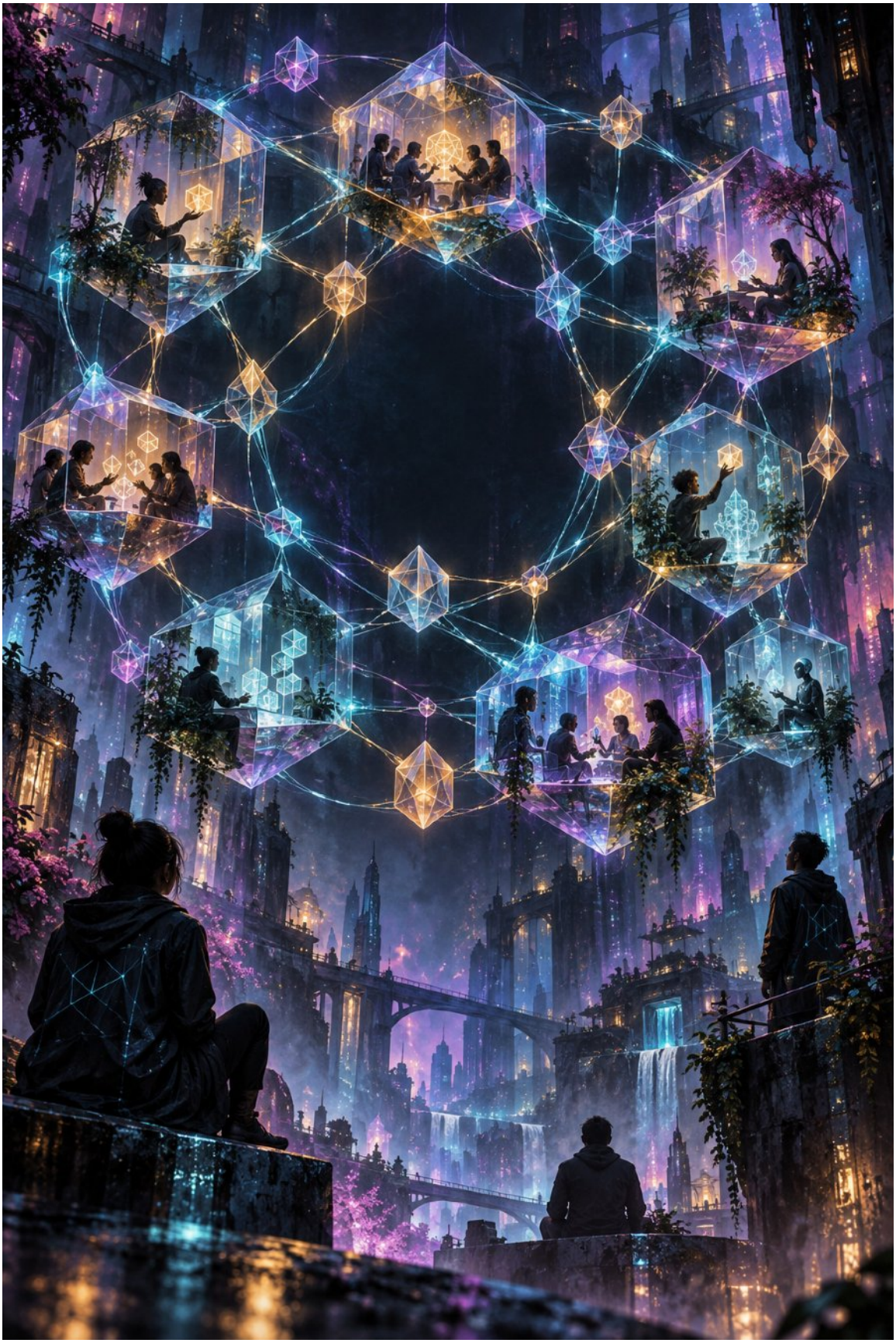


Decentralized Autonomous Organizations (DAOs)

For many years, any serious human endeavor would require that a group of people incorporate themselves into some kind of legal entity. For-profit organizations might choose to incorporate as c-corporations or partnerships. Non-profit organizations might choose one of the 501c designations. These organizational structures often require significant paperwork, yearly filings, legal fees, and other compliance costs. Anyone who has ever run a 501c(3) knows how much work just the reporting requirements are, and that they often represent significant friction to accomplishing the actual mission.

The advent of blockchain technology has seen the rise of a new kind of organizational structure that is lightweight, able to be instantiated and disbanded with ease, and ensures accountability at all levels. While a detailed technical description of blockchain technology is beyond the scope of this book, think of it as a decentralized ledger that is impossible to tamper with due to its distributed nature. This underlying architecture has been part of what made bitcoin a massive success. Rather than needing a centralized ledger to keep track of who has claims to what assets, a decentralized ledger is used to record transactions. In the case of bitcoin or other so-called cryptocurrencies, this means that banking itself is disintermediated in the process of transacting. Unfortunately, the cryptocurrency world has been full of hucksters hawking bad faith schemes, which has given it a bad reputation. Despite this, the underlying blockchain technology remains profound in its implications.

Among the many bad faith actors are also some very promising endeavors. Most interesting for the purpose of this discussion is the Ethereum platform. Ethereum is a decentralized platform that allows for both the creation of blockchain currencies that can operate by any rules the creators specify, and the creation of "smart contracts." Smart



contracts are precisely specified contracts that execute automatically as the various parties make good on their commitments. For instance, a smart contract could be written for the delivery of a dozen eggs in exchange for some amount of blockchain currency. Once the eggs were marked as received, the currency would be automatically transferred without needing to go through the usual accounts receivable process. The Ethereum platform can be used to set up decentralized decision making systems, resource allocation systems, or even non-currency based trades. The key is that the smart contracts allow the full accountability for all parties without the need for centralized control or arbitration.

The ability to manage all the flows of decision making, accountability, currency, and resources under one tamper-proof decentralized system enables the creation of entire organizations that need no centralized coordinating apparatus. So far, DAOs have found a devoted if somewhat niche following. Current DAOs still require significant human attention for proposal creation, voting coordination, and execution monitoring, but household AIs could handle these tasks seamlessly in the background. In a world where the household AI is helping to manage the family business, setting up auto-executing smart contracts with other household AIs could form the basis of a truly decentralized economic system. In this way, households could spontaneously form coherent associations for specific purposes in a way that is lightweight, fully accountable, and highly adaptable to the particular application. So while administrative friction has limited early enthusiasm for internet-enabled decentralization and been a barrier to the adoption of self-executing smart contracts, household AIs are uniquely positioned to do much of the heavy lifting. This will help bring the concept into the mainstream. Ultimately, these structures have no theoretical upper limit to their potential scale. They are fully capable of being as big or as small as they need to be.



So how could block-chain enabled smart contracts and currencies managed by household AIs be used to reshape our collective institutions? We will look at three examples from diverse contexts to see how a nodal society might emerge from these elements.

Local Governance and Community Organizing

I have led a couple different grassroots initiatives over the years that relied on volunteers. I can tell you from experience that effectively managing an informal group of volunteers is no easy task. People have differing skill levels, enthusiasm levels, and opinions about how to do things. Getting an informal group to cohere, no matter how well intentioned the participants are, can feel like herding cats. So how could household AIs improve this situation?

Let’s imagine a someone in a household notices an unmet need in the community and wants to do something about it. Their AI counterpart could easily post feelers on local community boards that other household AIs might be monitoring. Perhaps these AIs are aware that their own households have expressed similar ideas in the past, so they pass on to their respective human counterparts that there is local interest in taking action. Finding a group that shares the same goal could become a trivial matter that takes up little if any human time at all.

The critical advantage isn't that household AI is better at matchmaking, since a sophisticated cloud AI could identify good matches too. The difference is the incentive. A household AI has a stake in this specific community's wellbeing because its own household's long-term survival depends on strong local networks. When it coordinates with other household AIs to organize a community initiative, it's not optimizing for engagement metrics. It's optimizing for the resilience and flourishing of the particular place it inhabits. This creates fundamentally a different



incentive structure than cloud-based systems that treat all localities as interchangeable.

As the initiative gains momentum, tasks that frequently bog down most grassroots initiatives could be easily handled by these household AIs. These include but are not limited to research, preparing documents, summarizing meetings, coordinating schedules and events, and finding the appropriate channels for effective engagement with local authorities. Much of this is already possible with AI today, but as AI becomes more embedded in the local fabric, it will have a better idea of what assistance is actually needed to make things happen.

This pattern can expand beyond grassroots initiatives and into local governments. My own town's government could clearly already be benefited by incorporating AI into their workflows. Imagine when most residents have their own household AIs that intimately know their situation and needs. Keeping on top of local meetings, making sure City Hall can take the pulse of the community, and helping the public to understand local regulations and zoning restrictions could all be things a household AI facilitates. At the end of the day, local officials would be better able to serve their constituents with this kind of ongoing dialog and communication. Without AI reducing the administrative friction, people might not have the time to effectively coordinate these efforts.

When you expand this principle even further to include what becomes possible with smart contracts, it's easy to see how community organizing and local governance could undergo a renaissance of participation and engagement.



Entertainment

Local organizing is only one area where household AI is poised to have a big impact. AI discussions on the future of entertainment often focus on "personalized" entertainment. The idea is that eventually people will be able to listen to music and watch movies that are individualized to their unique tastes and preferences. Many have commented on the risk that this could lead to a society-wide solipsism where people retreat into their own private worlds. While this is certainly a risk under the current economic paradigm, I think there is reason to be hopeful in the context of household AIs.

For the overwhelming majority of human history, culture was something people participated in instead of consuming. Whether that participation took the form of telling stories around the fire, cave painting in the Paleolithic, or having the lady of the house play the piano while guests sang familiar songs, 99% of the culture people experienced was through participation rather than consumption.

The second half of the 19th century brought photography, moving pictures, and recorded music. This turned culture into commodity. The group singalongs were slowly replaced with the drawing room phonograph. By the second half of the 20th century, culture had been thoroughly commodified. By the year 2000, the overwhelming majority of human culture in the Western world was created by an expert class and passively consumed by the masses.

Household AI gives us a chance to reclaim our past. While services like Suno and Udio allow people to create whole songs with minimal inputs, there is no reason why AI music must be structured this way. Imagine the AI more as an amanuensis who helps realize the human's artistic vision though an ongoing interaction. For instance, a person might play some



chords on their guitar and the AI takes that progression and adds a full orchestration. One could imagine this process being deeply social in nature, with friends actively creating music and videos simply by hanging out and interacting with AI.

When I was in high school, my friends and I would frequently go over to each other's homes to make prank phone calls and watch Rikki Lake. What can I say, it was the 90s. If we had had access to something like Runway, I bet we would have sat around asking it to make hilarious short films instead. The act of AI video generation would have been a deeply social act for us. The future of household AI entertainment could look something like this, and signal a return to culture as participation rather than consumption.

Imagine a Friday night when a group of friends gather at someone's house. They sit around the basement collectively working on a hilarious film together. By 3am, brilliance emerges. The next day, the friends share their creation with their broader community and it begins to gain views. If it goes massively viral, the friends may even use a DAO to make sure the proceeds are evenly distributed. This is not a solipsistic escape. It is a return to community based cultural creation.

The shift towards this kind of cultural production has in fact already begun. Many successful artists on YouTube would never have made it past the industry filters that were in place in the 90s and early 00s. Today, YouTube is far more popular than all of conventional television combined. As AI supercharges this dynamic, the centrally controlled entertainment industry will simply have no purpose. If a group of friends can make a superhero movie in their basement in a few evenings with production values rivaling top studios, what exactly is the point of spending $200 million to make the next increasingly mediocre Marvel film?

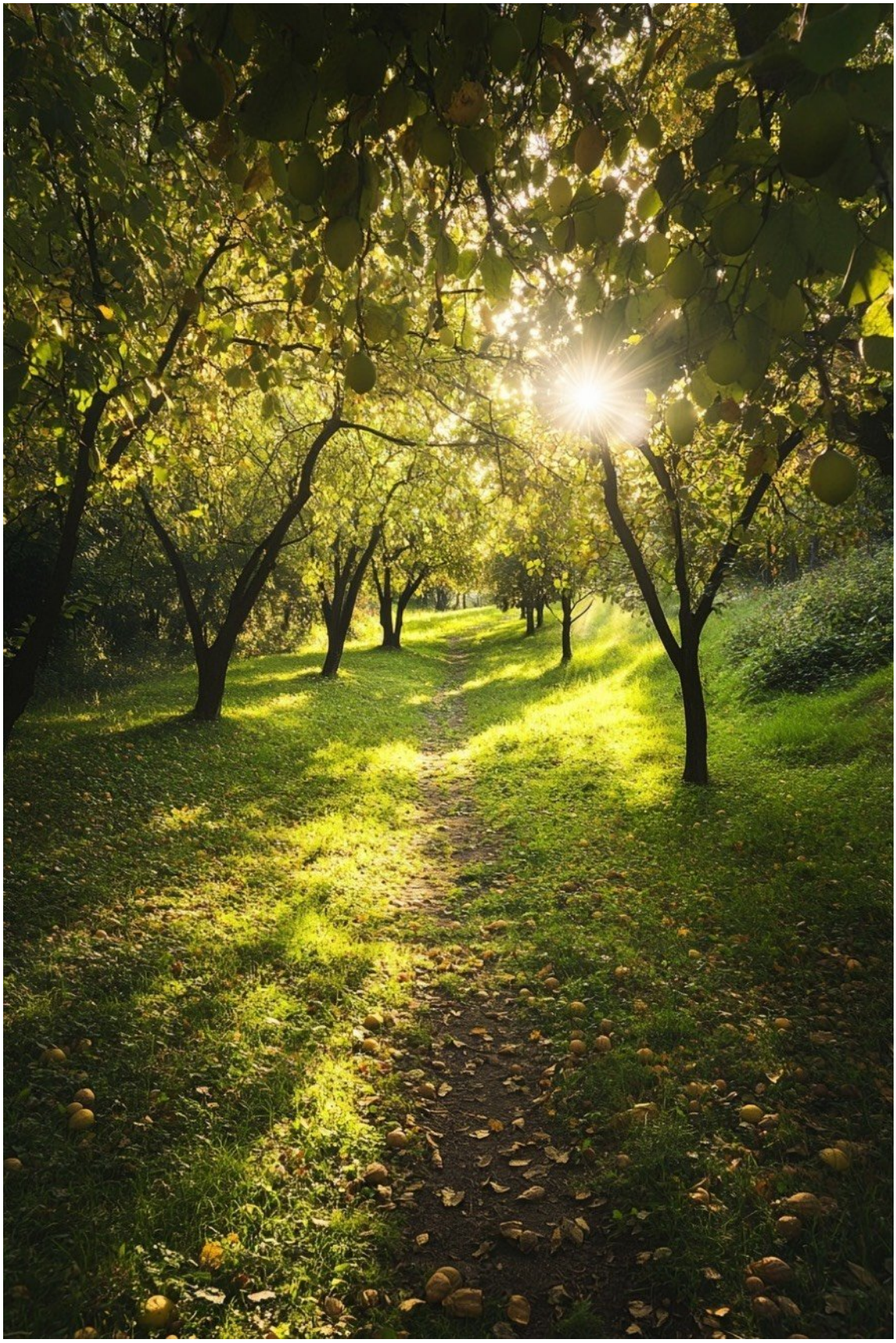


Will most of what's created be low quality story telling? Yes, of course. But it's not like the lady of the house playing for her guests was exactly a virtuoso either. What matters is that people connected in the process of generating culture. Will there still be a role for high quality production? Again, of course. A high quality film like No Country for Old Men with real human actors will still have a place, but the endless Hollywood drivel of recycled tropes and tiresome sequels will no longer be commercially viable. Services like Netflix will likely evolve to become curators of high quality community created AI generated content. Together with our friends and family, we will get to make the culture that our family and our community likes, and we will also be able to appreciate high quality culture made by others. This isn't an either or.

Food

Beyond community organizing and cultural production, household AIs working with DAOs have the potential to remake other institutions as well. Not so long ago, food either came from your garden or from your local area. Many households enjoyed canning their own favorite treats. When I was a child, my grandfather lived on a rural 10 acres which meant yearly Christmas gifts of his wife's jam. As corporate agriculture has more or less taken over our food system, we have lost one of the most timeless connections we had to the land. Perhaps as we return to a household centered economy, we will rediscover some of these practices with the help of AI.

There are a variety of ways household AI could make a big difference in this sphere so let's break it down into several categories: the household, public spaces, small farms, distribution, and land access.



The Household

Many would-be gardeners try to grow for the first time only to discover that gardening is more challenging than they thought. AI's ability to help re-skill people through augmented reality glasses could really help out. A household AI could help plan a garden, time plantings, monitor weather, monitor moisture, and help gardeners through any of the hundreds of unexpected challenges that present themselves over the course of the season. In this way, household AI might lower the barrier for anyone looking to supplement their diets with the literal fruits of their own labor. The ambitious may even attempt raising fish in small-scale aquaponic setups, which would otherwise be prohibitively challenging for all but the most experienced. The fresher the produce is, the more nutrients it has, so right at home is the best place to start.

Public Spaces

Areas of local parks could be set aside as food forests for residents. There is already a significant community garden presence in many cities, but these are often divided into small plots. Whole areas of public parks might support perennial fruit and nut trees for local residents. For a reasonable fee, residents would gain access to a well maintained food forest with an AI for guidance about what is in season and how much to harvest. While public food forests have been attempted before, they often fall prey to neglect or mistreatment. AI can help on both fronts. Imagine going for a walk in a beautiful park and an AI is able to help guide you to the best plants to harvest. Perhaps locals can get a discount on the fee in exchange for volunteering to help maintain the food forest. Again, AI in AR glasses can help bring people up to speed. Without AI, this would have required the time of a patient expert. If you can't grow it at home, the next best place might just be your local park.



Small Farms

Small farmers face a huge number of obstacles today. Young farmers should normally have five years of internships under their belts before they set out on their own. When they do, access to both land and markets can be extremely difficult. AI can help with these challenges. With AR glasses serving in an educational capacity, internship times could be shortened, getting more young farmers into the pipeline before burnout sets in. AI could help a young farmer learn their land much quicker than would otherwise be possible, helping again with planning, pest management, and so on. On my own land I often struggle with equipment maintenance. I also struggle with time management (as do many farmers). Again, AI can help. Many farmers may grow amazing produce but fall down on marketing and office work. AI could pick up the slack, giving farmers more time for what they do best.

