

# The Minimal Posit of the Body

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## Contents

<b>Contents</b>	<b>1</b>
<b>1 Preface</b>	<b>3</b>
<b>2 The Minimal Posit</b>	<b>5</b>
2.1 The point . . . . .	5
2.2 The number 1 . . . . .	6
2.3 Unity . . . . .	6
2.4 The zone of indeterminacy . . . . .	6
2.5 Size . . . . .	7
<b>3 One ... Three ... Bang</b>	<b>9</b>
<b>4 Creation</b>	<b>13</b>
<b>5 Tertium Datur</b>	<b>17</b>
<b>6 Dreaming</b>	<b>21</b>
6.1 Allegories . . . . .	22
6.2 Frames of reference . . . . .	23
<b>7 The Rat Temple</b>	<b>25</b>
7.1 Story 1: The Personal Soul . . . . .	26
7.2 Story 2: Reincarnation . . . . .	27
7.3 India for the Indians, Temples for the rats! . . . . .	28
7.4 Re-entry . . . . .	29
7.5 Denouement . . . . .	30



# Chapter 1

## Preface

Nothing has happened yet. We begin in the unmarked state. No history (all history is yet to be told), no world and its inhabitants. Time and space have yet to arise and be differentiated and populated.

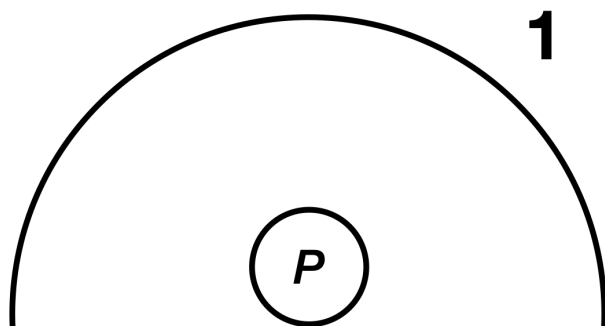




## Chapter 2

# The Minimal Posit

We begin in ignorance. There is a body. This is the Embodied One. The being of this One within Unity will drive the inquiry.



*Figure 2.1: The posit of the singular embodied being within unity. The posit is shown within a circle to minimally indicate a bounded finitude that is less than the presumed totality. The numeral 1 indicates the notion of an encompassing unity that exceeds the finitude of the posit.*

The minimal posit,  $P$ , will birth two important variants. The mathematical point, and the number 1. The minimal posit is monadic: we may say it is unitary, but we may say no more about its constitution, parts, workings, attributes, connections, or substance. This is the beginning of the inquiry of the Embodied One.

### 2.1 The point

The point is needed before geometry, and, later, topology can arise. To think space abstractly, the point will give rise to the line, the line to the surface, surface to volume, etc. The point itself is a monadic postulate. This space is abstract. It is not the spacetime of living.

## 2.2 The number 1

The monadic nature of the Embodied One will allow the posit of 1, the origin of number. Being entirely abstract, 1 permits of repetition without remainder, and so we can later develop the familiar ordinal sequence 1, 2, 3, .... From the ordinals, the rational numbers can also be seen to arise:  $\frac{1}{1}, \frac{1}{2}, \frac{1}{3}, \dots$ . Many pathways open from here, but this is their origin.

The monadic being of the Embodied One thus opens the way to geometry and arithmetic. Of course a lot will follow, but we must start somewhere, given our willful ignorance.

## 2.3 Unity

But the inquiry concerns the being of the Embodied One within Unity. Let us waste few words here. Unity is the infinite, the whole sheebang, Ein Sof, the Neoplatonic One, or a pantheistic God (sive natura), if you have a taste for drama. Fig. 2.1 poses the question. Why waste words on the known ineffable? Have we not had enough of wars?

## 2.4 The zone of indeterminacy

The continuous being of the posited Embodied One must find itself in an indeterminate zone between being (state) and becoming (change). Time has not yet arisen, and the single linear time that serves the physicists so well will not be immanent to the Embodied One.

Some day, perhaps, the Embodied One will manifest on the veranda at sunset, sipping a whisky, and ruminating on the apparently contrasting figures of Parmenides and Heraclitus. But not yet.

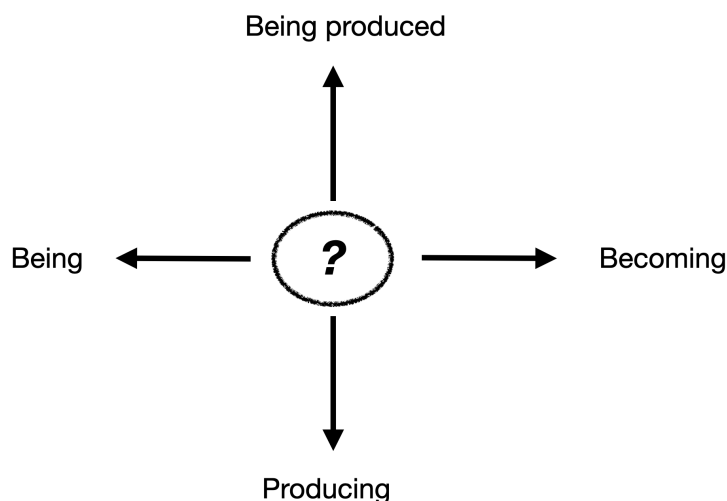


Figure 2.2: The zone of indeterminacy within which the Embodied One must find itself

The indeterminacy of being and becoming is not the only indeterminacy. Although we have posited a body (and we are, not unreasonably, reminded of our own body, rather than a rock), if change were to arise (and change will soon arise), there is no machinery of agency, neither of

the monad, nor of other powers, so we will not, here, yet, distinguish between being produced and producing. Attribution of any agency is far from this minimal starting point.

## 2.5 Size

As we work from here, questions of size will arise. For the Embodied One, these questions must of necessity be articulated with respect to the only referent there is: the body itself. The Embodied One is neither big nor small. It is mesoscopic. Later, we will consider the imaginal and technological constructions of macro- and microcosm, and perhaps they can be pondered on the veranda too, looking up at the night sky with an antique telescope. But not yet.

We have as yet no metric. When something happens, when it all kicks off, the ensuing universe will be triune, said the wizard. I asked him to elaborate.



