

**XXIV.**

*De Anima (2009)*

*Varieties of Dasein*

We cannot grasp the nature of human existence because we have no way of comparing it to anything else.

That is: we know what it feels like to inhabit ourselves, but — it seems by definition — cannot inhabit the subjective experience of other beings; even other *human* beings, though we have the strong suspicion that (since our own internal experience is so obviously conditioned by what we absorb from the influence of others, even the way we talk to ourselves is conditioned, it is no accident Wittgenstein was fascinated with Augustine and he should have been fascinated with Joyce) there is a kind of crosstalk (as an engineer would put it) that aligns our separate voices/identities one with the other. (This is just like Huygens' pendulums again.)

But is this subjective isolation necessary or contingent? Is it impossible *in principle* to become someone or something else? To inhabit the consciousness of another being?

I think not, actually; though it doesn't seem likely that the entities that will be capable of this kind of polymorphism will still be regarded as human, and not rather trans- or post-human.

But they *will* be realized; it is something like a matter of engineering, a problem that in due course can be solved.

As Zarathustra said that man is something to be surpassed — so is this an oversight that will be corrected.

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What makes the idea natural is Church/Turing universality: there is a machine that can emulate any other machine, indeed any physical process, and there is a sense in which the human brain is (at least) such a machine.

(This is also why you assume the soul can, in principle, be up/downloaded: because the physical process that is its correlate can be simulated. That this like everything can be “digitized”.)

Really the whole thing is just the obvious extension of the concept of the video game: the logical extension of participation, of role-playing, of engagement, of investment; of *being there*.<sup>1</sup>

I.e. it is established that one can inhabit a persona in an artificial environment; the personas and the environments have grown steadily more sophisticated over the last generation or more, and thus also the degrees of integration and identification; it is only natural to assume that the logical conclusion of this evolution, the ability to inhabit the sensorium of another creature, is attainable in the limit.

Though obviously the sensory interface would have to be much more elaborate than anything as yet possible. (VR goggles fall pathetically short of this ideal.)<sup>2</sup>

One would have to assume much greater plasticity than the current brain exhibits, however, at least after infancy. Nearly *ab initio* we are wired to process and correlate the inputs of five senses, to move four limbs, etc. Certainly we could learn to wag tails; probably we could learn to use four arms (eight might be a stretch); if we had real or

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<sup>1</sup> I would find it odd that this seems so obvious to me even though I've never bothered to play them, but the principle is so obvious: every child plays with toys, marches dolls and action figures back and forth, puts dialogue in their mouths, *identifies* with them. Later tools and even vehicles become extensions of your body. The extrapolation is straightforward.

<sup>2</sup> Something like the interface William Gibson describes in *The Peripheral* would be necessary. Though admittedly the mechanism of the magic thought-transference helmet still eludes us; another argument for redesigning the human organism, to improve its interfaces.

virtual wings, we could learn to fly. (It can't be much different from hang gliding.)

So if you wanted to be an eagle, or a lion, or an antelope, or an anteater, or a snake; or a butterfly or a beetle, it doesn't seem impossible. — But a colony of ants all at once? a bee hive? — There is a debate at present whether systems of animal communication can be considered languages. There are arguments either way, but surely the most direct way to settle the question is to take Quine's advice, and go native: when a bee returns to the hive and performs a dance, is it telling a story? well, *become* that bee, *perform* the dance, and judge the matter not as *phenomenon* but as *noumenon*. — — *In principle* this is a solvable emulation problem, and thus *in principle* it must be possible to do this.

Here what we contemplate is not the exploration of a simulacrum but actually inhabiting the the sensorium of a real (as opposed to a virtual) creature. — Zeus after all took on the forms of animals whenever it suited his fancy; and what we envision as the capabilities of the posthuman are, really, just the ones that have traditionally been assigned to gods.

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Zeus could transform himself into a man, or a bull, or appear as a swan. — There is the implicit possibility that this wasn't some kind of exercise in stealth mode, some scheme he hatched to to fool his wife and nail Leda. Maybe he really just wanted to find out what it was like to be a swan.