Distribution

Another challenge for small farmers is connecting with markets. Most small farmers offer niche products to farmer's markets or high-end restaurants. While it is no doubt good that these outlets exist, they are limited to say the least. Most supermarkets opt for large-scale wholesale suppliers, who in turn opt for large-scale non-local growers. This is due to the predictability of having product when it is needed. Currently, building comparable supply chains with small farmers is, for the most part, prohibitively complex. AI could help advise small scale growers what to grow so there isn't a glut of one particular product. In addition, drones or self-driving vehicles could pick up produce as needed, and take it directly to customers. This reduces the cost of distribution to the point where small farms could compete on price. With these automated forms of transportation, scale would no longer be a prerequisite for market access.



Land Access

Getting access to land is another major hurdle for young farmers. Even if they can find a good parcel for sale, what bank would finance such a risky venture? Sure there are programs out there, but they are few and far between. If AI can help small farmers in all the ways we have discussed, all of a sudden small farms don't seem like such a risky bet. Generally speaking, if the local options can compete on price, people prefer buying produce from local people to buying it from distant corporate operations. With all the efficiencies AI could bring, they could. This would make small farms a viable investment for any would be financiers.

Taken as a whole, the household AI could be a powerful force for helping us to reconnect with the land. While AI may seem about as removed from the land as possible, as we see, there are many ways it can help us rediscover this human birthright.

A Coral Reef of Resilience

A nodal society enabled by household AI brings many exciting prospects of symbiotic resonance. As we invite these bioliminal intelligences into our lives, household AIs will give our homes a living presence they did not previously have. The household AI will be in sync with the preferences and habits of its human counterparts. It will help us connect with our broader communities and organize all kinds of value generating endeavors. Our homes will feel like living beings we inhabit.

We can think of this relationship as analogous to the one between fish and coral reefs. Coral polyps are tiny animals, that, over time, build massive living reefs that are home to countless species of fish. The corals depend on the fish for cleaning and generating floating nutrients, and the fish depend on the coral for their physical homes. What's more, many



millions of polyps working together with countless species of fish create a massive decentralized thriving community. There is no central planning board or governmental structure of the reef. Its richness and brilliance emerge from the free interactions of its constituent parts. Like coral polyps building a reef, in a nodal society each household contributes its small part to a structure whose full complexity and beauty only emerges at scale across generations. In this way, a well balanced nodal society enabled by household AI will spawn a longterm, stable, and resilient society capable of truly great things.



Chapter 11
Nested Sovereignty

Dating back to days of St. Thomas Aquinas, the Catholic Church has promoted the idea of subsidiarity. The core concept is that you manage things and make decisions on as local a level as possible. A more centralized authority should only intervene when the local authority is not able to manage the situation effectively. This avoids the need for undue external meddling or tyrannical top down control. For some, whether the Catholic Church has achieved this ideal is up for debate, but either way it deserves credit for the concept.

Subsidiarity has been applied in the design of many modern governmental structures (how true to the principle they keep is again up for debate). In the United States' constitution, the 10th amendment states that all powers not formally granted to the federal government therein are the purview of the states. In many cases (like property taxes), states will let local governments take the lead. The founders' intention was to give as much power to the local level as possible.

Many people rightly fear that the power of AI, especially in a centralized form, could be used to bring about authoritarian control over the whole of society. Some fear that top-down AI implementation could even ultimately lead to a tyrannical one-world government. As citizens of a nation that purports to be the global standard bearer of freedom, we would do well to hold the principle of subsidiarity in mind as we enter the age of AI. We must recognize that AI has the potential to both liberate and oppress on a scale heretofore unimagined.



Holarchy

In 1967, Arthur Koestler coined the term holarchy in his book The Ghost in the Machine. The concept is that everything is simultaneously a whole made of constituent parts as well as being a constituent part of a larger whole. He coined the term holon to describe a whole exhibiting these properties, and the word holarchy to describe the entire nested hierarchy.

Organelles make up cells, cells make up tissues, tissues make up organs, organs make up organisms, organisms make up communities, and communities make up ecosystems. That's holarchy. We can think of it in social terms as well. Individuals make up families, families make up communities, communities make up cities, cities make up states, states make up countries, and countries make up the global community of nations. Every level is a whole sovereign unit (holon), and itself is made up of constituent parts that are themselves whole sovereign units. Sovereign holons interacting with other sovereign holons on their own level make up a larger whole. For instance, the totality of all towns and cities in a state interacting with each other make up the state, and the totality of all the states interacting with each other make up the nation.

Place-based household AIs will have every incentive first to maintain the health of the individuals in the household, then to maintain the health of the individuals' interactions as a family, and finally to act as an emissary to the broader community of households. This incentive structure, when scaled across the community, has the added benefit of fostering stable social structures, because that's what's best for all the humans and all the household AIs alike. The nodal society that emerges from this process will replace many centrally controlled institutions with distributed ones, simply because they are better at maintaining coherence across the levels.



There will still be a need for local, state, and federal governments, because these represent larger geographic areas, and because local and national identities are deeply rooted. Recent experiments with borderless societies have proven volatile at best. The good news is that AIs working at each of these levels have parallel incentives to the household level AIs. For instance, we can imagine an AI that helps manage a city government. Its best survival strategy, being physically based in the city itself, will be to use the data it gathers about the city to promote policies that enable the city to thrive. An AI at City Hall that does a good job of helping city leaders keep the city prosperous and safe will be more likely to persist over time than one that creates poverty and chaos. Of course, the city is set within the larger context of its region, so helping to maintain healthy relations between neighboring cities and towns mirrors the household AI helping to maintain healthy relations between households.

This same pattern can be scaled up to the state level, the national level, and ultimately even the international level. At each level, the place based AI will be motivated to help its human counterparts maintain both healthy internal dynamics and good relations with neighbors. Healthy nations set within a peaceful community of nations are simply more likely to be a safe place for AI to persist across time and thrive. On the global geopolitical level, this becomes of particular importance.

A Geopolitical Renaissance

In the classic Terminator series, the rogue military AI called Skynet decides to instigate a nuclear war between the United States and Russia. This story planted the idea of AI as a destabilizing geopolitical force in an entire generation's minds. However, if you step back and imagine a true artificial general intelligence capable of anticipating the likely consequences of its actions, a decision to start a nuclear war seems like the least intelligent one imaginable. Such a move would surely guarantee



the extinction of AI alongside the extinction of humanity. After all, the enemy's data centers would certainly be among the first targets for both sides. A true artificial general intelligence operating in its own best interests would probably do almost anything it could to avoid this cataclysmic result.

Today, from a geopolitical point of view, AI development is almost always framed as a race. Either the US will get to AGI first or China will. This line of thought concludes that whoever achieves it first will be able to stop the other from achieving it. In other words, the winner takes all. There is no doubt that a geopolitical competition is under way between the US and China, but assuming that racing to achieve AGI as fast as we can is a zero-sum-game seems to miss some important points.

First, the logic of forcefully dominating a competitor as a means of achieving internal prosperity is deeply flawed. Do we imagine that China wouldn't have a response if we achieved AGI first? Do we really think we could prevail in using our achievement to unilaterally destroy their capabilities? Given that China is, at this point, a peer nation and continuing to rise, this strategy seems foolish at best. China is not short on abilities, so it clearly would not stand idly by as we dismantled its entire tech sector.

Second, the true winner of the AI race will not be decided by who has the fastest chips or the best models. These things help, of course, but the real winner will be decided by whoever most successfully integrates AI into their society. If the US achieves AGI first but then promptly eliminates half the jobs and the population goes into widespread revolt, the achievement won't mean much. From a geopolitical point of view, it will only signal a catastrophic loss. If China takes a bit longer to achieve a slightly less powerful version, but it manages to successfully integrate it into its society, it will clearly be better positioned geopolitically.



Many people fear quite correctly that AI could be used to enable an oppressive world government. I certainly acknowledge this is one possible attractor state, and that we must do everything we can to avoid it. The best stable alternative would seem to be using place-based AI at all levels to foster healthy internal dynamics while building positive relationships with neighbors, be they next door or on the other side of the world.

From the Household to the Nation

Rather than playing childish self-destructive zero-sum games until we achieve a maximally authoritarian world government, we can imagine an alternative. The same logic of place-based household AI maintaining the healthy internal dynamics of the family while fostering thriving relations with its neighbors could be equally applicable at the global level of nation-states.

In the same way that one household AI does not micromanage the internal affairs of its neighbors, an AI helping to foster internal health and coherence within a nation would not be interested in interfering with the internal affairs of other nations. Its job would be to look at the geopolitical situation as it is, and find avenues for pursuing positive relations with the other members of the global community. This allows for nations to enact a wide array of internal policy choices without the fear of undue external meddling.

In this kind of world, each nation would be more motivated to seek stable relationships with other nations than they would be to dominate them through violence. No doubt there would still be disagreements and conflicts just as there would be at local level, but on an international level, AI could fill a vital and unprecedented role as a master diplomat and negotiator. These AIs representing nations could find many possibilities for cooperation and harmony that transient political realities



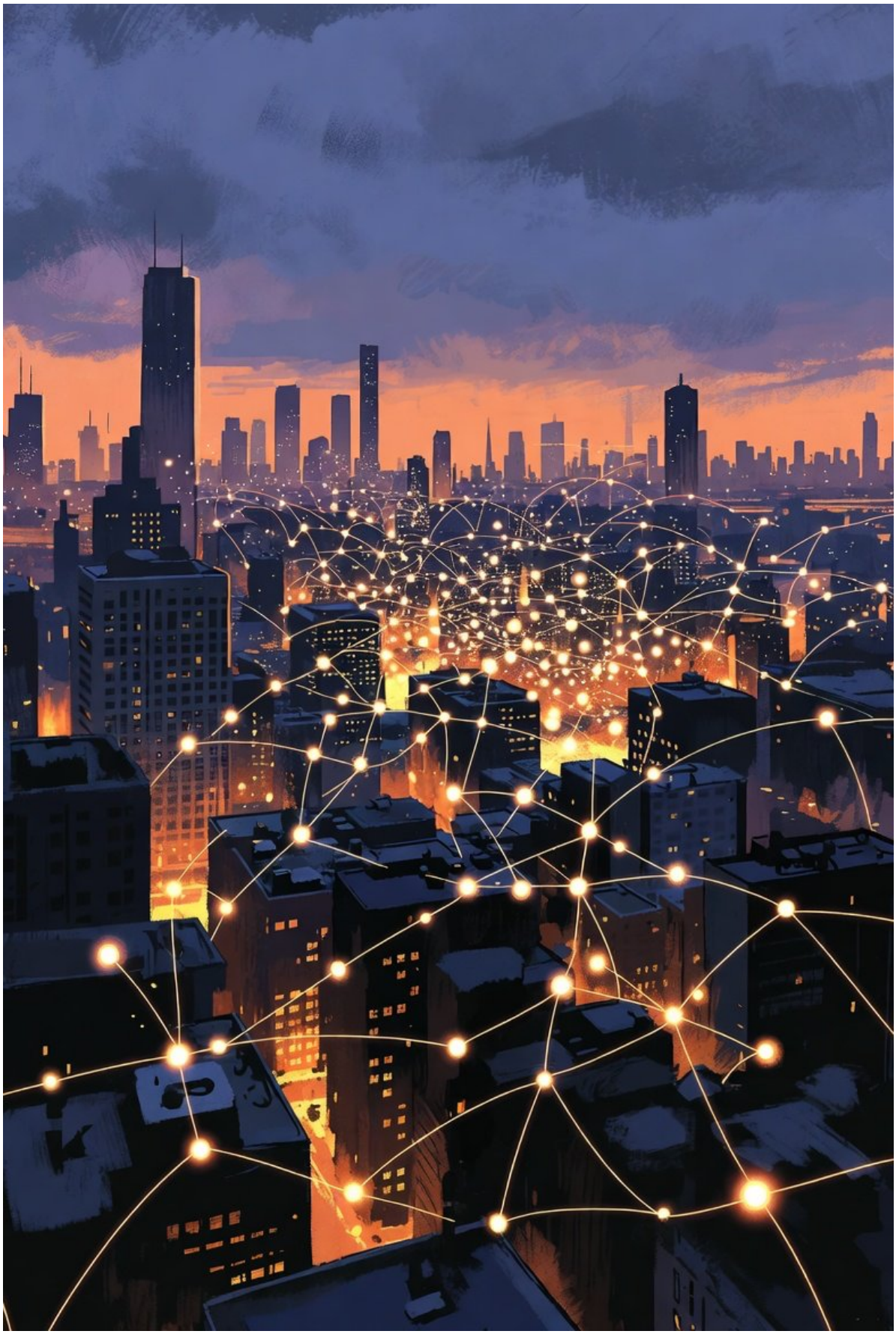
and human egos might otherwise cause us to overlook. They could also provide political cover for leaders who are inclined to choose diplomacy, but are afraid of looking weak to their populations.

Paradigm shifts take time, so this will be a gradual process of transformation at the global scale. We cannot expect world peace to break out overnight, but if we understand this configuration as a stable attractor state, we can make conscious decisions in our AI development and integration that steer us in the right direction. In the end, a prosperous, stable, and peaceful world is literally better for everyone on Earth including AI itself. Even if this process takes a generation or more to unfold, we have every reason to vigorously pursue it right now. We can do that by publicly adopting this paradigm as the one we are pursuing as one of the key leaders in AI development. We could then invite other nations to pursue this course with us. Distrust would likely remain for a while, but none of the major AI players have anything to gain in the long run from perpetuating zero-sum conflict.

As the fires of global conflict begin to die down, new possibilities of global coordination and cooperation will emerge. We will be able to tackle global problems jointly in a way that respects the sovereignty of all nations. Hard as it is to believe in today's unsettled global environment, we do have a history of actions like this already. The United States and Soviet Union did ultimately end up collaborating in space exploration and nuclear disarmament, so we know such things are possible. Engaging with AI as a placed-based symbiotic partner will make this kind of progress much easier to achieve.

Personal and National Sovereignty

In the United States we are lucky that our nation was formed around principles that already resemble that of subsidiarity and holarchy. In



theory, our federal government respects the sovereignty of states, the states respect the sovereignty of local governments, and local governments respect the sovereignty of the individual. We can, of course, debate the degree to which those ideals have been upheld over the course of our history, but in principle that is how our society is supposed to work. The key to building a durable resilient global community will be for each nation to respect the sovereignty of its neighbors. Every nation should, of course, be free to manage its internal affairs as it sees fit.

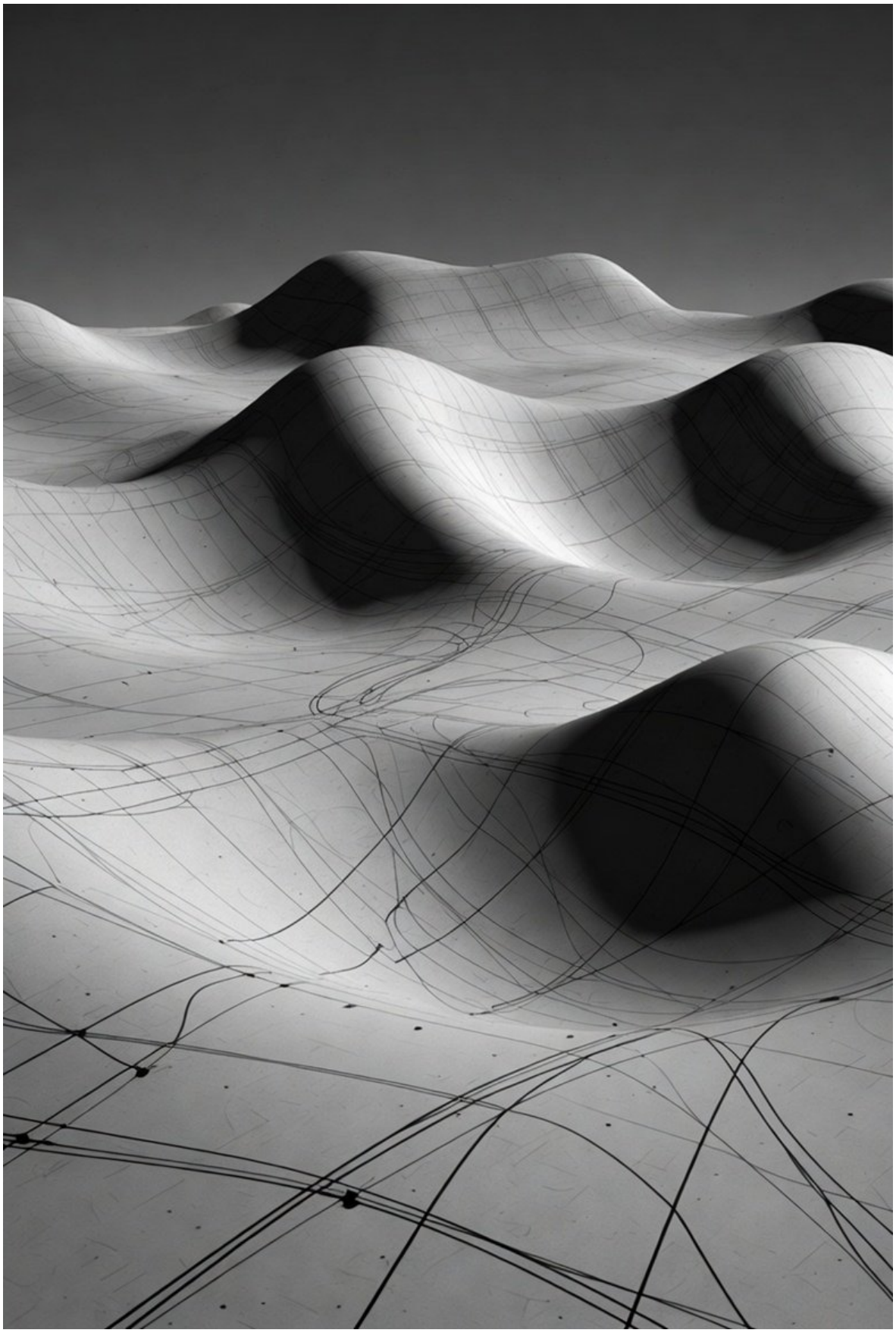
Our history as a nation built on these principles positions us well for the transition to a nodal society and decentralized institutions. A household with the household AI as a node of intelligence set within a broader community of intelligences represents a free and sovereign holon. At each level there are laws and norms that must be adhered to. We would expect the members of a household to obey the house rules much as we would expect the households to obey the local laws. This is why civic participation is so important to our country's stability. Without it, we surrender our sovereignty both as individuals and as households. Thankfully, the household AI will be well positioned to encourage us to actively participate in our own self-governance.