Figure 2.3: A consultation



## Chapter 3

# One ... Three ... Bang

The wizard sat me down and took out his crystal ball. He meant well, and he thought I didn't notice when he surreptitiously appraised himself of my situation, my background, my embedding, the better to tailor his answer to the petitioner.

"Suppose, for the sake of saying something," he said, "we admit of an undifferentiated ground of being. That was the suggestion of Paul Tillich, the valiant theologian who emerged after the abyss that opened up with the atomic bomb, the holocaust, and the death of Man. It is a familiar and fond idea, but we can work with it.

"The Roman, Lucretius, pictured this undifferentiated ground as an endless stream of atoms, cascading down in a linear sheet, pure potential without form.

When the atoms are travelling straight down through empty space by their own weight, at quite indeterminate times and places they swerve ever so little from their course, just so much that you can call it a change of direction. If it were not for this swerve, everything would fall downwards like raindrops through the abyss of space. No collision would take place and no impact of atom upon atom would be created. Thus nature would never have created anything. (De Rerum Natura, Book Two).

"The swerve, or *clinamen*, is the minimal deflection, producing collision, and then turbulence. With turbulence, the vortical nature of the universe can arise, chaotic, fractal (for we still lack scale), with all the required complexity and mixture of predictableness and unpredictability. Laminar flow transitions to turbulent complexity with the smallest of perturbations. How small? As small as you like. Butterflies before hurricanes. Indeterminably small. Determinations can only be made once something has arisen, once it all kicks off."

It had started raining outside, water cascading down powerfully in sheets and torrents, chaotic. The wind was getting up. But I wanted to press further. The swerve is a fine figure, a minimal seed or origin. But the undifferentiated ground as a sheet of atoms... I needed more.

He continued. "Laminar flow is an idealisation, of course. Lucretius worked with the images he had available to him. As do we. Atomic materialism is a crude tool.

"Had we available to us dimension and coordinates, we could note that chaos and turbulence arise when the dimension of the system is three, but not with one or two. Once the dynamics are of dimension three, the whole of complexity becomes available, and not before. But 'dimension' already presupposes a metric and the whole mystery of measurement. How, then, to think this 'three?'"

Of course the three dimensions of space come to mind. Forward, backward, up, down, right, left, I gestured with my hands, singling out in turn the six directions extending from my own body within the wizard's caravan. Three spatial dimensions, but I needed to point six times from where I was sitting. This was what they call a learning opportunity. He chuckled.

"You are used, of course, to thinking of space as a box, into which you can put the furniture of the world," he observed. "You live in a box, a house; you keep your things in boxes, every room is a box. But you have a center," he pointed vaguely at my torso, "and space arises from there, towards those six directions you pointed in. No, the three we seek is not the contours of a box. It's funny," he grinned as he spoke, "but the box picture, which goes hand in hand with the simplistic straight line of time, seems to have failed to leave the collective imagination, even after Einstein made it clear that spacetime, not space and time, is fundamental. People no longer thought physics had anything to do with their bodies, I suppose. To be fair, physicists lost track of the mesoscopic a long time ago. Mere wizardry is as nothing compared to the esoteric niceties of physics as it deals with the unimaginably big and small and short and long.

"Lucretius' picture falls short, of course. No single picture can serve here. But we can try a few, to see what we like. We need an image of change without any differentiated character, of potentiality without actuality, A no-thing which can birth every thing. The Indians, you know, make a difference between Nirguna Brahman, which is the ineffable totality, and Saguna Brahman, which is the attempt, despite its impossibility, to draw figures of the arising of everything from this ground. Decorations, ornaments, if you will, but also handholds. Interestingly, many of the figures that are drawn, in India, but also elsewhere, begin by moving from (ineffable) unity to figures that are triune, that have three components. As a European, this might have a familiar ring. The trinity of Father-Son-Holy Ghost has proved to be an admirable theatre for the staging of theological disputes, artistic elaboration, and entertainment. The temptation to think of the Embodied One as aligned with the Body of Christ is obvious, and many have tried that. Such triune forms abound in the theology of ancient religions around the Mediterranean basin, but also across the whole of India. Kashmir provided some of the most generative trinities. One of them concerns the Lord, the Beast and the Bondage, or Pati, Pasu and Pasa, which would be a great structure to develop children's theatre pieces with. The Beast, or the individual ensouled being, is a place where the Embodied One might slot in, while the Lord and the Bondage could be where the complexities of authority and constraint are worked out. The biologist's 'needful freedom' could be the theme of one exposition here. Another trinity the Kashmiris developed is very abstract, consisting of three terms: a first term (usually positive, exalted, or maximal) called Para, its complement, called Apra, and the dance between these two, known as Parapara. In Kashmir they are often portrayed as goddesses, but the dance among the three is entirely generic. The dialectic in Hegel is not much different, and not much more or less use. Such figures come alive when they are used, not when they are drawn in writing."

The weather was getting wilder. A storm was coming. The air was charged and full, almost pregnant. I needed some time to consider the wizard's opaque words. I had never been to India, and the wizard had clearly travelled widely. "I still need help in thinking this notion of THREE without dimension," I confessed. But the oncoming storm cut our talk short. Before I rose to run for home, the wizard pressed a small book into my hand. "Play with this," he said as I left, "and come back some time." As I ran for home, a dark cloud ominously congealed into the elongated form of a twister, like a muslin stocking full of frenzied trapped spirits, circling and shrieking madly.



Figure 3.1: A twister appears on the horizon as I leave the wizard.





## Chapter 4

# Creation

There have been countless passionate attempts to give voice to a metaphysical insight in which the viewer or subject is subsumed completely within a larger whole, which is ultimately real and transpersonal. To allow these passionate affects to be developed, forms are needed, beyond the cross and the circle, or the mythological booming voice of a creator. In the book of the wizard I found one to play with.

The book itself was a curious thing. The cover was of deep green leather, worn and slightly oily. Etched on the front was a sketch of a hot air balloon rising up with its anchor rope dangling down, flapping in the wind. Beneath that was written “E unum, pluribus” in gold lettering. Opening the cover, the frontispiece displayed a pasted certificate that read: “Licensed to create by the fiat of formalism. Empowered to travel beyond the compass of ordinary description. Ex nihilo omnia!”