I mean, shit, who wouldn't?

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Here one might reference the perennial belief in metempsychosis, the transmigration of souls — the idea of inhabiting another body, personality, identity — the strange but somehow natural and universal idea that the Ego can as it were plug itself into another personality and inhabit it — but I picture this, again, as a form of astral travel.

Taking it for granted that in voyaging to the ocean floor it would be better to do it via telepresence, with the appropriate robot, than in a human body, trapped in a bathysphere, spam in a can; better still then to do it as one of the authentic denizens of the deep, as (say) a giant squid. You can't really draw a distinction between the two.

Though if the appropriate denizen did not exist, you would have to invent it. It's hard to imagine anything living in the atmosphere of Jupiter, for instance, though you could imagine some kind of robot pterodactyl that could fly around in it. — Still you have to wonder how satisfying this experience could be: flung around in a jet stream at a thousand miles an hour, prey to turbulence on a continental scale, unable to see or hear anything but a colossal roar (though: rescale the sensory apparatus accordingly) — not exactly a day at the beach.

Or the surface of Venus, or that of the sun.

But the point at any rate is that it is impossible to imagine “visiting” most of the places in the cosmos; certainly not in the sense of putting a suit on and getting out and walking around. It was possible on the surface of the Moon, and might conceivably be possible (if extremely dangerous) on the moons of Jupiter, or the surface of Neptune; but in general almost nothing is built to human scale, compatible with human living requirements. To “see” or “feel” or “experience” most of the physical world would require a radical amplification of physical capability.

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The idea properly is not *Dasein*, exactly, but something more like Being-right-here-in-this. As opposed to Being-over-there-in-that. What it feels like to inhabit yourself.

You want to know what it is like to be a bat. [I guess.]<sup>3</sup>

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Really the bat is (at least for the moment) already too complicated. It is better to consider something as simple as possible.

What is it like to be *C. elegans*?

The flatworm makes a more sensible question because a complete description is available: the genome has been mapped, the organism has 967 cells, its developmental tree is known, pruned by programmed cell death and all, even its nervous system has been mapped, we know how it is wired. So a complete simulation (down to the cellular level, anyway) is possible.

You have an exact model. You can run the model in emulation. — This means that you can run it on a computer. — Can you *be* this computer? — Apparently so. — Would you then be the ghost in this machine? (Is there some kind of Chinese Room paradox lurking in the weeds here?)

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Of course now you have to wonder whether you might yourself be just an emulation running on some higher intelligence, and if you were how many other emulations might be running on the same intelligence;

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<sup>3</sup> Thomas Nagel, "What is it like to be a bat?", *The Philosophical Review*, **83** (4): 435-450. I suppose I should read this sometime. — Really, I pay about as much attention to the contemporary literature as I do to rap music: I know that Kripke had the whole world drawing little boxes for a while, and that Eminem was very believable in *8 Mile*. — As for the Kardashians, I've heard they're Persian, but don't take my word for it.

whether there was only one universal spirit after all, or some magic number like 1729 or 137 or  $2^{136279841} - 1$ .

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If Bach had been plugged into the body of an octopus, could he have played two pedal organs at once? — I wouldn't bet against him.

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I have an empathetic connection with my dogs, but I cannot share their experience completely.

That says that empathy is incomplete; an unfinished piece of work. That it is something yet to be perfected.

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And would that make it possible to grasp the human condition? if one could live the experience of other species? other modes of being, other forms of *Dasein*?

Strange but true, I think it would. And the fact that this capacity is still rather remote explains, in a way, why our understanding of ourselves is so imperfect. It would have to be possible to place our experience in a matrix of alternatives to be able to see it as a whole.

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Nietzsche, anticipating Wittgenstein: "One would require a position *outside* of life, and yet have to know it as well as one, as many, as all who have lived it, in order even to touch the problem of the *value* of life: reasons enough to comprehend that the problem is for us an unapproachable problem."<sup>4</sup>

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<sup>4</sup> *Twilight of the Idols* (Kaufmann's translation). Compare *Tractatus* 6.41.