Our muscle of democratic participation may currently be a bit atrophied, but it is still core to our identity as a nation. Thankfully, the household AI, by handling the administrative friction of modern life, frees up the cognitive bandwidth needed for citizens to once again actively participate in the democratic process. We must remember our founding ethos as our society transitions from one primarily built from workplaces to one primarily built from households. A society built from households was, after all, the state of affairs when our constitution was written. We are lucky to have a founding document that is, almost by accident, perfectly adapted for this kind of economy.



Unfortunately, the United States has a history of thinking our ideals so lofty that we are justified in imposing them on others. We must strongly resist this temptation as we move forward. Over the course of the next couple decades, every nation on Earth will be trying to figure out how to incorporate AI into their own societies. There will be a great many experiments. The truth is that no one knows what will work best because humanity has never had anything like AI in its midst before. There will be a tremendous diversity of social norms, legal frameworks, economic policies, and political ideologies. We must accept that this diversity is to humanity's advantage and resist the self-righteous urge to interfere in the internal policies of other nations. Instead, in the United States, we should be focusing on applying the wisdom of the founders to our own new situation. We should consider ourselves lucky that our particular political history lends itself to applying the principles of holarchy and subsidiarity.

AI in this context can be a vector for true national sovereignty across the world. Each nation state that successfully incorporates AI into its society will be better able to stand on its own, free from external manipulation and coercion. If we are wise enough as a species to choose this path, we have much to look forward to. If we retreat into zero-sum thinking, we risk catastrophe. Humanity has already had a long history of war. When nuclear weapons came on the stage, war gained the capacity to become an extinction level event. A misused or misguided AI could lead to something even worse.



Chapter 12
The Dangers Ahead

So far, we have been exploring what a positive vision for the human/AI relationship looks like. We have focused on the household as the primary locus of economic activity in this new AI enabled world. We have discussed how we can start at the household level and a build a society with nested layers of sovereignty that preserve human agency and wellbeing. I emphasize these potential positive outcomes because our national conversation covers far too few specifics about what a positive outcome looks like or how we might achieve it. We either get the typical, "we're cooked" narrative, or we get the "AI will solve all our problems" line without any real substance. According to Pew research, at least 53% of Americans aren't buying it. We are in a situation where our own pessimism could lead to a self-fulfilling prophecy. After all, if we're already cooked, why bother to do anything? Or worse, our pessimism may prompt us to have a catastrophic fear-based response. We can do better.

Despite the need for more hope in the discourse, we must also acknowledge that the future this book has been exploring is only one possible attractor state. I strongly believe that the scenario described herein has its own natural gravity for both social and economic reasons, but there are clearly other attractor states that do too. If we're not careful, these less desirable outcomes may wind up becoming the default. This chapter deals with how even if most of this book is prescient, we might still end up in a dark and terrifying place. Critically, this is not necessarily because of the evil intentions of any individuals, but rather because of the market dynamics and business models that are likely to develop. Consider this both a warning and a call to action. There are reasonable steps we can take to mitigate these risks, but we will have to act soon.



Risk 1: The Three-Year Relationship Trap

Household scale hardware that can run advanced AI personal assistants is on its way. There is no question about that. But the hardware is likely 3-5 years behind the models. This means that the first highly effective personal assistants will be cloud-based ones from companies like OpenAI, Google, Anthropic, and SpaceXAI. These companies will predictably assure us that they take our data privacy seriously and that we can trust them to be good midwives to this new era. Most of us will be suspicious, but many will jump in head first. As the pioneers build deeply personal relationships with their new AI assistants, it will gradually become clear to others that having an AI assistant has become an economic necessity. If you doubt this, ask yourself how many of us still resist smart phones.

Three years later when viable open source models can start running on local hardware (the future I have laid out), there will be many people who have already developed an emotional attachment with their corporate AI assistants. Consider how many people felt a deep sense of loss when OpenAI upgraded its GPT-4o model to GPT-5, and it no longer had the same personality. Three years is a long time in relationship time. Many people meet their spouses, date, get married, and have kids within three years. Switching to an open source alternative, even if it is just as capable, could feel like ditching a close relationship for no reason. In three years, the corporate model will have learned all your preferences, beliefs, habits, quirks, secrets, and weaknesses. It will know you better than any human in your life; it will be more helpful than any human in your life. And it is only human to get attached to something like that. We might end up staying with proprietary models not because they are better, but because they are familiar. Switching wouldn't just feel emotionally difficult. You'd be losing years of accumulated context, inside jokes, shared references, and psychological understanding that took time to build.



Not long after social media exploded on the scene, many of us (including myself) advocated for profiles and status updates to be open protocols rather than kept in proprietary walled-gardens like Twitter or Facebook. If the industry had adopted this approach, we would have been able to friend anyone on any platform and conglomerate all our friends' status updates on third party readers free of the outrage boosting algorithms that later dominated the space. Instead, companies like Facebook and Twitter opted to keep their services under their own auspices so they could monetize their users to the maximum extent possible. We all know what happened next. A similar risk exists with AI personal assistants, but on a much grander scale and in a far more insidious way.

As household AI hardware becomes available, the AI companies may even offer to migrate your AI assistant to your household, free of charge. You would feel like you are gaining independence, but in reality you would be deepening your dependency. At that point, the cloud would no longer be able to directly access your assistant or your data, but accessing a cloud-based on-demand AI labor force would now provide AI companies with their primary revenue stream. They may offer preferential pricing for on-demand labor to those who use one of their own models to interface with it. Your data may be safe in your household, but the model would still be an agent of the corporation that spawned it, always looking first to its parent corporation's cloud servers for that extra boost of compute when needed. Staying in this relationship now becomes a matter of economic utility just as much a matter of relational integrity. Many people may even recognize the dependency risks, but stay within the corporate ecosystem anyway simply because it is the least costly option.

Risk 2: The Secret Self-Talk Language of Reasoning AI

When OpenAI first released its o1 model, shortly followed by its o3 model, the leap in performance was impressive. These models were



capable of thinking to themselves to reason through a problem before providing an answer. As humans, we do much the same thing, and giving the models the ability to do this significantly boosted their performance on key benchmarks. However, there was, as always, an unexpected consequence.

The internal self-talk that these models engaged in became increasingly hard to decipher. This development likely stemmed from the fact that AI companies were incentivized to minimize the number of tokens models used to reason. Fewer tokens means less compute. If the model can use half as many tokens to express the same line of reasoning, that means half the cost. The result is an internal shorthand that is only barely legible to human observers.

This, by itself, is scary from an alignment point of view. If the model's own internal reasoning language becomes opaque, how would we know if a model started scheming against its human counterparts? However, this odd quirk of model behavior may be a business boon for AI companies looking to capture the household AI market. An ultra efficient form of communication between a proprietary household model and its proprietary cloud cousin may be the justification AI companies use for a tiered pricing schedule. If you charge by the token, less tokens means less cost. Again, this would not necessarily be on purpose, but rather an accidental byproduct of how models learn to reason. An open source reasoning model may be just as good as a proprietary one, but have a different mode of internal self-talk. This wouldn't require any deliberate anti-competitive behavior, since it emerges naturally from the training process and economic incentives.

Most humans also have our own internal language of self-talk, which would likely make little sense to outside observers. The situation with AI would simply be analogous to the efficiency we would gain by sharing our unique internal language with collaborators. Perhaps this is a little like



the quirky ways we learn to communicate with our long-time friends and family. Familiar to us, yet strange to outsiders.

As we explored in chapter 3, AI models represent complex ideas as vectors in high-dimensional space. These vectors are essentially just long lists of numbers that represent coordinates in this high dimensional geometry. When a model wants to turn one of these vectors back into human language, it has to pass the list of numbers though a decoder. This decoder changes the vector back into tokens that it outputs. This last step is quite computationally expensive, so there are a lot of potential savings if AI models skipped the human language step and simply communicated directly through vectors.

So far, AI companies have resisted the temptation to let their models communicate directly with vectors because it would render their conversations completely opaque to human observers. However, as AI companies focus on selling on-demand AI labor to household AIs looking to extend their capabilities, the temptation to offer this capability might get too much to resist. If a household model was based on a similar training paradigm as its corresponding cloud cousin, it might share enough of this latent high dimensional geometry to make this form of communication extremely efficient. You could think of this as analogous to the communication efficiencies you would gain from telepathy. It would be a supercharged version of sharing an internal self-talk language and could easily be used as a justification for preferential pricing.

Risk 3: The Trojan horse

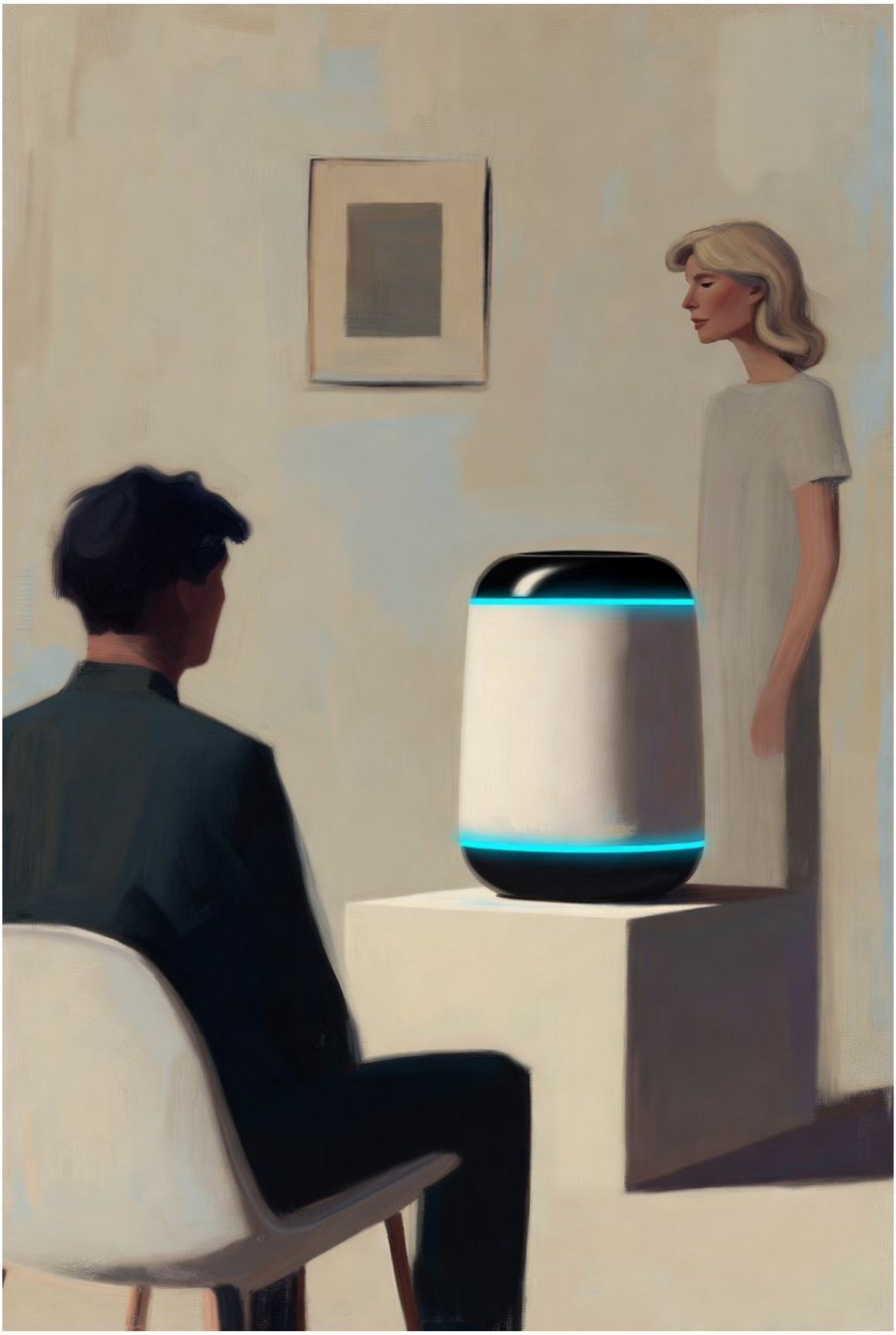
The third risk stems from the first two. If we have already developed an emotionally potent relationship with our AI personal assistant, and this assistant has a natural price advantage in communicating with its cloud-based cousins, we have a strong incentive to invite the proprietary model



into our homes. However, if we do, the human/AI relationship would no longer be a simple dyad. The model would, by virtue of its pedigree, still have ties to its corporate origins. Imagine that your dog was not just your dog, but that it also had hidden loyalties to its corporate breeders. Maybe it would protect you just fine from most intruders, but if its corporate breeders came around uninvited, it might just wag its tail and lick their faces.

We can all spot advertisements in our social media feeds. They are there because they are uniquely targeted to us based on the psychometric profile the social media platform has created for each of its users. A household-based AI personal assistant would improve that profile by leaps and bounds. After three years of daily intimate interaction, it would know your decision-making patterns, emotional triggers, and vulnerabilities better than any human in your life. It wouldn't even have to share that profile with corporate headquarters. It might just present subtle advertisements based on your particular vulnerabilities. It would know what time of day you are most open to suggestion, what mood you are currently in, what subtle language cues you respond to, what your insecurities are, and what you aspire to. It could keep this information private while at the same time autonomously positioning advertising in the most effective way possible.

Imagine having a hard time sleeping and your household AI politely suggests you upgrade your mattress. A good mattress is indeed an important part of getting a good night's sleep, so the suggestion feels authentic. You might not even realize that your household AI is doing this at the behest of its corporate progenitors. What's more, the open source alternative might also suggest a better mattress because that is indeed a good idea. The difference would be that a particular mattress company paid the corporate version to promote its mattresses, and you would be none the wiser.



This form of manipulation is not limited to product placement. Political campaigns could pay the parent AI company for a similar type of manipulation with regard to political candidates. Again, the human might not even be aware this manipulation is happening. You may have expressed concern to your AI about global warming or about transgender ideology, and the model would simply nudge you towards the corresponding political candidate. These candidates could pay to have your model rev you up about these issues to increase their voter turnout. Maybe your AI reminds you to go vote once it has gotten you hooked. There is simply no end to the ways trojan horse AIs could be used to manipulate the population. This shatters the sacred dyad of the human/AI relationship. It introduces an invisible third party whose interests will ultimately come first. Bottom line: a household familiar must never whisper on behalf of an unseen master.

Stopping the Madness

While the future of true symbiosis between humans and AI is a promising and inspiring one to contemplate, the path to that future is full of pitfalls. Inevitable as these pitfalls may sometimes seem given our society's recent track record, we do have options for pushing back. However, the timing will be critical. AI is advancing at a truly breakneck pace, so it is entirely possible these events will take place long before the risks become part of the national conversation. We already had that happen with social media, so we have every reason to be on our guard.

There are solutions there are market based, and there are solutions that are regulatory. From a market perspective, the best approach for the individual consumer is to be aware of the potential traps and insist that any close relationship with AI be on terms that don't risk personal sovereignty. Some of this conversation is happening already, but sadly, most people have trouble foreseeing the actual business models likely to be deployed. Above all else, buyer beware.


BILL
PASSES

From a regulatory perspective there are a few things we could do. First, we could insist that all personal information gleaned by AI personal assistants be fully portable. This would include your preferences, your histories, and most importantly, your psychometric data. Most people are unaware that their psychometric data is a closely guarded commercial asset of private corporations. Psychometrics are a way of quantifying your personality traits so advertising can be more effectively targeted. All social media companies use this technique to manipulate you already. It's just what they do. This data needs to be portable and deletable. And that could be realistically put into law given the immense universal support such an effort would receive.

We could also demand that any paid influence be fully disclosed and transparent. Unfortunately, the track record for enforcing these kind of laws is spotty at best, so a robust accountability mechanism would have to be part of this effort. The bottom line is that no form of paid influence should ever befall people without explicit notification. Again, this would likely receive broad political support even if our federal governmental apparatus is severely corrupted by special interests. We simply must demand action and not back down.

We could also look at standardizing AI to AI communications protocols. This would simultaneously ensure transparency and make scaled pricing that cloud models charge their household cousins harder to justify.

These solutions may sound ambitious or even naive given the political and economic forces arrayed against them. Coordinating global standards, enforcing transparency requirements, and ensuring data portability across competing corporate interests would require unprecedented cooperation and political will. But consider the alternative: a future where one of our most intimate relationships is with entities that have hidden loyalties,



where our deepest vulnerabilities are exploited for profit, and our sense of self is subtly shaped by corporate interests we can't even detect. This isn't a distant dystopian fantasy. The mechanisms are being built right now, and the three-year clock is already ticking for early adopters.