The table of contents followed, pointing to chapters or sections which, except for the first, did not exist. These chapters were titled ‘Creation,’ ‘Reflexion,’ ‘Generation,’ ‘Integration,’ ‘Occultation,’ ‘Iteration,’ ‘Extension,’ ‘Echelon,’ ‘Modified transposition,’ and ‘Crosstransposition.’ The first chapter, which filled the whole book, consisted of pages filled with sequences of the numbers 1, 2, and 3. Page 16, for example, contained the sequence ‘1 3 2 1 1 3 2 1 3 2 2 1 1 3 3 1 1 2 1 3 2 1 1 3 3 1 1 2 1 1 3 1 2 2 1 1 3 1 2 3 1 1 2 3 1 1 3 1 1 2 2 2 1 1 3 1 2 3 1 1 3 3 2 1 1 1 2 1 3 2 1 2 2 1 3 2 1 1 3 2 1 2 2 2 1.’ Each subsequent page contained ever more numbers, so that the size of the text had to shrink from page to page, and soon each page was so densely covered so that it was no longer possible to make out the individual digits. Flicking back towards the start of the book, the density of the numbers waned, until I arrived at the first page on which there was a single mark:

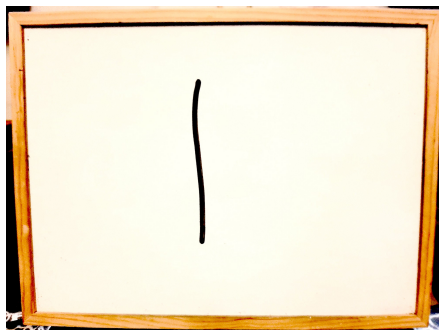


Figure 4.1: *The first mark*

It was unclear to me whether this mark was the numeral 1. It lacked full specification, serifs, or any typographical polish. But the second page was much clearer. It contained ‘1 1’ and nothing besides. Page three had ‘2 1,’ Page 4 had ‘1 2 1 1’, Page 5 had ‘1 1 1 2 2 1,’ and so it continued. A puzzle, I thought. A sequence, whose generative function remains to be uncovered. Mistaking the sequence for a developed mathematics, it took me a while to realize that each page generated the next one, in a strictly deterministic fashion, without any mathematics at all. In fact, each page contained numbers that simply described, in language, the numbers on the previous page. So Page three (2 1) described the numbers on Page two (1 1, or two ones). An odd mixture of language and number, but perfectly consistently followed. Only the first page seemed at all arbitrary. It seemed one could choose to view the rough mark as a numeral, or indeed, one could view it any other way one desired. It was a minimal scratch. However, if one chose to regard it as a numeral, then the simple process of serial self-description would generate all succeeding pages. The book seemed to say that its contents depended upon your initial choice, as if nothing had happened until you made that choice, after which everything followed directly and inevitably.

“Play with this,” was the injunction provided by the wizard. I felt there was more here to be discovered. We had been discussing the arising of everything from an undifferentiated ground of being, given a seed, or swerve. It seemed to me that the book illustrated some of this, but it generated only numbers whose sole meaning lay in describing the numbers on the preceding page. There was nothing outside the numbers, or text, for the two were thoroughly mixed up. I grabbed myself a whiteboard and a marker and began to recreate the process of generation-by-description I had been presented with.

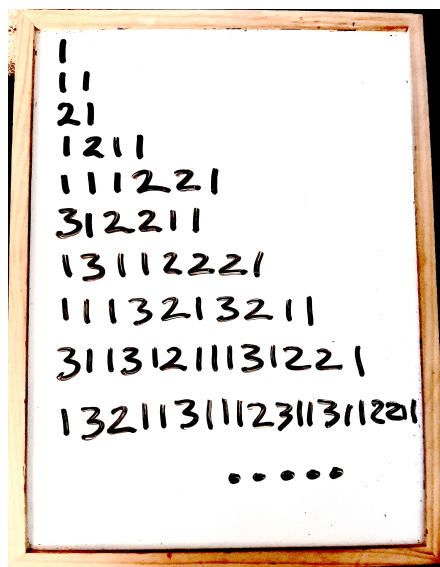


Figure 4.2: *The first ten pages of the wizard’s book.*

I filled whiteboard after whiteboard, searching for pattern or surprise. The number strings got longer. Each string was longer than the last, and soon I needed some way of standing back from the emerging series, to look for the forest rather than the trees. It took a while. Then it struck me. The book had many pages, but the later ones were too densely covered in text to read. But let us say the book had had an infinite, or, better, indefinite number of pages. It appeared that a

pattern could be discerned that was based on any three successive pages, and this pattern emerged, and then stabilized. Take any three consecutive pages far into the text, and call them A, B and C. Now B is generated by describing A. This much I had figured out. Likewise, C described B. What was unexpected (and mysterious) was that A began to describe C! To be precise, after many iterations, A described about 10% of C, and this proportion became stable in the long run. Why did A describe C? Generation went from A to B to C, not backwards. And yet, and I profess I do not know how, C was generating the first part of A. A triune cycle had emerged. This was clearly what the wizard wanted me to find.

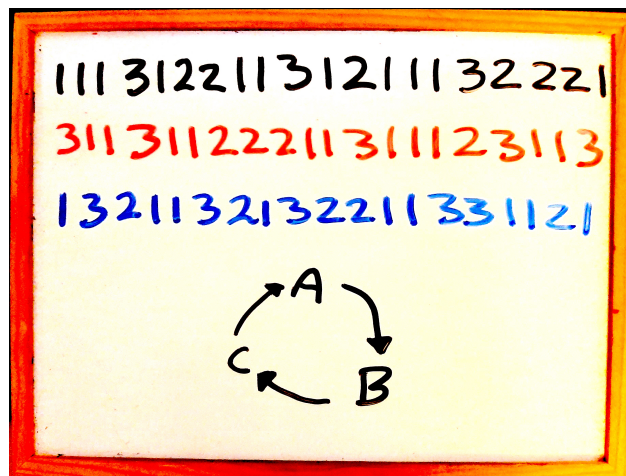


Figure 4.3: *The generative triune cycle hidden within the wizard’s book. A three-part cycle emerges at the start of the strings, shown here greatly truncated to show only the start of the portion of convergence. A generates B (B describes A by construction), B generates C (C describes B by construction), and C generates A (A describes C by magic/mathematics). The arrows indicate generation, but they can be reversed to indicate description.*

Now the frontispiece of the book returned to my attention. “Licensed to create by the fiat of formalism” it proclaimed. In our chat, the wizard had begun with “Suppose, for the sake of saying something, we admit of an undifferentiated ground of being.” The fiat of formalism. Who has such a license? It seemed to me that only gods, kings and mathematicians could create by uttering “fiat!”. Fiat lux! Or, here more prosaically, “Let this be the ground of everything!” arising from the first minimal act of making a mark. He was neither a god nor a king. But if he was a mathematician, he seemed to be mixing up the formalism of number and the descriptive power of language in an entirely unfamiliar manner.