— This seems impossible. — And yet, of course, we *can*; since in every instant (this is the mystery of self-consciousness) we transcend life while still living it.

*We emulate ourselves.* — That is the definition of consciousness. Of self-conscious awareness. Of Dasein.

Every moment of awareness has a relationship to what came before it like that of metalanguage to language.

How unutterably strange.

It is as if in every instant the organism is duplicated. (And with a slight variation.)

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There is a magical passage in T.H. White's *The Sword in the Stone*, in which the young Arthur (known as Wart) as part of his education is taught by Merlin to enter into the beings of assorted animals; and finally, through a kind of accelerated time sense, to experience the Dream of the Trees, and even (so Leibnizian) the Dream of the Stones, in which he has a vision of the formation of the planets and the geological history of the Earth.

Kant, however, seems to say you don't even know what it's like to be someone else. No wonder then you don't know what it's like to be a rock.

Charlie Kaufman says you can know what it's like to be John Malkovich, but only for fifteen minutes at a time.

Sartre says you *can* know what it's like to be a rock, but you don't want to, because it's horrible. (And that anyone who entertains the identification is in the process of losing his marbles.)

Can it make sense to ask what it would be like to be a rock? — Is anything really inanimate? is the real question here. — Or: can one at least consistently pretend that anything *might* be animate? — Could you enter into a faux-consciousness of the physical dynamics of the Earth, feel the ocean tides, the currents — internally, feel the motion of the plates, the spinning of the core? — Could you enter into the being of a star? (What would a solar flare feel like? Is it like a stellar orgasm?) — It seems as though the essential principle of emulation really *should* be universal.

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Still all this (the possibility of identification) seems confined to Becoming somehow. You can't make sense of a question like what it would be like to be the color red or the quadratic reciprocity theorem.

(Or can you? Sometimes it seems as though someone may embody a principle, as Napoleon was said to be the embodiment of Destiny. But in what sense is that just romanticizing a category mistake?)

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I find myself wanting to say something like: though the two-souls-alas picture of separate hemispheres creating consciousness through their crosstalk is obvious bullshit — unbelievable, unverifiable, unfalsifiable, uninteresting — unwept, unhonored, and unsung — it's possible that specific properties of human consciousness *are* connected with the way that different parts of the brain are wired together. — Because this seems plausible even though you can't imagine any way

of testing the theory.<sup>5</sup> (The state of unconscious awareness in dreaming has something to do with turning off the mechanism that turn short- into long-term memories in sleep.) — What you would want to be able to do, in fact, would be something like run simulations of different networks, insert your ego into the simulations, and then emerge and be able to say, Yes, model A did feel just like human consciousness, whereas model B did not. Unfortunately this exceeds human capacity in a rather obvious way: even if some way were invented to insert your ego into the simulation, you already know that on those occasions when you do enter some altered state of consciousness, e.g. drugs or dreaming, you find it impossible to hold both modes of being (or whatever) in your head at once and toggle back and forth between them to examine the differences analytically. — So this does, actually, provide an example of a way in which only a superhuman perspective could resolve a problem in the philosophy of mind. Though it seems only to apply to questions about subjective experience, which ordinarily are supposed to be outside the scope of science anyhow.

That such simulations must be possible, however, is unquestionable, and it should be possible to use them to render the subjective objective.<sup>6</sup> But the kind of higher subjectivity required to encompass this is probably posthuman.<sup>7</sup>

(Put another way, the evolutionary path upward leads not to megamentality, but metamentality. Because we have the former already — big iron, big data — and it is rather banal.)

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<sup>5</sup> The inadvertent negative experiments reported by students of brain injury don't count, since they rely on behavior and external reports by the subjects regarding their internal states, and also because connections are only removed, and new ones are not introduced. — At least (brain implants still being conjectural) not yet.

<sup>6</sup> Insert the obvious quote from Woody Allen here.

<sup>7</sup> Though, maybe not. There is a passage in T.H. White that almost captures what I mean here. Maybe some Merlin can enchant you, and you can dream the dream of the stones.