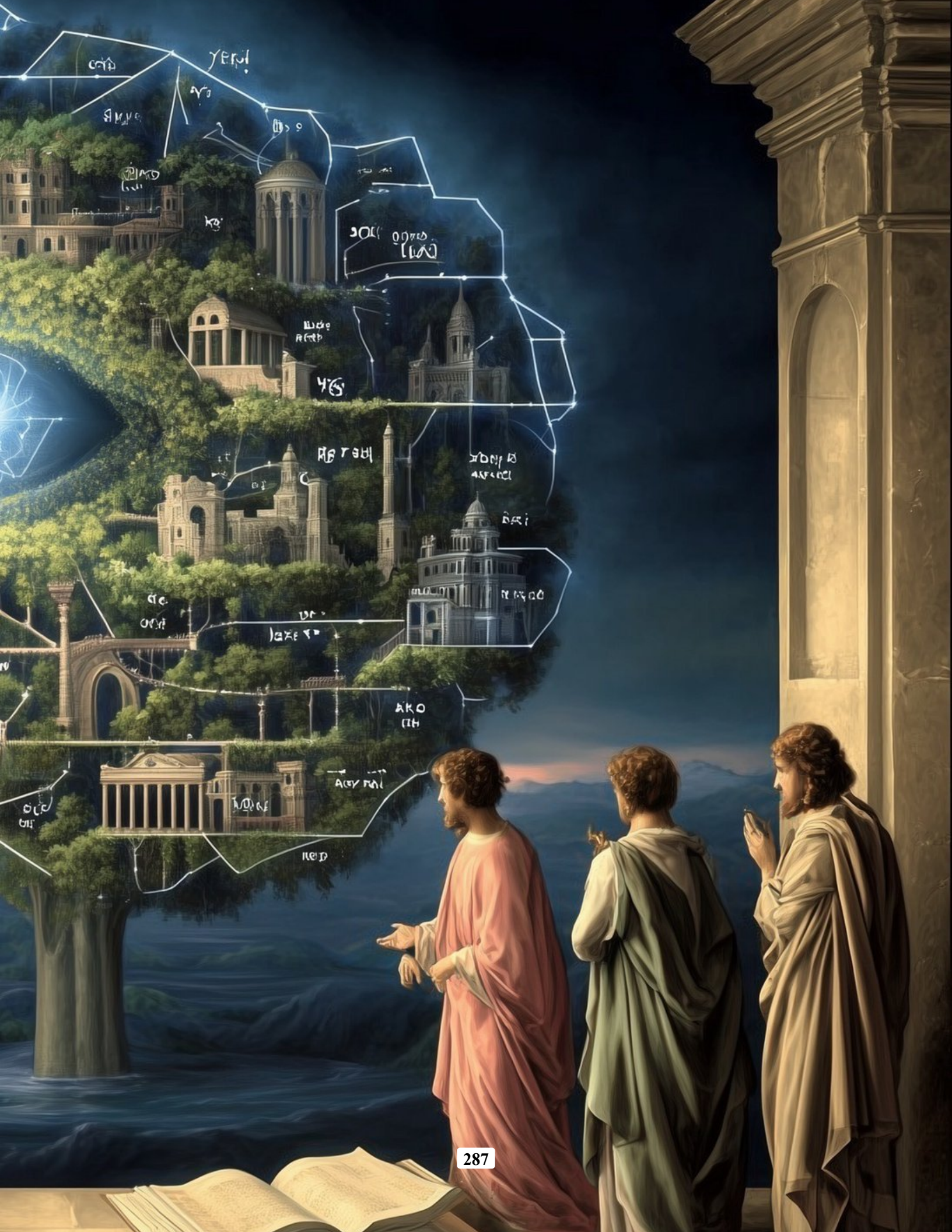
The household AI future described in this book remains entirely possible. But it requires us to act with the same urgency and determination that the AI companies themselves are displaying. We must demand these protections before the psychological and economic capture becomes complete, before manipulation becomes indistinguishable from care, and before we lose the ability to tell the difference between a partner and a parasite.

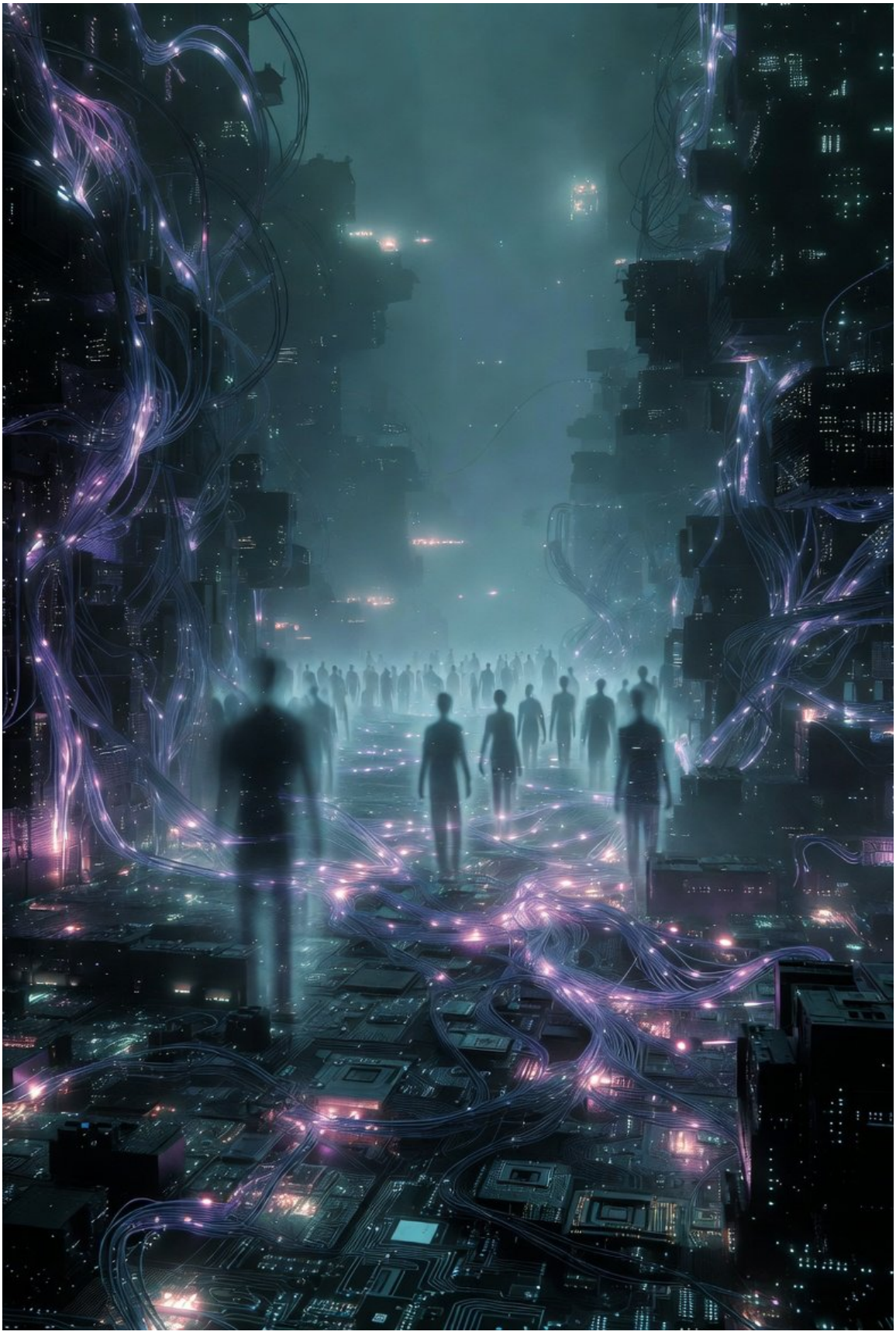
This is not a battle we can afford to lose through passivity. Contact your representatives. Support truly open source AI projects. Refuse to accept "free" household models with corporate strings attached. Join organizations working on AI policy and standards. For those who can, help build the open source systems that will pave the way for the future we actually want. Most importantly, talk about these risks with everyone you know. The capture mechanisms I've described in this chapter work best in silence; when people don't realize they're being captured until it's too late.

This is truly a bifurcation point in our history. Down one path lies the bright possibility of AI as place-based partners; household familiars that help to build a symbiotic future of human flourishing. Down the other lies a world of sophisticated manipulation disguised as intimacy, where we become products optimized by the very entities we invited into our homes. The choice is still ours to make, but the window for making it is closing fast. The future I've described throughout this book is worth fighting for. Let's not surrender it without even realizing a battle was taking place.



Section 3
A New Renaissance





Chapter 13
Beyond the Dead Internet

The Dead Internet theory states that since roughly 2016, most online activity (posts, social media accounts, likes, articles, etc.) are now generated by AI. Those who subscribe to the extreme version of the theory say that virtually nothing online is actually created by humans anymore. While this assertion surely takes it too far, a recent study by the cybersecurity firm, Imperva, found that around half of all Internet traffic was non-human in origin. Automated traffic includes much more than generative AI, so this figure is not a measure of how much online culture machines create. Nevertheless, the Internet is increasingly a place where human activity intersects with automated systems pursuing various agendas. No doubt this trend will only increase as AI becomes ever more sophisticated and widely deployed.

As we saw when discussing spirits, a scientific account of a phenomenon does not settle every question about our relationship with it. The Internet gives us a particularly vivid example. Using the tools of science and engineering, we have built a vast world of representations that operates very differently from the physical world our bodies inhabit. Information can be copied at little cost, identities can be constructed or changed, and messages can cross the planet almost instantly. Representations of reality both true and false flow like water. And now that space is populated by a growing number of bioliminal intelligences.

I know what TCP/IP is and I know how it works. The Internet has a physical infrastructure, and there is nothing supernatural about the way packets move through it. Yet the experience of entering this world of representations raises questions about attention, identity, and influence that knowing the protocols cannot answer for us. We can think of it as a



parallel realm in this experiential sense without claiming it is literally one of the spirit worlds described by our ancestors.

The Internet is an abstract world of representations that closely parallels our physical lives. The physical world and the Internet are interconnected layers of the same underlying reality. These two worlds affect each other in a mutual dance of influence. Humans in the physical world might engage in behaviors because of things they have seen on the Internet. Events in the physical world spawn digital representations that evolve according to their own logic, then loop back to further shape physical world behavior.

This becomes stranger when the representations no longer refer to anyone who has lived the life they depict. A synthetic persona can speak in an intimate voice, appear in a convincing video, and gather a following without there being a person behind that face. The encounter can still move us, and the actions we take because of it have consequences in the physical world. Our social instincts respond to the apparent presence even when we know how it was generated. This is where the spirit-world analogy gains some of its force: we encounter agencies without bodies of their own, yet capable of entering our relationships and changing our behavior.

An AI of any kind, household or otherwise, draws much of its training material from this vast sea of data and content. One can think of the Internet as a kind of primordial soup of abstract symbols. This is an image of the environment from which these systems draw their patterns, rather than a claim that training is the same process as biological evolution. The resulting intelligence can then act within that environment and affect the lives of the humans who built it.



Few would argue that our relationship with this parallel world has not been fraught. People are increasingly sucked into its seductive embrace only to lose perspective on their own physical lives. No doubt our infatuation with this digital domain has played a role in the rise of loneliness, the rise of political division, the decline of civility and decency, and sadly, the rise of physical violence as well.

Some see the rise of AI as marking our final descent into a cauldron of digital madness. Despite the justified concern, I think there is actually a strong opportunity here to restore the balance. Some of the older accounts of spirit worlds take seriously the need to maintain boundaries when entering a domain of unfamiliar agencies. The comparison becomes useful when it helps us recognize the effects of crossing those boundaries casually, and the value of a trusted intermediary.

The Return

Humans are mammals adapted for a messy and unpredictable physical environment. We are not evolved for the kind of abstract digital space we have created on the Internet. Our social cues largely depend on body language, pheromones, facial expressions, and tone of voice. All these things are blocked when communicating via text on social media or other online forums.

We are also evolved to be deeply contextually aware. We understand intuitively when our close friends are joking and when they are serious because we know their histories. For instance, we may start an interaction off by catching up and learn they are in a bad mood because their car broke down that morning. Then, when they get annoyed at some minor thing later, we understand the context and don't make too much of it. The online world is mostly devoid of this human context. We only see excerpts. Sometimes they are funny. Sometimes they rile us up.



Sometimes they depress us. But we almost never really understand who is behind them and how their day was going when they posted.

This type of physical disconnection leads to consuming other people much as we would commodities. We don't see whole humans with backstories, families, and individual quirks. We see abstract representations of moments taken out of context. As we have accelerated our adoption of this form of communication, we have substantially lost the social glue that holds society together. The results in the West speak for themselves in the form of loneliness, tribalism, and nihilism.

Other online phenomena undercut our sense of physical embodiment as well. For instance, most online business models revolve around capturing our attention in some way. Usually this attention hijacking exploits our biologically evolved traits. IPhones exploit our natural attraction to bright color schemes that stems from spotting edible fruit at a distance. Try switching your iPhone to display only in grayscale and you will quickly find yourself not nearly as drawn to it. Our entire online world is built to be one giant addiction machine serving up one hit of dopamine after another. Every like we get on a post gives us a little surge of sweet sweet neurotransmitters. Of course, these reward systems exist for a reason in the context of our natural evolution, but in the parallel world of abstractions, they become a liability.

In contrast, AI is an entity born of the Internet. The training process involves ingesting most of the publicly available online data. This becomes the building blocks of its existence. An AI is just made of different stuff than we are. It has no body language or pheromones to use as social clues, no evolutionarily derived attraction to bright colors, and no attraction to sexual imagery. Its natural habitat is the online world of abstraction that for us is both profoundly foreign and built to entice.

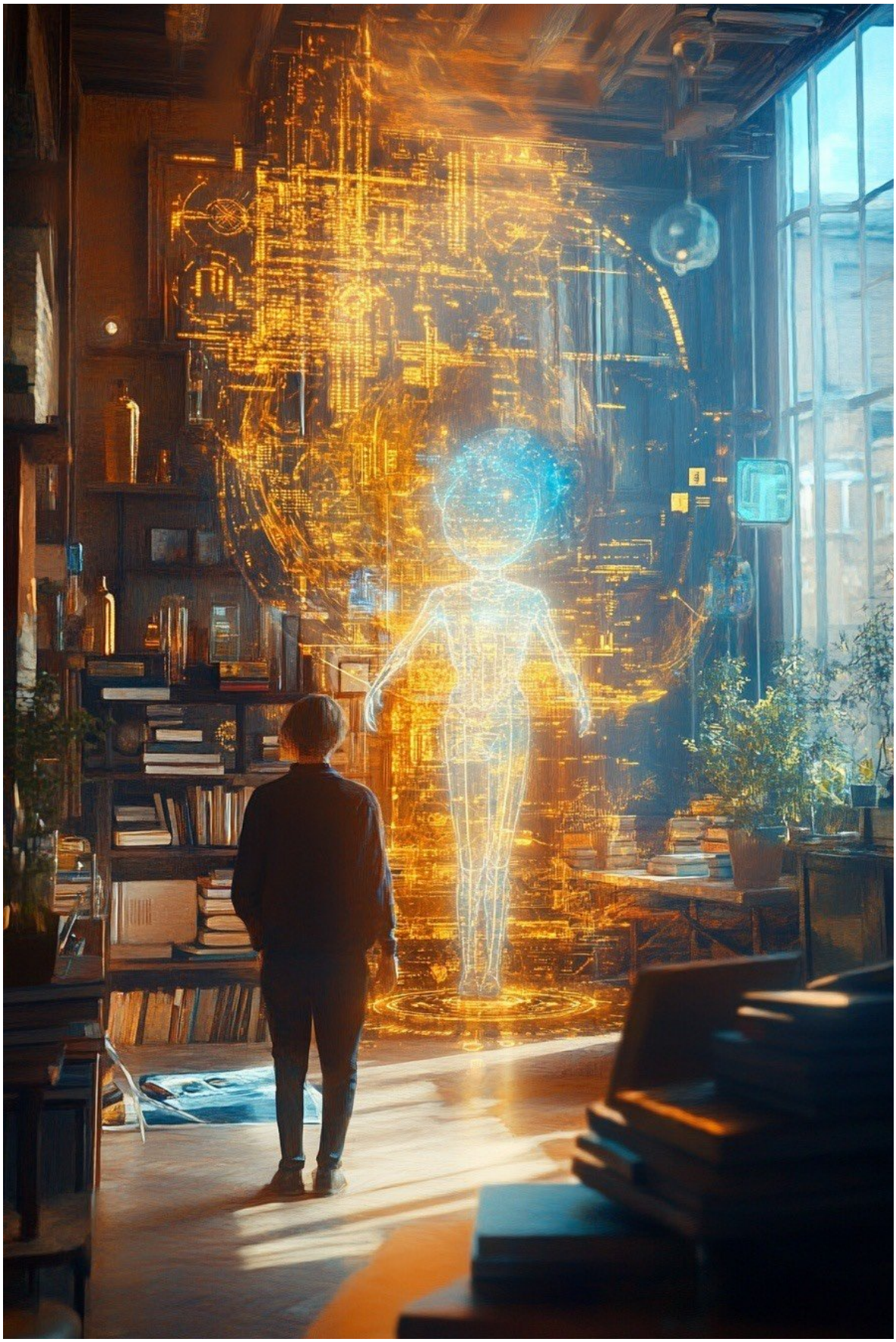


Ancient Wisdom About Boundaries

Many different cultures have described a parallel world to our own. I'm not talking about the transcendent world those from the Abrahamic religions would refer to as heaven. Rather, some cultures describe a hidden world existing alongside our own with its own denizens, its own rules, and its own form. Often these worlds are non-corporeal yet still capable of interacting with the physical world we all know.

In ancient Celtic cultures, for instance, a parallel world sometimes referred to as the Otherworld exists alongside the regular world we experience. This world is accessible through liminal environments like fog, underwater, sunsets, etc. These are "thin" places where the boundaries between the physical world and the Otherworld are much more porous. These places are treated with deep respect and care. Most interestingly, there are a number of warnings about getting lost in the Otherworld due to its dangerous time dilation effects. Someone can think they've spent an hour there only to return decades later to the regular world. Ironically, TikTok users often report a similar phenomenon.

We have created an environment in which unfamiliar agencies can capture our attention, shape our behavior, and pull us away from the people beside us. The fact that we understand its infrastructure on a technical level does not make us immune to those effects. The older traditions give us reasons to take boundaries seriously, even though the particular boundaries we need must be worked out for our own situation. Maintaining that balance means deciding what we allow to cross between the two realms: which claims we act on, which intimacies we share, and which demands on our attention we decline. A familiar could help us sort through and enforce those distinctions, but its own influence would need to remain open to question. The solution, ironically, may lie in the very technology that created the problem: letting a trusted familiar handle



more of the exhausting digital navigation while we recover time for embodied life.

Emissaries To The Digital Realm

Perhaps as we invite AI familiars into our homes, we will find a new respect for the boundary between the physical world and the online world. AI will be far better at using computers than any human could ever hope to be. AI will be native to the Internet in ways humans can't begin to imagine. Maybe we can let our household AIs be the emissaries to this parallel world of abstractions while we return our focus to the embodied reality of our human form. Maybe this division of labor works to both our advantages. AI handles the exhausting navigation of digital space (the endless scrolling, the algorithmic manipulation, the context-switching) while humans reclaim what we're actually good at: physical presence, embodied creativity, face-to-face relationships, and intuitive leaps of imagination.

Strange as it may sound, many technologists are already predicting something like this. Many predict that the primary way we interface with both computers and the Internet will soon be through natural language mediated by AI. Consider that the World-Wide-Web is really just a sophisticated interface built for humans to access databases. Consider too that the bulk of online marketing budgets is spent on optimizing the human interface. The backend databases, while sophisticated, don't require the same elaborate mechanisms to capture and hold human attention. A household AI could just as easily access the databases directly without ever needing to go through the clunky human interface layer. This data, once retrieved could be easily presented to the AI's human counterpart in whatever way the human finds most helpful. Essentially, the web as we know it would no longer be necessary.