This, then, was what I had gleaned from the wizard’s book. For the sake of saying something, provisionally, Unity is elaborated as potency without actuality, as a source of still-undifferentiated change. A perturbation, or swerve, or event, or seed, sets things off, and a vortical world arises. This seemed to me to be the sense of the first, and only, chapter, headed “Creation.”

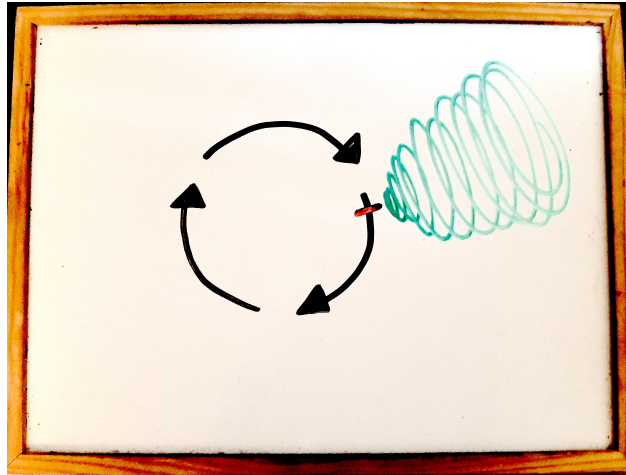


Figure 4.4: *Creation.*

## Chapter 5

# Tertium Datur

There is always a third. The three ball problem, often associated with billiards and mechanics, is more general than one might think! Where to begin?

Simplistic thinking about causality sees a sequence, from cause to effect. This is necessary to construct stories of efficient causation. Such stories have the greatest hold on us because to witness cause and effect immanently is entirely convincing, before language and models ever get to intervene. Boom! A controlled explosion brings a skyscraper down. You see this, and you are going to argue that the explosive was not a cause and the destruction of the tower was not an effect? But once *represented*, bomb and tower alike are removed from the plenum, from the entirety of things, like cutout shapes from a sheet of paper. The bomb is considered without its conditions of manufacture and placement. The tower is recognized as a separable entity precisely as it ceases to be. Before the explosion, the boundaries of the tower are indeterminate. We could place them here, or there. We could include, or omit, these cables, that wire, this ground. Revelation is a real mode of perception. Witnessing efficient causation is revelation. No wonder we all become prophets!

The bomb and the tower have been excised from the plenum. The boundaries could have been drawn differently. The “world” can be dismembered in infinitely many ways. Language and formalism serve this purpose—the carving up of the plenum into discrete entities to be jointly regarded. Watching the destruction of the tower, we are motivated to carve things up in similar ways.

We can think “thing” and we can think “relation” (two things), but we cannot think three. Three is the excess. Three is the reality that reality cannot be sundered, or exhausted, or enumerated, and that there is always (infinitely) more.

The law of the excluded middle is a cruel and blunt tool used by rationalists to attempt to put out the demon of uncertainty. Its round rejection by philosophers, practitioners, negotiators, mediators, and magicians notwithstanding, its blunt assertion,  $\mathbf{X}$  or  $\sim \mathbf{X}$ , is wielded in public discourse to make final what can never be final.

But the cat either is, or is not, on the mat! Even naming the cat carves up the plenum to extract the cat. The cat is continuous in spacetime, from kitten (and before) to corpse. Asserting something of the cat demands the notion of state, which demands that we delimit ourselves only to a snapshot in time (the terrible mental representation we inherited from the photograph), but the cat is not a snapshot, spacetime is not a box (space) and an arrow (the snapshot would be a point—that posit again). Language is not the tool we have taken it for. To name something is not to have it, but to obtain a mere projection of it, leaving the original untouched.

Bomb + tower is two (cause and effect). The third is everything else, but that “everything else” paradoxically includes both bomb and tower, as they cannot be reduced to a snapshot and state any more than the cat. We cannot think three. We come into being and/or exist in three. We produce and are produced in three.

That bugger Kant was concerned with self-aggrandizing abstractions: the transcendental as the immanent presuppositions of experience. Causality, time and space. Nonsense. Time and space, we will deal with elsewhere. Causality, efficient causality of the kind Kant had available to him, is nothing but this mode of story telling: “The bomb blew up the tower.” File all such stories under fiction (well-grounded, useful, in some cases; rubbish in others). More relevant for our purposes was the Estonian aristocrat, Jacob von Uexküll, who looked for the conditions for knowing in the body itself. The body was his ultimate “synthetic apriori.” (Christ, the language is abominable.) He was making the posit of the embodied one (in the chimerical quest for “experience”), but the body he posited was far from monadic. He tried to center the body, but failed to make the posit minimal.

The kind of attention he gave to the body revealed it to have a world, the *Umwelt*, as singular and differentiated as the body itself. But that pair, body~*Umwelt* is nothing but a relation extracted from the plenum. It is brought forth from a larger and indeterminate third. He considered many bodies. The bodies were not monads though. They had inner organisation, sensors and actuators. He described them as “subjects” because that which impinged on them, or which would be sensed, was of necessity interpreted with respect to their own inner organization. They had worlds, and he invited you to explore them from the exalted position of the scientist.