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Could you travel into the past? — Jurassic tourism would be big business, obviously. — But no, probably not.

Still, can you *reproduce* the past? reverse-engineer it? — create a virtual Jurassic theme park? — This might be possible, with enough computing power

So here is another embarrassment: really advanced intelligences might build zoos of planetary dimensions; for all we know we're living in Ape World, objects of curiosity for tourists who have been warned not to feed the animals.

Under the Fermi hypothesis, alas, most of the ways we can imagine interacting with superior intelligences are like this, we're reduced to toys in puppet shows — manipulated by Cartesian demons — the paranoia of the Wachowski Brothers assails us.

For that matter *really* advanced intelligences might build entire universes; which leads us to an unfortunate intersection of science fiction and theology; undoubtedly the *reductio ad absurdum* of speculative metaphysics — but — it is so easy to imagine as an extended video game: the universe of the *Divine Comedy*, for instance, or that of *The Lord of the Rings*; or (my favorite) something out of Borges, Uqbar for instance. — Playing something like Hesse's bead-game, building worlds as a form of art.

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On the other hand, to really *really* advanced intelligences, the distinction between simulation and reality probably vanishes. So the what-is-reality line of speculation is pointless. Borges said it all already.

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But another application of the idea of universality is the one explored by Von Neumann in his theory of self-reproducing automata: the idea of a universal organism, one that can reprogram its own physical expression at will. — The realization of Von Neumann universality, a machine that can build any other machine.

So the odd thing about this is though we seem to be describing the capabilities of a god, in principle it isn't that difficult. Really this comes down to Church's thesis again, to the universality of the Turing machine. Because all of this must be computable.

Modulo certain ambiguities of physical possibility — what are you building it with? carbon chemistry? this is probably reasonably universal but might require tweaking if you wanted to come up with something that could survive on the frozen surfaces of the outer planets or in the radiation field of Jupiter — i.e., to what extent is matter really programmable? — but it should work: given a well-defined set of molecular Legos, the idea of a universal assembler itself seems well-defined, indeed there is nothing new about it: this is the Saturday-morning cartoon fantasy of the Transformer, a machine that can reassemble itself into any form; the universal emulator made flesh, as it were. — We picture something of the kind, but removing the constraint that by default it has to turn into some kind of truck that will appeal to a six-year-old. — Not that an appeal to childlike imagination is not intended here.

So this is the life form of the future — the ultimate life form — one that would possess *physical* universality; that is, it should be able to reprogram its physical form at will. — The last word in plasticity, the perfect shape-shifter.

In a certain sense, of course, we are just describing life as a whole: the ensemble of organisms, which redesign themselves as necessity dictates; albeit on a longer time scale than we may be picturing.

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*Gaia?*

Simulating everything at once.

Surprisingly this almost seems feasible. Assuming that emulating the human population would be the worst of it, you guess something like  $10^{30}$  operations/second might be adequate, and that much of the computation could be carried out in parallel; bounding the physical dimensions of the apparatus by the speed of light times the cycle period, a density on the order of one processor per 1000 Angstroms cubed might suffice. — Surely this is only a mild impossibility. — The real problem would be dissipating the heat generated; at something of the order of  $kT$  per operation, even running near absolute zero it would amount to millions of watts. — Obviously it is pointless to pretend any recognizable kind of computer would be adequate, this would have to be some kind of quantum computer no one knows how to describe at present.

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A life form with a capacity for universal emulation makes a great premise for horror, as John Carpenter demonstrated with his shapeshifting alien in *The Thing* [1982].<sup>8</sup>

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<sup>8</sup> Superficially this is a remake of Howard Hawks' 1951 film of the same title, and might accordingly be dismissed as an inferior imitation. The truth is more interesting: it is a much more faithful rendition of the story ("Who Goes There?", by John W. Campbell) on which the original was based, and which scifi purists had always thought Hawks butchered.

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Emulation can extend to machines. — This really happens. Learning to think in the machine code of a species of computer: Tracy Kidder, *The Soul of a New Machine*.

The idea of an operating system as a primitive kind of soul.

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Literally, the idea is that of existential software.