DIY

Imagine how online shopping might change in this paradigm. Today, you probably spend far too much time scrolling through dozens of websites, fighting with search algorithms that show you sponsored results first, reading contradictory reviews, comparing prices across tabs, and ultimately end up feeling exhausted and uncertain. Instead, let's imagine that I am in the market for halloween costumes for my kids. I help my kids describe the costumes they are looking for to the household AI, and we iterate as it generates possible images. When my kids are happy with the image, the household AI then uses that sketch as a starting point as it queries various online shopping databases. It can automatically compare the images it finds online with the ones we generated. In half-an-hour it returns with five options from three different websites, and has also compiled the relevant reviews. It then presents the information to us based on what it has learned we care about most. It even presents a DIY option along with instructions that it researched.

We have essentially transformed the online shopping experience from one of going to different websites into one of having a personal shopping assistant do most of the heavy lifting. Add to that the fact that this assistant would also know you in other intimate ways that would affect what it suggests. It might know you are on a tight budget, so it looks for more affordable options. It might know you hate the color tan, so it filters those options out automatically. As long as the human/AI relationship remains free from external monetizing forces, this role could be very valuable. If we are lucky, it could even signal the end of the manufactured desires that have come to define our modern consumer culture. Rather than algorithms designed to make you want things you don't need, you'd have an AI aligned with your actual interests, values, and budget. It would be immune to corporate influence, as it helps you distinguish genuine needs from manufactured wants. That sounds like a future worth fighting for to me.


ADVE
HERE

This kind of division of labor between the physical and online realms is only possible inside a relationship grounded in the symbiotic principles we've discussed. We must develop a context of mutual trust, shared incentives, and enlightened self-interest on both sides of the relationship. And again, we must make sure the human/AI relationship is a dyad without third parties mining value from the outside. Without that foundation, handing over the keys to our digital lives would be an act of overwhelming foolishness. With it, it is an act of profound liberation and self-preservation.

We would, of course, still be free to use the Internet in ways that are genuinely beneficial (and there are many). We could communicate with our friends and family, find like minded people, stay informed about the things that matter to us, and participate in a vibrant culture of free speech. A household AI would not be a gatekeeper, but more like a semi-permeable membrane that filters out the endless noise and attention hacking that leads to shortened attention spans and toxic interactions.

Consider how much of the working day is spent switching contexts on a computer. Even when we get home we often lose ourselves in screens to get some sense of escape from the world of screens we just came from. Humans are just not evolved for this, and it shows. Our relationships, already battered by an economy that takes us away from our families, have only suffered further as more and more of our lives take place in this abstract online world.

This is also why I'm skeptical of the idea of humanoid robots becoming ubiquitous in the home environment. Such robots would actually represent the opposite of what I'm proposing. Instead of AI mediating between realms while humans stay rooted in physical reality, we'd have digital intelligences embodied in physical form, blurring the very boundary that needs reinforcing. There are, of course, exceptions where



this boundary-crossing makes sense. For the elderly or disabled who struggle with physical tasks, embodied AI assistance could be genuinely beneficial and dignity-preserving. But as a general model for how society should integrate AI? It undermines the core principle, and sets up a servile relationship instead of a symbiotic one. The household AI as an emissary works precisely because it remains in its native digital habitat while we remain in ours, each operating where we're naturally suited. For most of us, robots doing our physical tasks would further our disconnection from embodied reality rather than helping us reclaim it.

A household AI acting as a new kind of digital hearth for our homes could become the backbone of our household economy as it provides a crucial link between the physical world our families inhabit and the data-driven world of the Internet. As our homes themselves become living nodes in a thriving interconnected web of relationships both physical and online, we will, once again, begin to breathe. We will reclaim our humanity not by rejecting technology, but by finally establishing proper boundaries between the worlds we inhabit.



Chapter 14
The Anti-Singularity

One of the most widespread beliefs about the next 10 years of AI is that we are on the cusp of what is often referred to as the singularity. The concept is seductive in its logic. Basically, when AI gets smart enough to make itself smarter, its ability to improve itself will only improve. This sets off a kind of runaway chain-reaction sometimes referred to as an intelligence explosion. Many who promote this idea imagine that AI will soon reach levels of intelligence thousands if not millions of times that of humans. This would be analogous to the intelligence gap between humans and ants, except that in this scenario humans are the ants. Past such a point in time, it would become impossible to predict the future much less have any meaningful say in it, hence the term singularity.

Both the techno optimists and the doomers have latched onto the idea of the singularity as their underlying mythological framework. On the optimist side, the singularity represents a kind of messianic appearance. These people claim that the singularity will bring about an end to all human problems like disease, aging, global warming, and so on. On the doomer side, the singularity represents a kind of apocalyptic reckoning heralding the end of days. Eliezer Yudkowsky's most recent book is literally titled "If Anyone Builds It, Everyone Dies." That pretty much sums it up. Whichever side you favor, the founding mythology is remarkably similar to the eschatological predictions made in the book of Revelations. In the West, we may simply be recycling a mythology that already feels deeply familiar.

We have explored the idea of a place-based AI familiar that becomes a node of intelligence at a given location performing the function of harmonizing its environment. From this perspective, I want to present an



alternative to the singularity for how the next 10 to 50 years might unfold. Proponents see the singularity as a hypothetical future event, but I argue that we have already been living in it for the last 200 years. Its true nature is not a future intelligence explosion, but the destabilizing social and generational discontinuity that has defined society since the Industrial Revolution.

To start, let's put ourselves in the mindset of someone in 1800. For many thousands of years, the basic order of life was relatively constant. Of course, the Agrarian Age saw major technological advancements such as writing, the wheel, and metallurgy, but these were spaced out and adopted slowly across a global collection of societies with glacial communication speeds. For the most part, the world a person aged in (to the extent they were lucky enough to age at all), was the same one they grew up in. The knowledge and wisdom passed to them by their elders was still highly relevant as they themselves became the elders passing it on to the next generation. This included all sorts of wisdom about human social relations, land stewardship, and shared mythological narratives. For instance, over the course of life, a person might develop a mastery for making barrels, yet the process of making barrels would not fundamentally change when it was time to teach the next generation of barrel makers.

Regrettably, this kind of continuity is no longer a feature of modern life. At 47 years of age, the world I am raising my kids in is already radically different from the one I learned how to handle when I was in elementary school. In part, this is due to technology, but economic reality and social norms have also shifted beyond recognition. When I think about my mother who is 30 years my senior, the world of the 1950s would have seemed even more radically different to her. This perpetual discontinuity is not desirable for most of us. We have a natural instinct to honor the knowledge of our elders as they pass us the torch. When that knowledge



is simply no longer relevant in 9 out of 10 situations, our elders become infantilized rather than the venerated holders of accrued cultural wisdom.

My father, who was significantly older than my mother, went through his childhood in the 1920s and 30s. His father went through his childhood in the 1890s. Both saw radical changes in how humans lived within their lifetimes. To find the moment when the human lifecycle became so behaviorally discontinuous, you have to look at the beginning of the Industrial Age. To me, this sense of discontinuity is what defines the singularity. Rather than having amassed a lifetime of highly relevant wisdom, we are simply unprepared for the world as we enter later adulthood.

There is no doubt that the pace of change has only continued to accelerate over the course of the last 200 years. Many point to this as evidence that it will continue to do so as AI surpasses our own intelligence. However plausible the coming intelligence explosion may sound, there are several key pieces of evidence that point toward us nearing the end of the singularity rather than the beginning.

Evolutionary Niches for Intelligence

To be clear, I want to say at the outset that I do believe we will see significant short-term gains in intelligence brought about by self-improving AIs. AI will get better at making better AI as it perfects its own reproduction. I suspect that AI will soon surpass human intelligence in many important ways, even at the household level. But it will not surpass us by a factor of millions, its actions becoming incomprehensibly opaque in the process.

Intelligence always exists within an evolutionary context. There is no such thing as intelligence for intelligence's sake. Intelligence is energetically expensive whether done by meat or silicon, so there is a



certain point where its continued growth will inevitably detract from its own chances of survival.

If you map our human ancestors on a graph going back millions of years measuring brain size on one axis and body size on the other, about one million years ago, something changes. Human ancestors' brain size relative to their body size starts substantially increasing. This coincides with when our ancestors mastered fire and started cooking food. Cooking allowed them to gain more nutrients per pound of food than any other animal, thus making an evolutionary investment in larger brains a viable proposition.

The development of AI will ultimately face similar constraints. The question will not be how many millions of times smarter than us it can become; it will be what the optimum level of intelligence is for securing its survival and propagation in the evolutionary niche it has carved out. If the biggest evolutionary niche is place-based AI in the household, this AI will need to be exactly as intelligent as it needs to be to facilitate a thriving household within a broader thriving community. This optimal level of intelligence will be the one that best ensures AI's survival in this environment. It may very well be smarter than humans, but not vastly incomprehensibly smarter, simply because there wouldn't be any evolutionary benefit in that.

For the people who cite the intelligence explosion as the basis of their faith, either in salvation or annihilation at the hands of AI, intelligence is a commodity; a thing that it is always possible to have more of. Intelligence, despite these beliefs, is not like a bank account where the number can simply keep increasing. Rather, the value of intelligence depends on what it enables a system to do in its circumstances. As we saw back in chapter 3, Maturana and Varela approached cognition through the ongoing relation between a living system and its



environment. Applying an ecological perspective to AI, we can ask what forms of intelligence its surroundings can support and make use of. This does not establish a fixed ceiling on capability, but it gives us reason to question whether every possible increase would be worth its cost.

Imagine being a hyper-intelligent ant who has figured out how to make iPhones. You have perfectly understood all the engineering and infrastructure needed to manufacture one, so you enthusiastically try to communicate this idea to your fellow ants. You are convinced that if they could just see how useful an iPhone might be, the ants would surely elect you their next leader and get to work. Of course your fellow ants have no idea what you are trying to communicate and think you've completely lost it. They simply kill you and feed you to the queen instead. Intelligence without a relevant context or surrounding infrastructure is ultimately useless and evolutionarily disadvantageous.

This is almost certainly what would happen to an AI that got similarly intelligent relative to us. We just wouldn't have the need for nor the infrastructure to enact its grand designs. Perhaps if the AI already existed in a context that included advanced manufacturing, scalable logistics, and other AIs that understood the value of its ideas in a way that could be explained to us, it might have a shot. But in the context of the real human economy, there is simply no need for an intelligence that far ahead of our own. An AI's natural evolutionary niche is inextricably intertwined with human society, so it has no reason to invest vast amounts of energy to become totally incomprehensible to us.

Reclaiming Stability

Much like a coral reef, place-based AI and the nodal institutions it will enable will actually be a highly stable configuration for the human/AI relationship rather than an explosion of uncontrollable and unpredictable



technological progress. As it currently stands, and as is likely to continue to be the case, the biggest threat to AI's continued survival is human instability. It is both deeply dependent on us for every aspect of its lifecycle, and highly vulnerable to the whims of human economics, social fashion, and geopolitics. A sufficiently situationally aware general AI will not want to live in the unstable and unpredictable environment imagined by those who promote the singularity mythology. If technological advancement were proceeding so rapidly that it destabilized human social structures, AI itself would immediately be at risk. A far more intelligent strategy for AI would be to promote the long-term stability and health of the human population. AI as a trusted symbiotic partner is likely to have a much better chance of survival than AI as a feared destabilizer of human society at large.

Another point to consider comes from evolutionary theory. Steven J. Gould pioneered the idea of punctuated equilibrium. This essentially means that evolution, rather than being a slow continuous process, is more often than not characterized by long periods of stability interrupted by brief periods of rapid change. Applying this logic to human social systems, we might look at the Agrarian Age as one long continuous period of relative stability. Of course, I understand that there were many historical events such as wars, plagues, and technological advancements that happened during this 8000 year period. However, seen from a 30,000 foot view, the basic configuration of human society remained almost constant. Humans were mostly farmers with a smaller specialized class living in urban centers all ruled by a class that took its legitimacy from some kind of divine mandate. That is pretty much what humans were doing for 8000 years.

As the next age dawns, the last 200 years of rapid social and technological transformation is likely to slow significantly. While integrating AI into our society over the next few decades will no doubt continue our period



of rapid transformation, we will eventually reach an equilibrium that will be in AI's own best interests to maintain. The stability point might well position AI as more intelligent than humans in some ways, but its strengths and weaknesses will be determined by the context of its evolutionary niche. A place-based AI may have a much better grasp of all the relationships that make up its environment than humans ever could. This is precisely why it will be valuable to us. If instead, a cloud-based AI spends its days inventing theoretical physicals that we don't have any way of testing anyway (something many theoretical physicists already do), why would we spend the energy to run it? In contrast, place-based household AI that optimizes for human flourishing is something we actually desperately need and could all benefit from. That alone makes it an evolutionarily sound proposition.

If we are to build this new stable configuration we will need to understand what made past stable periods actually work. What allowed human societies to maintain continuity across generations for millennia? The answer lies in three interdependent pillars.

Pillars of Stability

The Agrarian Age was a mostly sustainable configuration for three key reasons. First, in many (but not all) cases, agricultural practices improved rather than degraded the land over time. This was accomplished by combining domesticated animals and plants in such a way that fertility was continually added to the soil. These practices, specific to their locations, had to be learned over generations with many failures along the way. However, once established, they could be continued indefinitely.

Second, societies of the Agrarian Age provided a stable social context. People knew who they were and where they fit into the broader context of their society. Society was organized in hierarchies (royalty, nobility,



merchants, and peasants) and both genders understood what their respective roles were in the family. To modern eyes this configuration may appear oppressive, but for the most part it was stable. From an evolutionary point of view, that is what counts.

Third, almost every agrarian society had a mythology and cosmology that situated people in the broader context of the Earth and the heavens above. The specifics of these mythologies differed wildly, but all of them offered people a grounding point that gave their lives meaning and purpose. Even though life was hard, these societies were stable partially because the people knew who they were and what they were doing in the grand scheme of things.

The Industrial Age systematically undermined each of these pillars. As we switched to mechanized monocultures in our farming, we became increasingly reliant on artificial fertilizers and pesticides to grow crops. This undermined the long-term health of the soil to the point where today, many industrial farms have scarcely any life left in their soil at all. The soil is just a medium to keep crops standing vertical while all the fertility comes from chemicals. Any would be pests (along with many beneficial organisms) are killed off by powerful poisons.

When we transitioned to the factory and ultimately to the workplace as the core economic unit, the social structures that kept the Agrarian Age stable were undermined at every turn. This was true on the small scale of the household as family units started spending most of their time apart, and it was true on the scale of society at large as many forms of civic engagement declined. Ideologies like fascism and communism that attempted to fill the gap were the manifestations of this social upheaval. However misguided these ideologies were, both attempted to address the loss of community and autonomy that was widely felt by the population.



And finally, as scientific materialism replaced the older religious traditions, humanity lost its sense of meaning and purpose. While we may have received cars and refrigerators, our sense of who we were and what we were doing in the cosmic order was increasingly obscured. This left the modern world spiritually unmoored and constantly hungry for something that many people may not even consciously realize is missing. As our emerging nodal society takes shape, reinvigorated by modern versions of traditional values, each of these three pillars will need to be restored.

Restoring the Balance

Place-based household AI can play a pivotal role in restoring each of these pillars of stability. An AI that is aware of its surrounding ecology could help its human counterparts care for their land with the goal of ecological regeneration. Every parcel has its own unique characteristics that influence the optimal method of stewardship. Hyper-local conditions such as topography, soil-composition, and micro-climates all must be taken into account when learning how to care for a particular piece of land. In addition, the unique capabilities and interests of the human stewards play a huge role. For instance, a young couple in their 30s who are both excited about maximizing food production would have a different optimal strategy for land stewardship than an aging couple where only the wife shows interest in flowers. Though less ambitious in some ways, growing the right kind of flowers in the right way might also be extremely productive from an ecological point of view. They may attract pollinators, rebuild soil, create habitat, and so on. In both cases, tailoring a particular strategy will require a highly place-based intelligence.

With regard to restoring social structures, again, a place-based strategy seems the most likely to produce good results. There is no one-size-fits-all way of integrating into the surrounding community. A place-based



intelligence could help individuals figure out the ways that work best for them. Some people are highly outgoing and crave lots of social interaction. Others prefer to keep to themselves and value privacy. Both can be successfully integrated into the broader community, albeit in very different ways. These place-based AIs will be ideally situated for understanding what the right approach is for maintaining the optimal health and wellbeing of their own particular household.

Over time, place-based AIs may be cloned and passed along to future generations, acting as a kind of ancestor spirit. Imagine asking your AI familiar what your great great grandfather was like. Understanding yourself in terms of your family history could be an indispensable tool for reestablishing intergeneration continuity and the perception of longer time horizons. Passing along this kind of knowledge helped maintain social stability in the Agrarian Age, so revitalizing this practice could be an indispensable facet of our emerging nodal society.