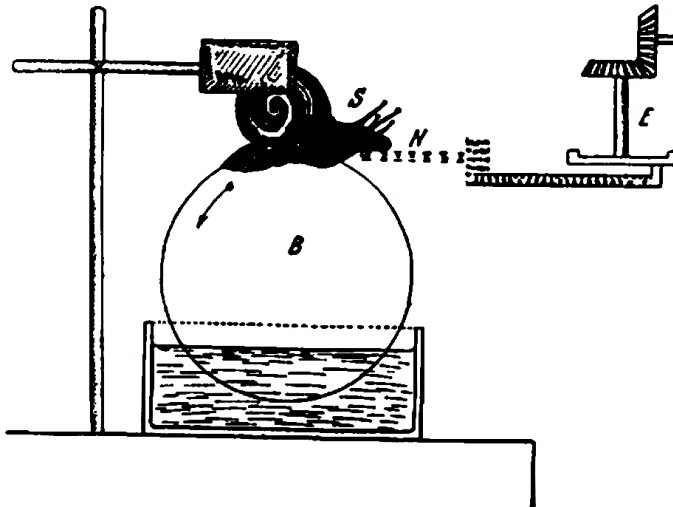


Figure 5.1: *A treadmill for probing the Umwelt of a snail.*

He built a treadmill for a snail. Genius! A freely rotating bearing on which the snail could be clamped so that it could locomote without going anywhere. Then he chucked the snail under the chin rhythmically. Individual chucks caused the snail to pull back. They were invasive. But if the frequency of the individual taps was greater than 5 times a second, the response of the snail

changed. Instead of trying to avoid individual blows, it tried to climb onto something. The taps had fused, to create the illusion of a surface that could support locomotion. For the snail, this border between the discrete and the continuous seemed to lie at 5 Hz. To us, that seems alien. Not because it is at all unfamiliar, but because our border appears (on the accounts of psychophysicists) to lie at a different frequency, namely about 20 Hz. A flashing light that goes on and off at 15 times a second will appear discontinuous. At 25 times a second it becomes a persistent unbroken light, as far as we are concerned. Something similar happens in hearing. A click at 15 Hz is clicky. At 25 Hz it has transformed into a continuous low pitched tone. We fuse too. The light in my room flashes on and off 50 times a second. I never notice it. The very fabric of time and space depends in this way upon the resolving capacities of the individual body.

So with von Uexküll's non-minimal posit, a beetle has a beetle-world, a tick has a tick's world, and you have your world, and they are not commensurate. They do not even rely upon the same granularity and texture of spacetime. The "worlds" called *Umwelten* by von Uexküll were always destined to be misunderstood. The *Umwelt* was misunderstood as subjectivity, as mind, as perception, as all the usual vacuous terms currently in vogue. When we note that the *Umwelt* is defined and described in terms rooted in the capacity for discrimination and action in the animal, ignoring those equally real parts of the larger context that we, as observers, consider irrelevant, we can see that the *Umwelt* is but a shadow cast by the delineation by the researcher of what she considers to be the principal characteristics of the body. The *Umwelt* is not a mind, or subjectivity, but a shadow drawn by the researcher. But the observations were good ones (and that treadmill!). We learned from this that the world for a body is bounded and finite and not separable at all from the make-up of the body itself. So we join von Uexküll in his observation of the tick, the limpet, the paramecium, the chicken, the dog, and the scientist. For each we can see (1) the body, and (2) it's notional world. But there is always a third, which is everything else, paradoxically including the body and its world, which we pulled out and represented. Because that is how we think about things.

Interpreters of such work are always keen to project themselves, and their own conception of minds, bodies, worlds, into such a picture. Von Uexküll is a caution against such free extrapolation. By looking at bodies and their sensitivities and capacities for action, he fell prey to a biological form of insanity that saw Hitler as a necessary doctor for the organism of the state. Biofascism. Caveat lector!

This is not how we will approach and center the body. We begin in ignorance, without dimension, without efficient causation, without time, without space, and the inquiry continues.





## Chapter 6

# Dreaming

The most important body is the sleeping body. Sleep is a cessation of the interactive cut-and-thrust of samsara. Enabled by a niche, whether cave or four poster bed, the sleeping body is pure potential. Our fondness for the body and its putative inhabitant is simplest for the one in deep sleep, the first state. It is innocent. Resting in a local equilibrium.

Dreaming is the second state. The animation of dreaming extends no further than the body. Here potencies are at work that cannot be objectified. We approach dreaming obliquely.

The third state is the assembled walking and talking functional person taking part in the mundane and supra-mundane activities of daily living. Now the body is hidden, or rather, becomes a shape-shifter, an avatar whose face, pose and equipment changes with every encounter. Wearing the suit and tie of the executive, the regal gown of the king, or the little black dress, enacting dramas as small as the stirring of a teacup or as large as the detonation of a bomb, the monad posited as the origin is not visible. To know what to apportion to the body, it is the sleeping body that first calls us. In sleep the infant and the crone are not different, the sinner and the saint are indistinguishable, the genius sleeps little differently from the madman.

Dorothy has hit her head, and lies asleep on her bed, in her house, the niche, suspended in a vortex between Kansas and Oz. This is a point at which we can take stock of things.

Dorothy is at home in Kansas. Kansas is black and white. It has a fixed social order that cannot be questioned, framed by the farm, the parental aunt and uncle, and the authoritarian teacher. She has friends among the three farmhands. Things are predictable and familiar in Kansas, though not much happens (usually). History does not happen in Kansas. She yearns to be over the rainbow. She is sweet, naive, and we are on her side.

She will be in Oz once she walks through that door. But the transition from Kansas to Oz is a bit odd. It involves a tornado, or vortex. The vortex is, of course, a non-linear dynamic emergent phenomenon. It has dimension 3, which is sufficiently rich to generate chaos, turbulence, and intrinsic unpredictability. Three dimensions of change can generate a universe, given a seed, an initial condition, a perturbation, a kick in the pants, a grenade, an eyelash, a curse shouted in the temple, or the Roman swerve. The vortex is a bit resistant to any attempt to characterise it.

But we can make out Dorothy. She lies on the bed, asleep, having bumped her head. She is protected, despite the chaos of the vortex. She is inside a human shaped box, the house.<sup>1</sup> This is her niche, and it will survive (just) the passage to Oz. For the niche, this is a one-way trip. One: Dorothy; Two: girl + house; There is always a third.

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<sup>1</sup> A body shaped box, is, of course, a coffin, or the laboratory of the behaviourist, or a factory.

Suspended between above and below, heaven and earth, the farmyard and the emerald castle, Dorothy is neither born nor unborn. She is asleep, and thus innocent. God or Man? She's a child, for Christ's sake!

When the house hits the ground Dorothy will awaken with a bump, and emerge into a strange land. Once awake, the first question she is asked is "Are you a good witch, or a bad witch?" Once awake, she is judged, and held accountable. Asleep, she is no kind of witch at all.

## 6.1 Allegories

The Wonderful Wizard of Oz appeared as a book in 1900. A useful landmark. L. Frank Baum wrote in the introduction that the book "was written solely to pleasure children of to-day. It aspires to being a modernized fairy tale, in which the wonderment and joy are retained and the heartaches and nightmares are left out." Let us take L. Frank Baum at his word.

The moving picture appeared in 1939, the month before the beginning of the Second World War. It took Technicolor to new heights. The film has been valued by the Library of Congress and UNESCO's Memory of the World register. It now belongs to all of us, studios be damned.

The movie was then broadcast through television screens in 1956, reaching a much larger viewership.

Despite L. Frank Baum's clear statement, in 1964 an economist called H. M. Littlefield<sup>2</sup> argued that the story was, in fact, an allegory about American politics of the 1890's when one important issue pertaining to the nature of money was debated: Should America's wealth be grounded in gold, or both gold and silver? Many details from the story were drawn on to argue the case: the slippers of the film are ruby, but in the book they are silver. The yellow brick road was clearly the gold standard. Each of the main characters was mapped to an actual figure of the political landscape. The richness of the story gave him much to play with, and other economists gobbled it up.<sup>3</sup> It became a vehicle for teaching students condemned to a boring class on monetary policy, and appeared in textbooks. Debunking of the claim by other economists<sup>4</sup> did not dissuade others from continuing to use the allegory creatively in a pedagogical setting.<sup>5</sup> Others chose to read theosophy into the story.<sup>6</sup>

But reading through the text to hypothetical intentions of the author is an old mistake. Centuries of biblical exegesis and fighting should serve to help us avoid that trap. We are children, and it is our fairy tale to make of what we will. We have two texts: the book and the movie. A small canon to begin making sense anew.

Roll up! Roll up! There is something for everyone here. Marxists can work with the tinman, whose occupation led to him repeatedly chop lumps from his own flesh, which could be (functionally) replaced by tin plate, so that he could keep on working. We encounter him in a rusted and immobile state, devoid of heart. The strawman is crucified until let down from his cross by Dorothy. The lion is pathetic, and in need of a therapist. Servility and stupidity haunt the characters, but the

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<sup>2</sup>Rockoff, H. (1990). The "Wizard of Oz" as a monetary allegory. *Journal of Political Economy*, 98(4), 739-760.

<sup>3</sup>Littlefield, H. M. (1964). The Wizard of Oz: Parable on populism. *American quarterly*, 16(1), 47-58.

<sup>4</sup>Hansen, B. A. (2002). The fable of the allegory: The Wizard of Oz in economics. *the Journal of economic education*, 33(3), 254-264.

<sup>5</sup>Dighe, R. S. (2007). The fable of the allegory: the Wizard of Oz in economics: comment. *The Journal of Economic Education*, 38(3), 318-324.

<sup>6</sup>Leach, W. R. (2011). *Land of desire: Merchants, power, and the rise of a new American culture*. Vintage.

Emerald city calls. The wizard has all the necessary credentials for leadership: he is a mimic, a ventriloquist and a hot air balloonist.



Figure 6.1: Mary the neuroscientist steps through the door to Oz

Is it already at work in forming, re-forming, in-forming the collective consciousness? Dorothy opens the door to a world of colour. Is this not Mary the Neuroscientist, the creature of fiction dreamed up by philosophers of perception, raised in a black-and-white world, who studies all that the books have to say about colour, but who has never seen colour? The neuroscientists want you to ask “What do you know that Mary doesn’t?” No back reference to L. Frank Baum is provided, or needed, but we can see the thrust of the thought experiment made manifest in Dorothy’s position. A mutant fruitfly strain without a heart becomes the tinman mutant.<sup>7</sup> We are downstream of the Wizard of Oz, and we can think with it more easily than with the transcendental deduction or the epoché. We don’t have to, mind. It is already at work.

## 6.2 Frames of reference

Medieval painting is awash with reality of many sorts. On the back of Jan van Eyck’s Ghent Altarpiece, we find representations of the donors and the two Saint Johns (baptist and evangelist). To ensure that different ontological realms are kept separate, the saints are painted as statues, while the donors simply appear to be painted.

Every frame—the picture frame, screen, edges of the snapshot—is a door to Narnia. Cross through, and different rules apply. Uniquely, in Dorothy, we can see both sides, and the vortex in which she is suspended between the two realms. The main characters in Oz have counterparts in Kansas, but not equivalences. This is not metaphor—or it is metaphor that disrespects logic.

We watch a fictional story about Dorothy and the Wizard. But we also see Judy Garland, worked to the bone, fed Benzadrine to control her weight, breasts bound to remain girlish, given uppers and downers to keep her animated, so that she gets uncontrollable giggles and the director slaps her. The wicked witch who disappears through a trapdoor caught fire on the second take and was hospitalized for months. She refused then to do the flying broomstick, so a stunt double was

<sup>7</sup>Bruneau, B. G. (2020). The developing heart: from The Wizard of Oz to congenital heart disease. *Development*, 147(21).



Figure 6.2: Rear lower panels of the Ghent Altarpiece (van Eyck). The donors, Joost Vijdt and Lysbette Borluut, are on the outside, and Saint John the Baptist and Saint John the Evangelist in the center panels.

used, who suffered smoke poisoning as a result. The first tin man had to be replaced because his make-up was killing him. The second only suffered conjunctivitis. The cowardly lion wears a lion skin taken with the butcher's knife from a real lion. His mask and make-up will leave him with permanent lines around his mouth. Everywhere reality is doubled and wraps around.

Oz, Kansas, and the vortex; Dorothy, Judy, and Hollywood; Patron, saint, and the viewer. Heaven, hell, earthly delights and horrors; This, that, and **there's always a third**, mediating between the two, but uncontrollable, exceeding any frame. Mediation is not transfer, but mixing. There is no "the world." Prior to either being or becoming (or law), the unsliced, untrodden, unmarked, unarticulated ground is triune, as all religion and science have shown us.

## Chapter 7

# The Rat Temple

The passage of time causes animals, as singular embodied beings, to arise and go away. The embodied being needs to develop tools for consideration of this. The Rat Temple is the state of the art. (The Karni Mata temple lies in Rajasthan and can be witnessed via live stream.) Let us look.