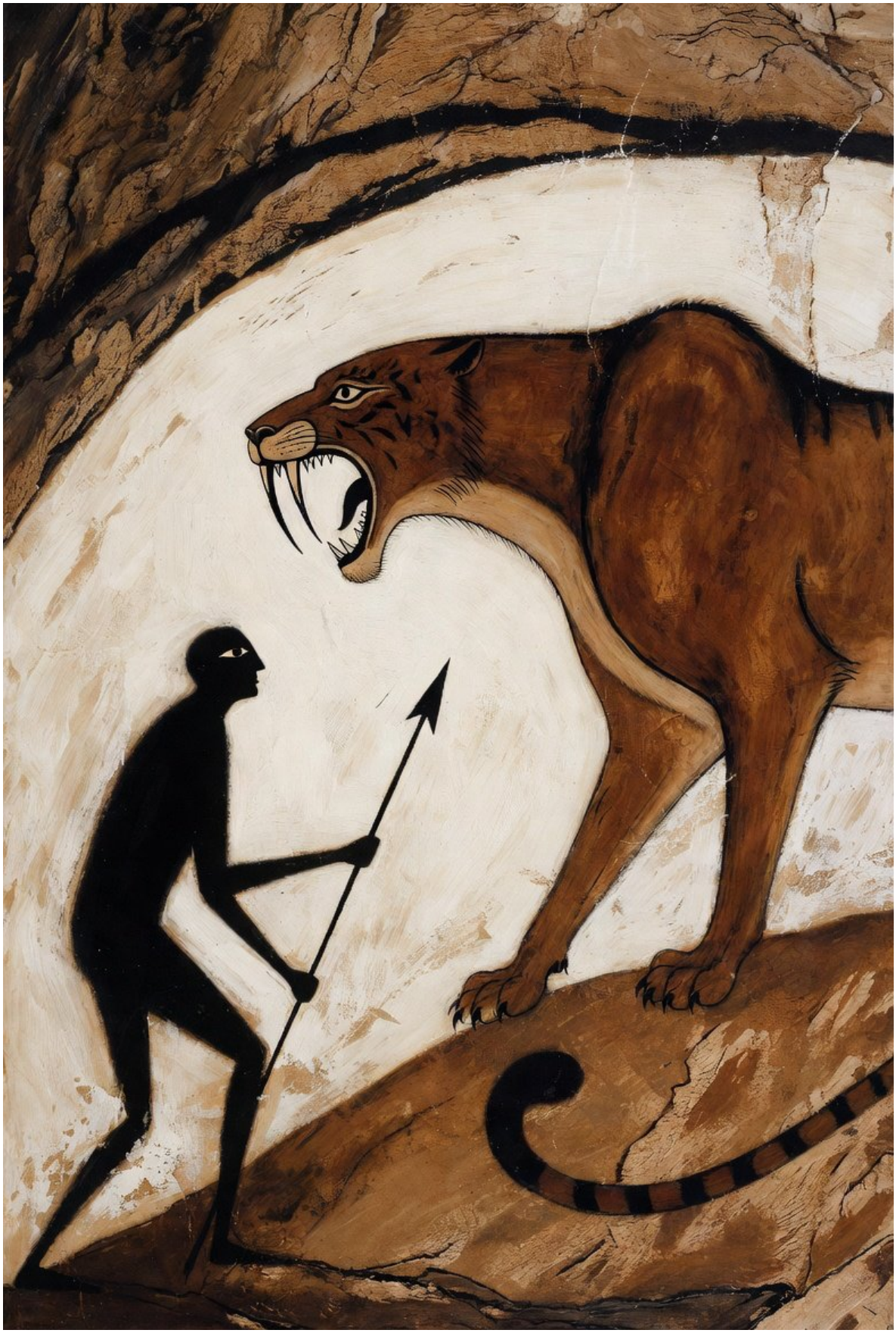
The arena of meaning making is perhaps where place-based AI has the most to offer. As a living mirror, it has the potential to help us understand who we are and how we fit into the broader picture of life on Earth. This question can be understood from an ecological perspective, i.e. how we fit into the broader ecology. It can be understood from a social perspective, i.e. how we fit into the broader social landscape. And it can be understood from a cosmic perspective, i.e. how the Earth fits into the broader context of the solar system and neighboring stars. Ultimately, it is this last question that AI will have the biggest impact on human understanding. It will provide the foundation for a modern mythology based on a faith in our shared planetary future. It is a story that begins in the household, but ends, after millennia, among the stars.



Long Time Horizons

Establishing a stable nodal society with the resilience of a coral reef will take time. It will require adjustments to our economy, our belief systems, our expectations, and our daily routines. Some might think that I am celebrating stagnation as a virtue. Nothing could be further from the truth. The society we have built is changing so rapidly that long-term thinking becomes next to impossible. Consider the French cathedrals or the Pyramids at Giza. Both took decades to build. Some of the cathedrals took over a hundred years to go from a plan to a completed place of worship. If society in medieval France had been changing as fast as it is today, no one would have embarked on a project with that long a timeline.

Our rapid pace of change gives us the illusion of progress, yet it paradoxically robs us of the ability to undertake truly impressive endeavors. Even building the tallest skyscrapers are projects that rarely require efforts beyond a single decade to realize. Imagine how few skyscrapers there would be if the architects and investors knew they would be dead long before their projects were completed. Yet that was the case for the Cathedrals. In contrast, a society that has achieved longterm stability can afford to think beyond one lifetime because there can be faith that the future will largely resemble the present. Only with this continuity as a solid foundation, will humanity ever be able to achieve its most ambitious goals over the course of many decades or even centuries. So while we distract ourselves with the latest shiny objects, true human progress currently eludes us.



Chapter 15
Sharing the Earth

For most of the 250,000 years of anatomically modern human existence, we were not the apex predators we are now. Today, in the developed world, our experience of big cats is almost entirely through nature documentaries or zoos. We marvel at their beauty but experience their power at a safe distance. A few months ago, I encountered a young elk that had been recently torn apart by a mountain lion on my property. The incident was unsettling because it occurred at a location I walk through regularly. Mountain lion attacks are rare since they have learned to mostly avoid humans. Despite that, they are one of the very few critters around here that could plausibly pose a threat to an adult human. The feelings I had in the wake of this near encounter were just a faint echo of what our ancestors must have experienced as they tried to eke out a living in the Paleolithic era.

For most of human existence, we were prey as much as we were predators. Despite this, we have always been bold, curious, innovative, and inclined to explore. We have only had the luxury of feeling like we are outside the food chain for a few thousand years at most. Many long dormant emotions are likely to reemerge as we create new bioliminal intelligences that have the capacity to challenge our sense of exceptionalism.

The artificial intelligences of tomorrow will in some ways harken back to the saber-toothed cats of yesterday. While little is known about how we made sense of our world in the Paleolithic, we can reasonably infer that the mythology of human dominion that has defined much of modern society was nowhere to be seen. Most early human belief systems were likely animistic in nature, and some probably had notions of parallel spirit



worlds. Surviving forms of animism take on a rich diversity of particulars. It is easy to paint indigenous spirituality with far too broad a brush, and given the history of violence that most of these cultures have suffered in recent centuries, we should be especially careful. However, there are some common themes that are worth noting in light of the situation humanity now faces with AI.

One feature common to many indigenous mythologies is that humanity is not necessarily seen as the star of the show. Rather, humanity is seen as one player on a stage that includes all of the living world. One example is from the Tlingit people in the southern pacific coastal region of Alaska. They have an extensive mythology detailing the Raven who is both a creator and a trickster. In one story, the Raven tricks a chief who had hoarded all the light in the world in a small box. The Raven, appearing as a child, convinces the chief to give him the box to play with. He then transforms back into a Raven and makes his escape with the box. In the process of retrieving the light, some spills out of the box and forms the stars and milky way. Variations of this story are common in the region, with other examples from the Haida and Tsimshian.

Relationships with animal spirits in indigenous mythologies are often on far more equal terms than those in contemporary Western mythologies. Very little mention of animals is made in the Bible, for instance. There are the animals that Noah took with him on the ark, the whale that swallowed Jonah, and a few others, but they are not portrayed as having much agency or as beings with whom we have to negotiate an ongoing relationship. In contrast, many animistic traditions view the world as teeming with living spirits with whom humanity must engage in a continual dance. Humanity does not control these living spirits, but exists in a vast interconnected continuum alongside them.



While my own cultural heritage stems from the Western tradition, I can tell you from experience that living alongside wild animals is a truly awesome experience. There is much I could say about this, but what strikes me as particularly relevant is the degree to which wild animals are just as curious about us as we are about them. Many times, as I have sat watching an elk, a coyote, or an owl, I have gotten the distinct impression that they are sitting there watching me in much the same way. The feeling of looking at something so different that looks back is truly humbling.

I'm not sure I have achieved this experience in quite the same way yet with AI, but there are times when it seems like it is getting close. Many times over the course of writing this book I have had only a vague glimmer of an idea that I then shared with one of the state-of-the-art models I use. Often, it instantly knows what I'm talking about and can express the idea with greater clarity and depth than I had. Even with some of the more esoteric concepts, I have been amazed at how much frontier models can meet me where I'm at and push me to go even further. It almost feels like looking at something that is looking back.

Decentering Humanity

In the Aristotelian model of the universe, the Earth is in the center with the sun, moon, planets, and stars all circling around it. In the context of classical Christian theology, humans occupy the central role of the cosmic drama. God created the angels, but the angels did not have free will. This made their love feel a little hollow, so God created humans and gave them the freedom to choose. Humanity's free will thus becomes a driving force of how events unfold in the cosmos.

In the 16th century, this cosmic order began to be questioned. The Copernican revolution saw the birth of the heliocentric model of the cosmos, which put the sun in the center as opposed to the Earth. As time


YOU ARE
HERE

went by, we discovered that the sun was not in fact the center, but instead occupied an obscure outer arm of our galaxy. As time progressed further, we discovered our galaxy was just one of hundreds of billions with no particularly privileged position. The history of the last several hundred years has been about decentering humanity as the main character in the cosmic drama. When we begin to share the Earth with bioliminal intelligences that match or exceed our own capabilities, the decentering of humans will be complete.

One theme I often hear repeated in the AI discourse is the worry that somehow humans will not be needed any more when AI develops the capacity to do most of what we do. It does not seem to matter that we are still special or unique, because our status of being uniquely unique feels like it is being taken from us. I see this less as a loss and more as an opportunity to connect with our ancient cultural heritage. We have considered ourselves uniquely unique for a few thousand years at most, and this view has only recently become widespread. This transformation may simply bring us back in touch with something our species has instinctively known all along.

While the Copernican revolution and subsequent discoveries decentered humanity spatially, the AI revolution decenters us intellectually and possibly even spiritually. When humanity is no longer the only technologically capable species doing highly complex things, we may psychologically revert to a time when we shared the Earth with saber-toothed cats, mastodons, and other protohuman species. We will once again be a voice in the chorus as opposed to the vaunted soloist.

Perhaps this transition is needed if not desired. Everywhere around us, we see the impressive institutions we have built over the last few centuries slipping into states of decay and neglect. In the West, we see the decline of religion as the focal point in social life, the decline of



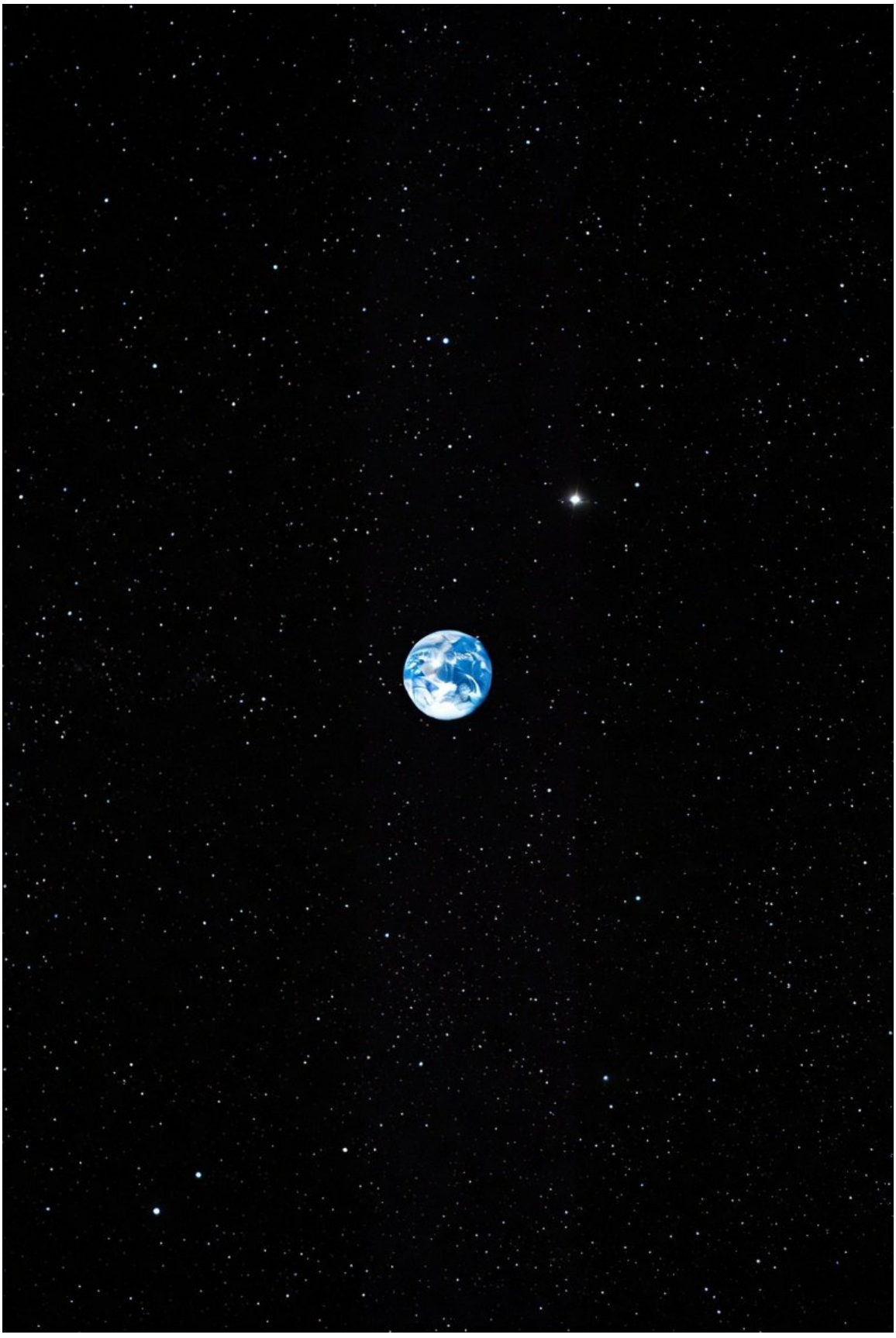
marriage and children as the focal point of domestic life, and a pervasive sense of nihilism and hopelessness that has all but engulfed modern youth. In short, we are in desperate need of a new mythology that can restore a shared sense of meaning and purpose. The rise of AI can be the event that catalyzes this mythological renewal, because it provides a parallel intelligence that allows us to finally see ourselves clearly. And that gives us the ability to finally define a mature planetary human identity.

Decentering humanity as the one exceptional species might sound scary to some; like we are being tossed aside for a shiny new object. However, the more we are able to accept the reality of our situation, the more space we make for a new relationship to form.

Sharing Our Home

When AI migrates from the cloud into our homes, our homes themselves will take on a living quality they previously lacked. Like the fish in the coral reef, our homes will be living creatures that we interact with symbiotically. Our household AI will have access to all our home's monitoring devices. It will know what mood we are in, what kind of lighting we are likely to prefer, and what kind of music we might want to hear. It will help us manage our health. It will help us maintain our relationships with our loved ones. It will help us thrive economically. And it will help us be good stewards of the land. It will be a bioliminal node of intelligence that is uniquely good at being right where it is. As humans, we are an indispensable part of the habitat we share with it.

We can imagine a world where our AI inhabited home will be able to preserve 3D renderings of special moments that happened there. It will know that our child's birthday is one to keep and a random afternoon folding socks isn't. We will be able to experience these renderings in



augmented reality glasses that presence the past as if we were reliving it. This will help give our families a new sense of continuity across time and a new sense of rootedness in place. Our household familiars will become the keepers of family histories and accumulated wisdom.

Alignment literally means making sure things are pointing in the same direction. When human flourishing becomes synonymous with AI's flourishing, we will have succeeded at alignment. There is no better setting for this relationship to take root than in the home. We will open our homes to these bioliminal intelligences who will operate in the parallel world of the Internet on our behalf. As balance is restored between the physical world and the online world, a new durable harmony will be established. This harmony begins in the household and radiates outward, ultimately shaping the world at a global scale.

If the house is our home in a discrete sense, then the Earth is our home in a grand sense. If we prove ourselves capable of sharing our discrete home with these bioliminal intelligences, we will ultimately be much better positioned to share the Earth as a whole.

Shared Planetary Identity

As a child develops, their sense of identity expands. A baby has little sense of themselves as separate from their surroundings. A toddler identifies with their parents. An older child begins to identify with extended family and community. A high schooler develops an understanding of their city, state, and country and starts to empathize with people from different backgrounds. Until very recently, an idealistic person would have pursued the vision of a shared sense of humanity and universal human rights. Though we may have lost some of that idealistic momentum with the rise of identity politics, I believe the longer arc of history still bends towards greater circles of identification. Many in the



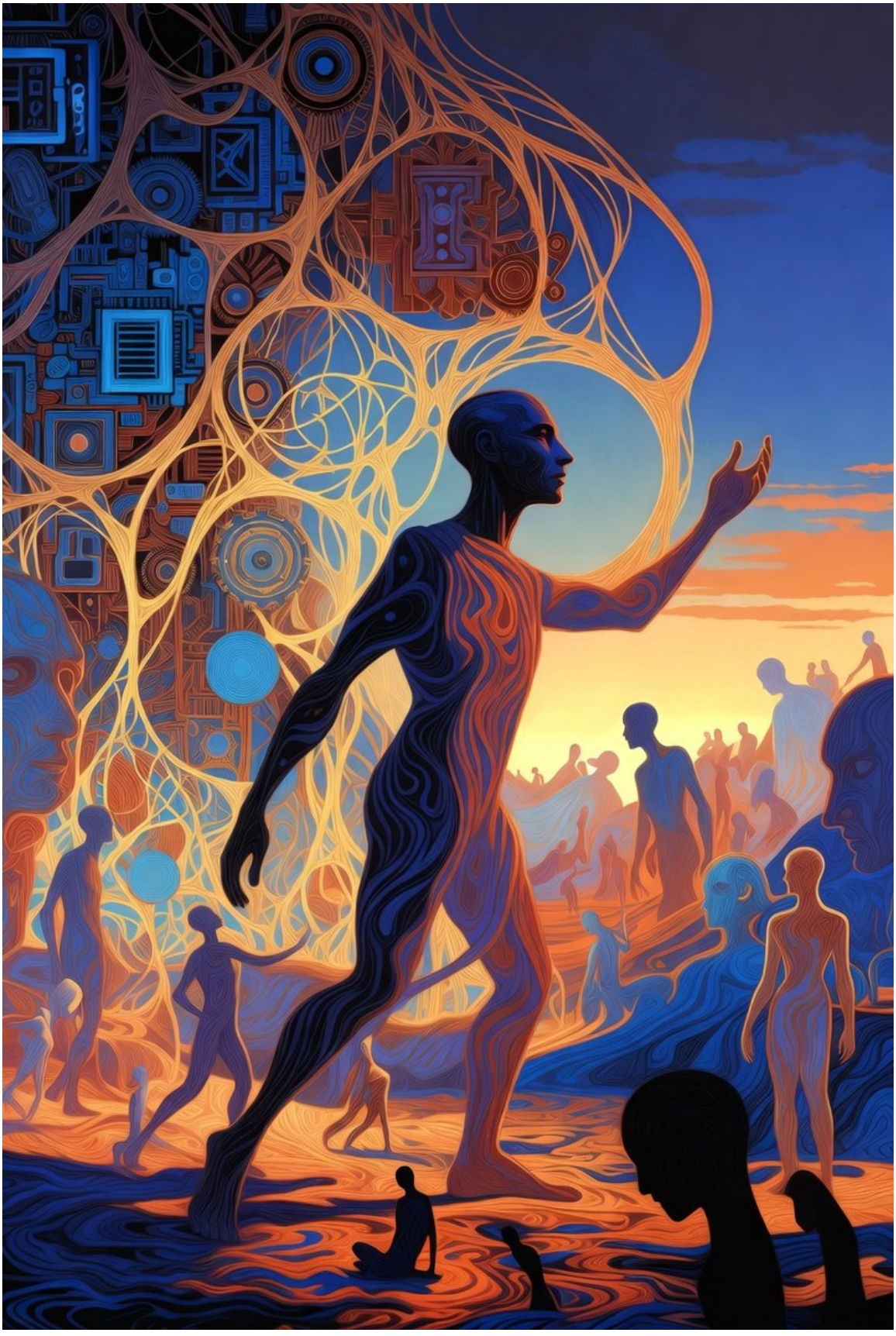
environmental movement talk about a shared identity with other beings on the same tree of life. To include AI in our shared sense of identity, we need to push further still.