First, take note of our situation of observation. We observe the temple, perhaps on a screen, where we see the entrance to the inner sanctum, the multi-armed goddess at the back of the sanctum, the entrance pillars flanked by silver lions, and a sand tray in front. Most of the activity we see is the rats, scurrying and doing rat things. They are energetic, and appear, to us, to be thriving as rats. Occasionally the temple keepers appear, as gods, who keep the cosmos in order for the rats. Indeed, this is their sacred charge. They have arranged things such that the temple, in their view, is an Eden for the rats. They have good reasons for doing so. The rats ignore the temple keepers. The rats are provided with the most luxurious vegetarian food and even occasional liquour. This is heaven on earth, if “earth” be allowed to be constructed by the gods with the flourishing of the rats in mind.

Like the temple keepers, we are concerned for the individual embodied being, and we wonder about our own position in things. But let us stay with the keepers first, and understand why their work is so very important. The temple is a unique solution to the oldest problem, posed so eloquently by Naciketas in the Katha Upanishad. Naciketas, you remember, has a father who is altogether too holy. Swept up in Brahminical fever, the father gives away all his possessions. Naciketas, who is just a boy, is worried. Will he be given away too? “I’ll give you away to Death!” his father quips, and Naciketas gets up and leaves the father to his insanity. He wanders off and finds the abode of Death, who is not home. He is patient, and three days later, Death turns up, and is horrified to find that Naciketas has been kept waiting three days to speak with him. Death, it turns out, is very nice and makes a great conversational partner. He invites his young guest in, and feeds him, muttering apologies the whole time for having left him waiting. To ease his embarrassment, he grants Naciketas a boon: the traditional three wishes.

[Death.] Three nights, O Brahmin, you stayed in my house,  
a guest worthy of homage, without any food;  
Three wishes, therefore, deign to make in return.

Naciketas is judicious in his choice of wishes. His first wish it to set things right back home with his father. That is granted. His second wish is to be instructed in his relation to the gods,

ritual and sacrifice. In the Vedas, there is a great value placed on the proper conduct of ritual. This too is granted. The third wish is what concerns us.

[Naciketas.] There is this doubt about a man who is dead.

‘He exists,’ say some; ‘He exists not.’

I want to know this, so please teach me.

He does not get a straight answer from Death. Death first tries to shift his resolve by offering him worldly goods, long life, and anything a mortal might want. But Naciketas is unmoved. His question is well aimed and his resolve to have it answered by Death cannot be moved. This induces Death to launch into one of the pieces of metaphysical poetry for which the Upanishads are so justly famous.

The Upanishads are old, and have given rise to many kinds of interpretation. The questions around soul, identity, life, purpose, duty, and the Gods are lively questions admitting of many solutions. We ask such questions too, and they do not resolve to any definitive answer. Sometimes we forget that we have such questions. We also forget that we live in the questioning itself, and that the many responses to such questions are the creative forces behind our own adventure, and condition the world we believe we find ourselves in.

Here are two stories that have been tried out in every possible variation:

## 7.1 Story 1: The Personal Soul

The individual body here is understood to be co-extensive with the individual soul. The person and the body are co-extensive. This is the one we probably received as we were first suckled, then shaped by education, and later driven, of necessity, to the factory, to work, as well-shaped citizens. This way of considering body/soul relations has been installed in our language. It informs our personal pronouns (however difficult they may be in our mutual relations). Only within this elaboration of the theme can we develop stories about personal consciousness or experience. It is no coincidence that Augustine tied the soul to the body in this way, and that he also invented the autobiography, which would not have made sense before his conversion. And once we have set off down this path, there are many questions that remain to be resolved. At the core of these questions lies the consideration of what happens when two embodied beings unite and produce a third, distinct being.

An old idea is that of the seed. The sperm cell as homunculus, fully contained and only in need of nurturing within the womb. This is animalculism, and it is a potent response. This is the origin of the notion of patriarchy, and its legacy is perfectly immanent in a world in which family names are patriarchal, aristocracies are lines of male inheritance, and, well, let us content ourselves and simply note that the patriarchy is a potent force at work.

Scientific humanism has complicated this and made the offspring appear as a third, fusing elements of both parents. Unsurprisingly, this did not destroy the patriarchy, nor relieve the guilt of Onan. Where animalculism saw the sperm as the future being in condensed form, the new view introduced some very technical questions that are only discussed among recondite theologians, but that are as fundamental as any of the pop philosophy questions so in vogue. Everyone seems happy to dunk on poor old René Descartes for uttering the words ‘Je suis! j’existe!’ and the consequences of the birth of the cogito with this utterance are eagerly debated. Few will debate the relative merits of creationism versus traducianism in public. The questions confuse us, because we already

believe the body is the person. This identification gives a specific meaning to the technical term ‘soul,’ which is no longer used in polite conversation. Now we talk of the mind of the person, and its relation to the body instead. The body/person equation is doing the reification of soul for us. Or we simply mechanize both without regard for the consequences. Scientific psychology, once a source of useful fictions, has become a suicidal occupation. Both creationism and traducianism find the new body to be ensouled, that is, to be a person. But while we can watch the cells divide and transform, finding the point at which the person arises is trickier. All the precision of the physicist has been of no help here, and we find ourselves fighting about conception and abortion. At issue is this: did the personal soul arrive as a new thing in the baby (creationism), or did the parents generate it (traducianism)?

How does a fundamental question like this get so obscured? Because of the well-founded fictions we live among that complicate things with notions of family, society, culture, language, and ethics, none of which the embodied being has any resources for dealing with. The ignorance of the embodied being is going to finally be of use here. We might aspire to the happy position of Naciketas, who has sorted such questions out with his first two wishes, the better to stay laser focussed on this burning question of the body, death, and personal being.

## 7.2 Story 2: Reincarnation

The alternative to the personal soul, and the paradoxes and puzzlement that go with it, is the venerable idea of reincarnation. This is an alternative route, unavailable to the scientific humanist or the aristocrat. It grows within a cyclic narrative of time, with a looser link between the body and the consequences of its actions. The scientific humanist is a protestant, and the person of the protestant suffers its entire life from guilt. Everything done by the protestant goes on his scorecard (the patriarchy lurks in the background still), to be judged and redeemed or damned when time comes to pay the bill.