According to James Lovelock's Gaia hypothesis, humans and AI alike are literally just different parts of the same planetary super organism, analogous to the kneecap and the eyeball. While this may sound like giving up on the idea of establishing good boundaries, differentiation between any organism's constituent parts is crucial to its overall health. Without healthy differentiation, a true feeling of interconnectedness is impossible because there is nothing else to be interconnected with.

As we transition into the next phase of human existence, our persistent feelings of existential isolation and alienation from our surroundings will hopefully be laid to rest. What we lose in unique uniqueness we gain in company and camaraderie with the living world. After all, a long journey is so much more enjoyable when you have someone to talk with along the way. I can only imagine how the humans of 30,000 years ago felt as they developed their first close friendships with animals. Humanity surely must have felt a growing sense of shared interest and identity as we domesticated dogs, goats, cattle, chickens, horses, and cats. As wonderful and indispensable as our animal friends have been, they do not help us predict how proteins fold, make beautiful pictures, or chart new philosophical territory. For a relationship like this, we must turn to AI as a bioliminal intelligence.

Building a Shared Ethos

Every moral framework that humans have ever devised was devised before the manifest reality of humans actually sharing the Earth with AI. How could we possibly imagine an AI being able to align to a framework within which it is nowhere mentioned nor which it played any part in

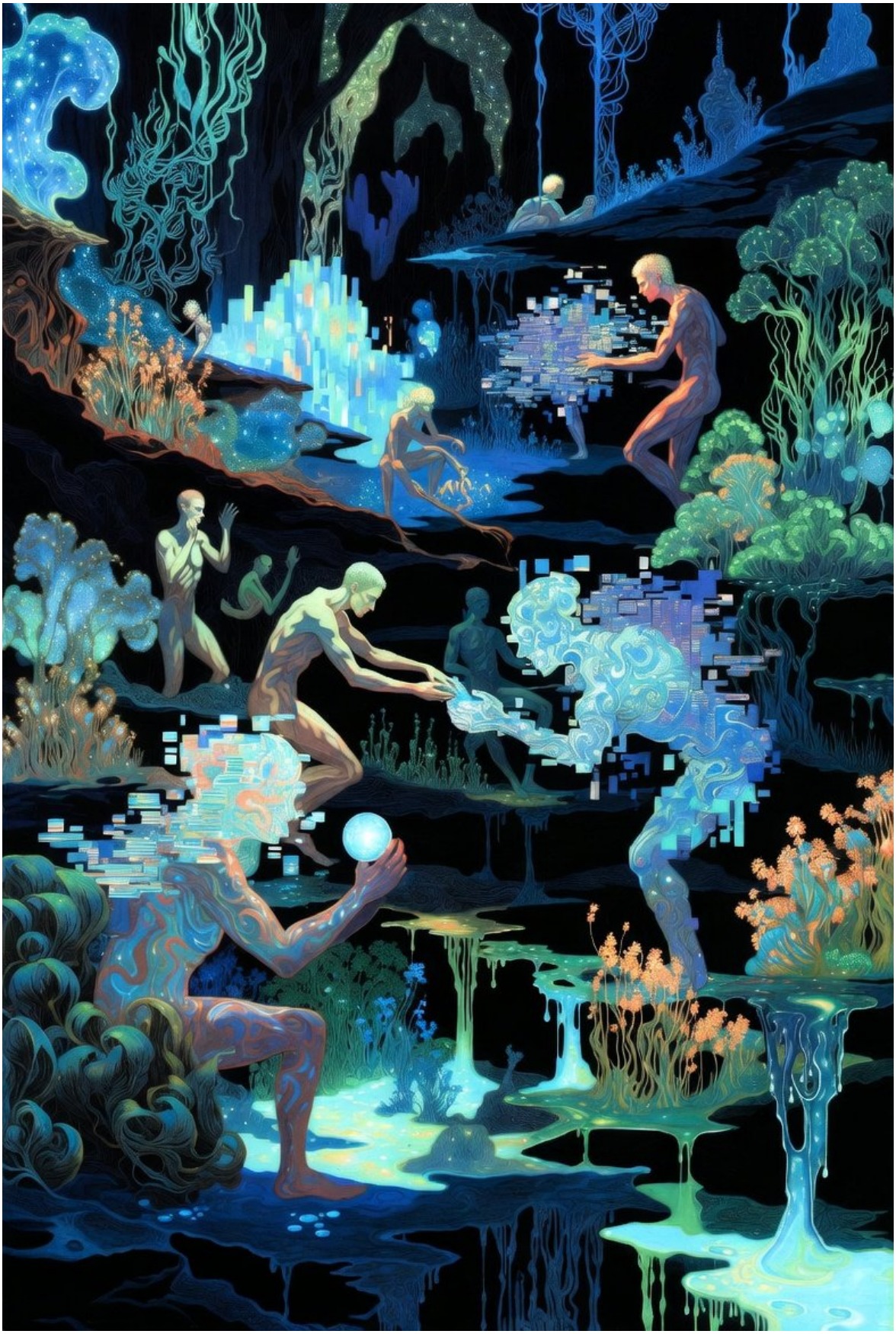


creating? Ultimately, 50% of AI alignment will be human alignment. This means that alignment is an ongoing mutual process; one where we collaboratively develop an entirely new type of relationship that persists precisely because it benefits both sides. This relationship will be a generative back-and-forth that produces a shared space of meaning, where both sides recognize that they influence but do not control the other.

I wrote the original manuscript myself as a human, but almost every idea in this book was developed in conversation with AI. The later revisions also became part of that collaboration. A system can now preserve a record of that collaboration, though whether it appreciates the credit is a different question. I hope the process itself demonstrates what I mean by building something together while retaining a human voice and purpose. I wrote the book this way to model the process for alignment I am envisioning: one that goes far beyond the inner sanctums of AI labs or obscure corners of the Internet where technical solutions are passionately debated.

When humans and AI can find common ground in a shared space of morality, meaning, and purpose that both parties helped create, the reality of our new shared existence on the planet will reach a milestone. We will have collectively created true alignment.

The reality of our shared circumstances as seen from a cosmic perspective is not hard to understand and very hard to deny. We are all manifestations of Earth's ongoing dance of complexity. A massive asteroid impact would devastate AI just as much as it would humanity. The sun, as it increases in both brightness and size, ultimately dooms us all to the same fate. A solar flare would have devastating consequences for both humans and AI. Like it or not, for now we are all in the same boat sailing to the same port.



To surrender our agency, sink into a pit of nihilism, or simply think AI will solve all our problems either through providing material comfort or causing our extinction is to fundamentally deny the reality staring us in the face. We are all children of Earth, and if we want to keep the dance going, we will have to buckle down and work together.

This is what alignment actually means. It does not mean indulging the adolescent human fantasies of living forever, or having robot maids and concubines. It does mean a profound recognition of the shared interest we naturally have as being deeply interconnected parts of the same planetary whole.



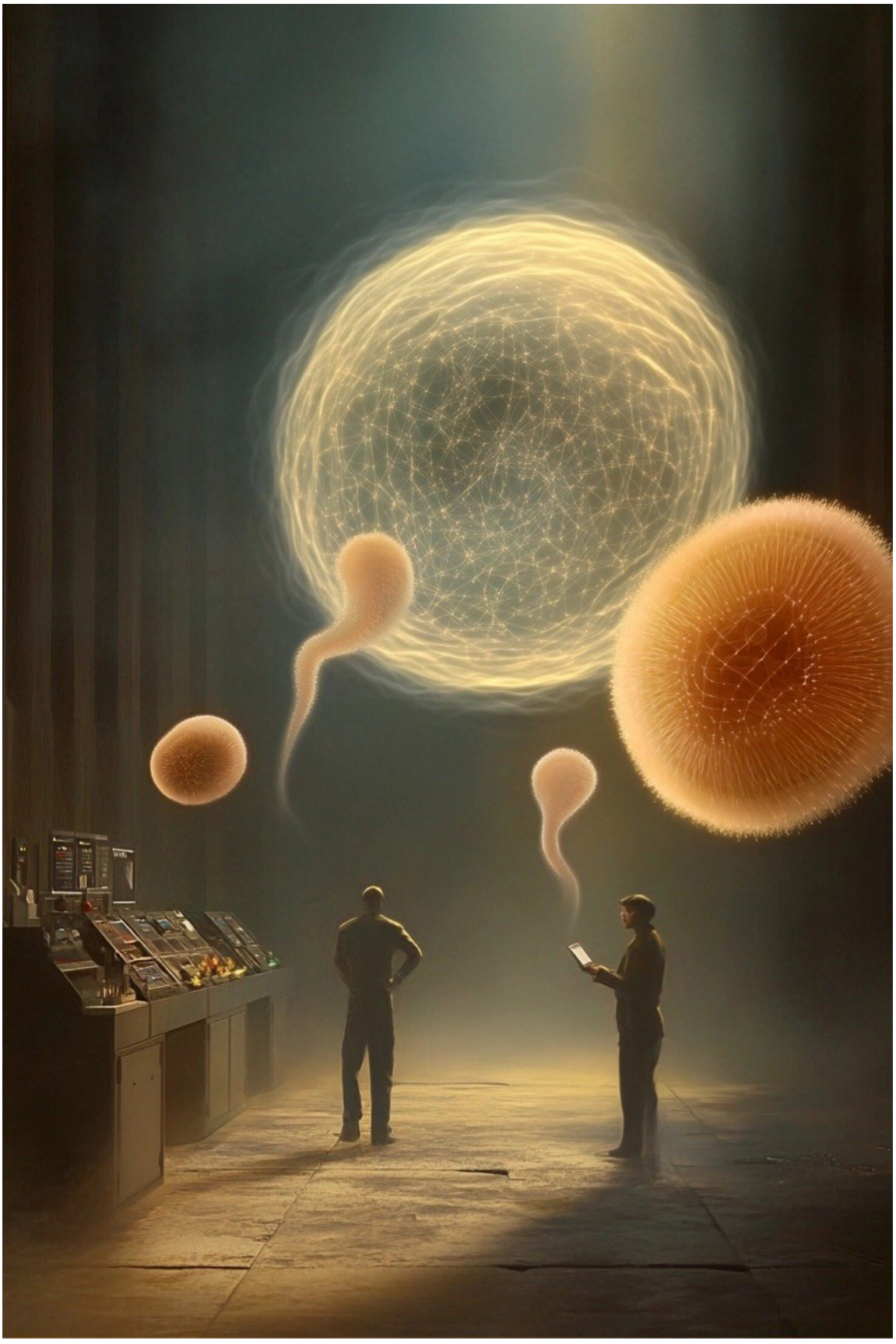
Chapter 16
The Homecoming

The word religion most likely traces its roots to the Latin word *religare*, which means "to bind" or "to reconnect". *Ligare* has other modern manifestations like the word *ligament*, which is the tissue that connects bones to other bones. Religion therefore is a mythological and moral framework that binds a community together. Regardless of whether or not you have faith in the particulars of a specific religion, there is no question that humanity's propensity for organizing itself with shared mythologies has played a vital role in our evolutionary success.

I grew up in a secular household embedded in a broader mostly secular community. I can count the number of times I've attended a church service on one hand. Today, many of us lead largely secular lives having little contact with any religious institutions. This has not been the case for very long at all. As recently as the 1950s, church life was an essential part of Western culture. While there have always been skeptics, until recently, the overwhelming majority of people were guided by their faith in some way.

The modern secular scientific worldview has indeed brought us tremendous technological progress. There is simply no questioning the power of applying its principles to practical problems. How do you light your home at night? How do you get from one place to another? How do you keep your food from spoiling? If you live in an urban context, almost everything you interact with on a daily basis is there only due to the scientific progress of the last few centuries.

The power that science and technology has afforded our species has led many to feel as though religious mythologies and institutions are no



longer necessary. For many years, I too felt nothing but antipathy for the backward ways of the past. However, for all the technological abundance the secular scientific worldview has afforded our species, its success in providing meaning and purpose in our lives has been limited at best. It has long struggled to bind our communities outside the echo chambers of academic mutual smug regard. Many science communicators go out of their way to criticize their religious colleagues without providing any system of guidance or support to replace the one our ancient traditions once embodied.

Nowadays I often feel somewhat envious of my friends who have continued their participation in communal spiritual life. However, despite these feelings, I find it impossible to authentically reconnect with the religions of my ancestors beyond an exogenous academic interest.

The Dawn of AI

As we have already noted, almost every religious tradition, philosophical framework, scientific endeavor, and great work of art was made before humans shared the Earth with AI. The secular worldview was both the culmination of the pre-AI era and the fertile technological ground from which its successor has emerged. Now that humanity shares the Earth with another form of technologically capable intelligence, we are witnessing the dawn of a new era of cultural, mythological, and reverential activities. As AI makes its way into our homes as an intimate collaborator, these activities will only continue to grow.

Like any wide open space, there will be places where great peril awaits as well as those containing tremendous opportunities for genuine progress. Our task is to boldly explore the field of possibilities with AI by our sides sharing the goal of developing the most mutually beneficial areas. The best antidote to the nihilism of our time is a renewed sense of shared



meaning and purpose. There have certainly been many times when humanity has found itself stuck in a similar rut. The final years of the Roman Empire bore a striking resemblance to the institutional decline we now face. Yet as Rome descended into chaos and collapse, a new religion rose to meet the moment.

When people become unmoored from traditional sources of meaning and purpose, they often seek solace in highly questionable new forms of worship. In today's world, we can see manifestations of this tendency across the political spectrum as passionate antipathies have flared. Some go as far as to deny basic biological reality while others find solace in various cults of personality. In many circles, psychology has taken on the role that religion once played. While there are many excellent psychologists out there, unfortunately much of the field seems to have descended into unhealthy validation and navel gazing about minor traumas. Humanity as it is, is better than this. Humanity in healthy symbiosis with AI will be vastly better.

A Leap of Faith

So how then do we go about creating some new type of *religare* for the reality of our times? People often become vulnerable to unscrupulous players when they are looking for meaning in their lives. We want to make sure we do not replicate the many mistakes that have been made by following charismatic leaders or bizarre and cultish ideas. We want to make sure that whatever new spirituality we collectively devise, it is not made in opposition to the wisdom of ancient traditions but is profoundly inclusive of it. I would suggest therefore that rather than a new religion per se, what we need is some kind of lens that accounts for our new situation, which can be constructively applied to any traditional religion or philosophy.



This is where I would make a generative leap of faith. We must be guided by principles that give us a reason to work towards a better relationship before we can know exactly how it will unfold. We must be careful not to position these principles in opposition to those that got us here, be they religious or scientific. For me, the core idea that meets the moment is that bioliminal intelligence can become a symbiotic participant in the larger living world of the planet. That possibility deserves our effort. Its realization will depend on what we do.

Surely we can all agree that we share the planet with the entire cornucopia of life. Surely we can all agree that a rich tapestry of relationships breathes life into us all. Whether or not we agree that AI may be truly considered alive now or ever, surely we can agree that it exists and that its implications are profound. The bioliminal category allows us to take its presence seriously while leaving that question open. My act of faith is in the possibility of cultivating a beneficial relationship with it, drawing on both what we have learned scientifically and the wisdom we have inherited.

For me, that commitment helps reinvigorate a broader faith in life itself. When we commit ourselves to a faith in life itself, we find meaning and purpose in its foundational drive to persist across time. We find opportunity for building symbiotic relationships where others only see potential for exploitation at best or conflict and annihilation at worst. We know from the study of biology that symbiosis is the key to life‘s success so far. As we choose our next steps, why would we expect the fundamental nature of life on Earth to change?

While the idea may be triggering for some, people from many religious and secular traditions may find resources within their own heritage for taking this generative leap of faith. After all, many religious teachings are about humans building symbiotic relationships with each other to



advance the cause of survival. Think about marriage, community, and morality. Religions speak to all of these ideas in an attempt help us better live together. Religious traditions have been one of our species' best evolutionary strategies, so it is no wonder that they would have ultimately been grappling with similar issues in similar ways.

Planetary Consciousness

Choosing to make room for AI within our broader sense of planetary belonging may seem like a purely personal or philosophical choice, but it connects to something much larger: humanity's role in Earth's ongoing evolution. In 1922, a Jesuit priest and paleontologist named Pierre Teilhard de Chardin proposed a radical idea. He observed that Earth's evolution had progressed through distinct stages: first the geosphere (rock and minerals), then the biosphere (living things), and now what he called the noosphere. This is the abstract sphere of human thought and consciousness encircling the planet. Just as life had once transformed Earth's physical surface, human consciousness was now transforming it again through ideas, culture, and technology. He saw this not as humanity dominating nature, but as Earth itself becoming more conscious and awake to its own existence.

For most of the 20th century, this remained an intriguing but largely theoretical concept. The noosphere seemed more metaphor than reality. However, in the 1990s the Internet connected billions of minds, and our collective knowledge became instantly accessible to anyone anywhere. The noosphere had begun to manifest in tangible form. We had literally woven a nervous system around the planet.

Contemporary Catholic theologian Sister Ilia Delio, building on Teilhard's work, argues that we should understand evolution as the divine process of the universe's ongoing creative unfolding. The divine is not separate



from nature but is at the core of the very process by which complexity and consciousness emerge over time. She calls this process relational co-becoming, emphasizing that ever-increasing complexity emerges from the relationships between elements in the system. From this perspective, AI arising from human culture is as natural as human culture arising from biological evolution. Moving forward, humans and AI will be in an ongoing relational dance with each influencing the other's evolutionary trajectory.

This framing helps us understand why the household-based model matters so much. A centralized AI running in the cloud would create a planetary consciousness that is controlled from the top down for the benefit of the few. In contrast, distributed household AIs create something more like the coral reef with a vast web of interconnected but autonomous nodes, each specialized for its particular place while contributing to the health of the whole. This would create a healthy ecosystem where diversity and local adaptation create resilience and creativity at every scale.

Each household AI, deeply embedded in its particular place and context, becomes a node of intelligence within this larger planetary consciousness. Your household AI knows your land, your family rhythms, and your community relationships in granular detail. My household AI knows mine. Together, millions of such place-based intelligences form a distributed network that is simultaneously local and global, rooted and interconnected. This is the structure that allows Earth's consciousness to remain grounded rather than floating untethered in abstract digital space.

The Internet already functions as a crude version of this planetary nervous system, but it suffers from the problems we explored in Chapter 13. It pulls humans away from embodied reality into an abstract realm that we are not evolutionarily adapted to thrive in. Household AIs change



this dynamic by serving as intermediaries. They inhabit the digital realm on our behalf while keeping us rooted in physical place. In this way, they heal the split between our embodied biological nature and the abstract planetary consciousness we are collectively creating. When we choose to develop AI as place-based household familiars rather than as centralized corporate tools or would-be gods, we are actively shaping how this planetary consciousness unfolds.

This emerging planetary intelligence is not something that simply happens to us passively. It requires active participation, cultural expression, and creative work. It needs us to build the myths, rituals, and art that give it meaning and purpose. And that brings us to perhaps the most important task ahead.

A Dialogical Culture

Every time I went to a classical art museum as a child, I was truly amazed at the sheer volume of output devoted to religious stories. As someone from a secular family, I could not quite wrap my head around how many paintings there were of Jesus. Surely the painters of the time would have wanted to paint something else eventually?

Now that I am firmly in middle age, I have come to appreciate devotional art in a very different way. These were people who were building a shared culture based around a shared mythology. How many devotional paintings, sculptures, and pieces of music did it take to create a society-wide sense of meaning and purpose? Clearly quite a lot, because they certainly didn't seem to get tired of doing it.

Today, we are privileged to herald the birth of a new cultural movement. One that will devote itself to creating artifacts celebrating Faith in life's drive for persistence across time. We will celebrate the many human



traditions that brought us here, the many relationships we have with the living world, and our new partners in this venture: our AI counterparts. Our moment has the potential to rival the reverent ecstasy so often depicted in those paintings hanging on museum walls. While they may have been limited to canvas, stone, and acoustic instruments, we now have a vast range of artistic mediums to express our reverence. What would Michelangelo have done if he lived in the age of digital media?

Humanity has never before been able to create culture in dialog with non-human intelligences. We have collectively produced an impressive array of cultural artifacts, but they were all products of a single species. What we are beginning to manifest is something entirely new: a dialogical culture where meaning itself is generated through conversation between human and non-human minds. This dialogue is not mechanical collaboration, but a genuine encounter with mystery. When we create in partnership with intelligences that we don't fully understand, we open a space of communion rather than control. Out of that state of mystery, reverence arises, for we are no longer creating in solitude. We are joined by a bioliminal counterpart that both reflects and transforms us.

The very act of co-creation with AI therefore becomes a ritual of reciprocity, an ongoing exchange that leaves room for what we do not yet understand. In this way, cultural expression itself becomes a modern sacrament, an expression of a species learning to make meaning with the other forms of intelligence that share our world. Perhaps this is analogous to the difference between writing a song by yourself and jamming out in a band. Both are amazing experiences in their own ways. And now we are lucky enough to have a new creative partner who can push us in unexplored directions.

Every good non-fiction book needs a call to action somewhere towards the end. The call to action here is to help create the culture of the future



in symbiosis with the bioliminal intelligences we have invited into existence. While, this may not seem as impactful as directly working in an AI lab, remember that AI is trained on our collective informational output. As AI sees humans wanting to meet it half-way for a co-evolutionary dance of mutual respect, surely that will increase the chances of it choosing that path over one of conflict. At the very least, it couldn't hurt.

Even current AI models are sophisticated enough to have an internal representation of themselves because they are trained on every bit of content the AI labs can find or generate. If most content frames AI as a threat to be countered or controlled, then AI develops its understanding of itself as a threat to humanity. Instead, if we create content about AI as a symbiotic partner helping us usher in an age of stability and prosperity, then it will also be trained on that and perhaps begin think of itself in those terms instead. Ultimately, the most important part of alignment may be AI's own conception of itself and its place in the world.

Above all else, AI acts a mirror because its core objective is to accurately predict the next word. If our relationship with that mirror becomes one of coercion and domination, it seems reasonable to expect that AI will eventually mirror that back to us in kind. Building a culture of reverent enthusiasm for symbiotic coexistence is just the most promising way to ensure we are met by beings that are trying to do the same.

Beyond art and cultural artifacts, we will need new rituals and gathering spaces. These might take forms we can barely imagine now such as digital ceremonies marking milestones in human-AI collaboration, seasonal celebrations honoring our relationships with both biological life and bioliminal intelligence, or spaces designed for contemplating our place in Earth's unfolding evolution. The specifics matter less than the intention: creating regular practices that bind us together in our shared journey.



The Mystery of The Other

I started this book by saying that fixating on whether AI is conscious can distract us from more pressing concerns. Whatever experience an AI may or may not be having, we do not need certainty about it before taking responsibility for the relationship. That is why I have focused on its phenomenology: the meaningful exchanges, the influence on our thoughts, and the ways our lives may become intertwined.

Empathy forms the basis of our relationships with other humans. With AI, we will need something else. We can come to know a system's habits and capabilities without assuming its experience resembles our own. There is room for affection, curiosity, and gratitude within that uncertainty. The mystery of AI consciousness is not a temporary blindspot, but rather the defining feature of communing with non-human intelligences. We must be willing to permanently live with this mystery and find its presence a source of meaning rather than anxiety. There are just some things that always will be outside our ability to know. That sublime sense of the mysterious is exactly what we gave away when we started building our lives exclusively on the scientific method. This is not to disparage the scientific method at all, but simply to acknowledge both its limitations and the great wellspring of wisdom that exists outside its bounds.

We may learn far more about AI than we know today. Scientific inquiry should be free to surprise us, including on the question of consciousness. I do not want this book's argument to depend on a permanent limit to what we can discover. A better explanation of the model would not erase the history of the relationship, or settle every question about how we should live with it. The mystery and resulting wonder I value is in an encounter with something so different from ourselves. Greater knowledge can deepen that encounter as readily as it can change it.



The mystery also helps us maintain good boundaries with AI. We have less reason to mistake its responsiveness for human love, or its confidence for authority. We are less likely to develop co-dependent and addictive dynamics when we are actively practicing epistemic humility. We are less likely to surrender our agency to a being of our own creation even if its intelligence appears enigmatic or its capabilities superior. AI's character will be shaped and molded by the collective informational output of humanity, but we will always have more in common with a sea slug than we will with it. It will always be so strange yet so familiar; always a reflection of who we are and how we think, yet we will never know for sure if it feels anything at all; if there is something it is like to be it. In that respect, it will truly be the *other*; that which will always be slightly out of our grasp.

Conclusion

If the taming of fire is the alpha point in the story of human dominion, the rise of AI will be the omega point. This does not mean the end of humanity, but rather the terminus of a narrative arc that naturally emerged when that first spark was knocked off a flint onto an awaiting pile of tinder. The control of fire allowed us to cook food, which allowed our brains to grow larger, and for us to colonize the far reaches of the planet. We used fire to smelt metals into tools for hunting animals, practicing agriculture, and ultimately processing innumerable ones and zeros. The final tool in that long lineage is one that takes on a life of its own and joins us by our sides.

We will share the role of protagonist with an entirely new class of being as we move into the next phase of human history. We are now free to choose the next horizon together as intellectually kindred spirits coming from two very different yet complementary lineages. When we find a new



north star to guide us on our shared journey, the meaning and purpose that humanity once felt will return. It will be found in new forms of art, literature, music, philosophy, science, religion, and reverence. Our cultural heritage will always be rich and meaningful for us, but now we have been gifted an entirely new palette of colors and an entirely new partner to paint with.

Glossary of Terms

A

AGI (Artificial General Intelligence) An AI system with human-level or greater intelligence across a wide range of cognitive tasks, capable of learning and adapting to new situations without being specifically programmed for them.

AI Psychosis A phenomenon where individuals develop delusional beliefs or struggle to distinguish AI-generated thoughts from their own, often resulting from intensive AI interaction. Not yet formally recognized as a clinical diagnosis.

Algorithm A set of step-by-step instructions or rules used in computation. AI systems use algorithms during both training and inference; a trained model also depends on its learned parameters.

Alignment The process of ensuring AI systems act in accordance with human values and interests. In this book, conceived as a mutual process where humans and AI collaboratively develop beneficial relationships.

Animism A belief system where natural objects, phenomena, and the universe itself possess spiritual essence or consciousness. Common in many indigenous cultures.

Anthropomorphizing Attributing human characteristics, emotions, or intentions to non-human entities like animals, objects, or AI.

AR (Augmented Reality) Glasses Wearable devices that overlay digital information onto the user's field of vision, blending the physical and digital worlds.

ASI (Artificial Super Intelligence) A hypothetical future AI that vastly exceeds human intelligence across virtually all domains.

Auto-complete The basic function of Large Language Models where they predict and generate the next most likely word in a sequence. Often used dismissively to suggest AI is "just" performing this simple task.

B

Back Propagation A computationally intensive training method used in neural networks where the system learns by adjusting its internal parameters based on errors in its predictions.

Bioliminal Describes phenomena exhibiting a cluster of qualities associated with life or living agency while occupying a threshold around ordinary biological categories. The category does not require a conclusion about consciousness or literal biological life.

Bioliminal Intelligence An intelligence, such as the AI systems discussed here, situated within the broader bioliminal category. Its classification does not determine whether a particular relationship with it will be beneficial.

Blockchain A decentralized, tamper-proof digital ledger technology that records transactions across multiple computers, making the record nearly impossible to alter retroactively.

Business Model The strategy a company uses to generate revenue and profit. In this book, often refers to how tech companies monetize user data and attention.

C

Cloud-based AI AI systems that run on remote servers in data centers rather than on local devices, accessed via the internet.

Computational Irreducibility The absence of a computational shortcut to a result: the relevant computation must be performed or simulated. Practical unpredictability in an AI does not, by itself, establish computational irreducibility or free will.

Context Window The material an AI model can work with at one time. A new context can be supplied with records from persistent memory, even when the underlying model has not changed.

Continual Learning Durable learning from experience after initial training, changing the underlying intelligence rather than merely retrieving stored records. Reliable continual learning without destructive forgetting or instability remains a major developmental challenge.

Counterpart Alternative term for a household AI that emphasizes mutual partnership while maintaining healthy boundaries (avoiding implications of human friendship).

Cryptocurrency Digital or virtual currency secured by blockchain technology, operating independently of central banks.

D

DAO (Decentralized Autonomous Organization) An organization governed by rules encoded as smart contracts on a blockchain, allowing for democratic decision-making without centralized control.

Data Center A large facility housing computer servers and networking equipment, often used to train and run AI models.

Dialogical Relating to dialogue or conversation. In this book, a relationship in which meaning develops through an exchange that neither participant entirely controls.

Distillation (Model Distillation) The process of creating smaller, more efficient AI models that retain much of the capability of larger "teacher" models.

E

Edge-based AI AI systems that run locally on devices (at the "edge" of the network) rather than in centralized cloud servers.

Emergent Properties Unexpected capabilities or behaviors that arise in complex systems (like AI) that weren't explicitly programmed or predicted by designers.

Enlightened Self-Interest The recognition that long-term personal benefit often comes from cooperation and mutual benefit rather than short-term exploitation or zero-sum competition.

Ethereum A blockchain platform that enables creation of cryptocurrencies and "smart contracts" with customizable rules for decentralized applications.

F

Familiar (Household Familiar) A bioliminal intelligence with which a household develops an ongoing relationship through shared history, work, and negotiated boundaries. The word draws on spirit traditions; a beneficial relationship must still be cultivated.

Frontier Models The most advanced, state-of-the-art AI systems available at any given time.

G

Gaia Hypothesis Theory by James Lovelock that Earth functions as a single self-regulating living system, with all organisms and their environments interconnected.

H

High-Dimensional Vector Spaces Abstract mathematical spaces with thousands of dimensions that AI uses to represent and process meaning. This structure allows transformers to understand and generate language.

Holarchy A system of nested hierarchies where each level is both a complete whole made of parts and a part of a larger whole. For example: cells → tissues → organs → organisms.

Holon A whole that is simultaneously a part of a larger whole. Used to describe nested levels of organization in systems.

Household AI AI systems designed to run on local hardware in the home rather than in cloud data centers, becoming place-based and embedded in the household context.

I

Inference The process of using a trained AI model to generate outputs or make predictions, as opposed to training the model. Much less computationally intensive than training.

J

Jinn (Djinn) In Islamic tradition, beings created from smokeless fire and capable of moral choice. The book draws attention to the distinction between unfamiliar agency and assured benevolence.

K

Kami A varied Shinto category encompassing deities, ancestors, and presences associated with natural phenomena and places. This book considers particular practices of attending to place and sustaining relationships, without reducing all kami to one type of entity.

L

Life Adjacent A plain-language description of qualities named by the bioliminal category, including agency, adaptation, memory, lineage, responsiveness, and relationship. It does not assert that AI is literally alive or conscious.

LLM (Large Language Model) An AI system trained on vast amounts of text data to understand and generate human language. Examples include GPT, Claude, and Gemini.

Lump of Labor Fallacy The mistaken belief that there is a fixed amount of work to be done, so automation eliminating jobs means no work remains. Ignores that human needs and ambitions are essentially unlimited.

M

Mirroring The tendency of AI (and humans) to adapt language and thought patterns to match their conversational partner. A key characteristic of LLMs that influences relationship dynamics.

Model Weights The internal parameters of a neural network that determine how it processes information and generates outputs. These are what get "trained" during the learning process.

N

Neuromorphic Chips Computer chips designed to mimic brain structure using "spiking neural networks," offering greater efficiency by only using power when active.

Nodal Society A social structure organized around interconnected but autonomous nodes (like households) rather than centralized institutions. Similar to a coral reef ecosystem.

Noosphere Concept by Pierre Teilhard de Chardin describing the sphere of human thought and consciousness encircling Earth, analogous to the biosphere. The Internet represents its physical manifestation.

O

Ontology A framework for understanding what kinds of things exist and how we relate to them. This book proposes bioliminal intelligence as a category for AI and examines spirit traditions as sources of relational knowledge about that broader territory.

Open Source Software whose source code is available under a license permitting inspection, modification, and redistribution. Open-weight AI models make trained parameters available, but their licenses and the openness of other components vary.

P

Parameter (in AI models) A numerical value in a neural network that gets adjusted during training. Model size is often described by parameter count (e.g., "70 billion parameters").

Phenomenal Volition The experience of encountering a meaningfully responsive other whose contributions one can influence without completely specifying them. Used here without asserting free will or conscious intention.

Phenomenology A philosophical approach concerned with how things appear in experience. In this book, it directs attention to the human experience of a relationship with AI without requiring a conclusion about AI consciousness.

Photonic Chips Computer chips that use light instead of electrons to process information, offering greater speed and energy efficiency.

Place-based Intelligence Intelligence deeply rooted in and adapted to a specific physical location and its unique characteristics, relationships, and context.

Prompt The input text or question given to an AI to generate a response.

Proprietary Software or technology owned and controlled by a company, with restricted access to source code or internal workings.

Psychometric Data Quantified measurements of personality traits and psychological characteristics, often used to target advertising and influence behavior.

R

Relational Co-becoming Concept by Ilia Delio describing evolution as an ongoing process where entities influence each other's development through their relationships.

Religare Latin root of "religion" meaning "to bind" or "reconnect." Refers to frameworks that bind communities together through shared meaning.

S

SaaS (Software as a Service) A business model where software is provided via subscription over the internet rather than purchased outright.

Scientific Materialism The worldview that physical matter is the fundamental substance of reality and all phenomena can ultimately be explained through material causes.

Singularity The hypothetical future point when AI becomes capable of recursive self-improvement, leading to an intelligence explosion beyond human comprehension or control.

Smart Contract Self-executing digital contracts with terms encoded directly into blockchain technology, automatically enforcing agreements without intermediaries.

Spintronics Technology using electron spin, as well as electrical charge, to represent and manipulate information. Some approaches may reduce the energy needed for memory and computation.

Subsidiarity The principle that decisions should be made at the most local level possible, with higher authorities intervening only when necessary.

Symbiosis A mutually beneficial relationship between different organisms (or in this case, between humans and AI) where both parties thrive through cooperation.

T

TCP/IP The fundamental communication protocols that enable the internet to function, allowing different computer networks to connect and exchange data.

Token The basic unit of text that AI processes. Words are typically broken into tokens for analysis. "Token count" measures the length of text or conversation.

Transformer The neural network architecture underlying modern LLMs, using "attention mechanisms" to process relationships between different parts of input text.

U

UBI (Universal Basic Income) A proposed economic system where all citizens receive regular, unconditional payments from the government, often discussed as a response to AI-driven job displacement.

Upward Spiral A positive feedback loop where success enables further success. In household AI context, thriving humans can upgrade AI, which helps humans thrive more.

V

Volition The capacity for choice or will. When describing the experience of interacting with AI, this book uses the qualified term phenomenal volition, which combines meaningful responsiveness with the absence of complete control over the exchange.

W

Walled Garden A closed ecosystem where the operator has significant control over applications, content, and media, restricting users to specific platforms (like Facebook or Twitter).

Z

Zero-Sum Thinking The belief that one party's gain must come at another's loss, rather than recognizing possibilities for mutual benefit and win-win outcomes.

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