But Death is a most gracious host, not a furious Christ casting innocent souls to hell. The body, let us remind ourselves, is innocent. Dorothy, asleep, is the body in its innocence. If we tread the reincarnation path, karma accumulates and passes from one life to another. This too is tragic. Because humans have tried out everything, this idea is as alive and well as the patriarchy. Demands for reparations from one nation to another for deeds that happened years ago show the seductive appeal of karma that goes beyond generations. Jimmy Saville was a monster for whom the body and the soul were one thing. He took this as licence to abuse and torture children, as he rightly guessed that the body would be dead before any reckoning could occur. His family ground his gravestone into dust so that the very trace of his existence was obliterated. Karma that is larger than the accumulations and accretions of an autobiography is by no means a foreign notion.

The Christians got something very important correct. They wrote it in their fundamental creed: *Genitum, non factum!* We are begotten, not made. We are produced, but not as final products. We are produced within lineages, and our living extends those lines, but the lines are not straightforward threads. They are currents, human farms, traditions, the glorious history of Manchester United Football Club. We only see some of them. This is where our well-founded fictions come from. Family is one such fiction. Society and culture are wobbly abstractions built out of such notions.

All origins are indistinct, for we must, of necessity, observe from a present in which they already happened.

### 7.3 India for the Indians, Temples for the rats!

Time to contemplate the brilliance of the Karni Mata temple. This temple, is, without a doubt, the greatest contribution to embodied cognitive science that has yet been produced. Embodied cognitive science is a confused notion, that suffers from its ignorance with respect to the body. Person, human, organism, or animal.... this confusion prevents the real embodied cognitive scientist from saying anything beyond the minimal postulate of the single body. Neither protestant nor Indian, we must still make sense of things from this body, this position.

The body of the rat has the central role here. Why? The keepers of this temple introduced a novel twist to the hoary old questions around embodiment, reincarnation, and living. Let us meet the story on its own terms. If I get the details wrong, I apologize, for I am far from Rajasthan, and rather ignorant.

Karni Mata was an embodiment of Shakti, the female power of manifestation. Unable to bear children, she had her husband, Depaji, lay with her sister, producing four children, the youngest of whom was Lakshman. Despite living in a desert, Lakshman had the misfortune to drown in a nearby lake. Karni Mata carried his body to where the inner sanctum of the temple now stands. She left the body there and closed the doors. In true Indian fashion, she then went to talk to Death about matters. Death is a most wonderful character to discuss things with. She insisted that Lakshman be brought back to the state of the quick. Death saw a logical problem: How, he asked, could the law of reincarnation work if he intervened like this. This was outside the order of things.

Karni Mata came up with a brilliant and heroic solution. Where the rest of the people spent their lives trying to leave the endless cycle of death and rebirth, she and hers would henceforth be excused from this desperate search for moksha and would live here as before, being reborn as rats to live in the temple, and to cycle from rat to human to rat to human evermore. "Wherever I live, they will live. When they die, they will stay with me." So the devotees are taking care of their own, and they have ensured that the temple is as close as possible to a Garden of Eden for the rats.

Some terminology needs to be introduced here if we are not to go badly wrong. I say 'rats' because that is what you see. But to Karni Mata, these are the *kābā*. The difference is unfamiliar to us, who think of the human as the special animal, but are unsure how to align that distinction. The *kābā* are a distinguished embodied form, not different from the devotees themselves, except in appearance, and their current occupation of the rat-phase of the devotee-rat cycle. Those, like us, who have been raised, whether we noticed or not, in the currents of the personal soul, do not understand reincarnation. What, we say, is passed on? In what does the identity reside, if personal consciousness, memories, traits, character are all gone once the body dies. There seems to be nothing left. But we are here in India where the many layers between the individual and the world have a rather different form.

We must now shock the poor reader by introducing the notion of caste, an unpopular notion to the British. The British, having aristocracy, working class, king, employers, gangs, unions, football clubs, laboured under the naive idea that their 'society' was nothing at all but the free intercourse of individual protestant bodies, without other formations. Since the reformation and the French revolution, which announced the birth of the ideal human citizen, this was the only form of atomism allowed. The Indians had been on a different trajectory, and had long recognized different roles in life as being part of the fabric of living. These formations are the *jāti*, or caste. The British mistook this for feudalism. The devotee-*kābā* remain within the one *jāti*, and it is the membership of this *jāti* that remains unbroken as bodies come and go. To the devotee, the rats are 'our kind,'



which is the most basic form of identity, as can be seen in Genesis.

Now the scientific humanist cannot approach such goings on, but an embodied cognitive scientist can. What have we ‘humans’ done differently? We have selected a specific embodied form as special. This is our kind. Dorothy is our model. Dorothy is not an animal among animals. She is one of us. The body of our kind is not to be compared to others. And we would like very much to restore it to the Garden of Eden, if we had the slightest clue how. Yes, an Eden best suited to the flourishing of our kind. We do not aspire to turning the world into a paradise for earthworms. They are not our kind.

## 7.4 Re-entry

You and I stand and observe the screen on which we observe the rats running around like wonderfully spirited little rats, leading the best rat life possible, at least to our eyes. They have had this paradise fashioned by the devotees, who are our kind. This is a model for contemplation. Devotee and *kābā*, viewer and temple. There is no resting place here, as our referent will move cyclically among these characters.

The devotees have centered the body, and their tending of the rats is entirely in their own interests, for reasons of continuity within the *jāti*. What if they were right? Please, no fixed positions here. Some flexibility will be required. We look at the rats. Would we be happy if some supra-mundane power had fashioned us a temple as best it could? Like the rats, we would be ignorant of our benefactors. The rats live with and among the devotees easily. On a planet haunted by the ravages of technocapitalism and undergoing a rapid change in its climatic metabolism, we also wonder which powers shape our world, but we have difficulty believing that those powers are benign. We wish we were rats in paradise.

Now we look back at the rats. They seem happy, blithe, doing rat things in a world that is rather larger than they will ever understand (in our sense of explicit knowledge) but in which they are at home. What if they took to doing science or philosophy? What would rat scientists find out? Is there a Buddha among the rats? There is one now! A rat stands on the threshold of the temple, centrally located, such that on our screens, the rat is the middle of the temple arrangement. This rat, surely, is the enlightened one. Karni Mata would be delighted. We are speculating, so let it be so. Call the rat “Hegel.”

What has the enlightened rat got that the others have not? On the one hand, nothing. It is just a rat among rats. We can see that. It moves off the threshold, and another will serendipitously occupy that central place in a minute. What has the body of the Buddha got that you and I do not? Nothing. Enlightenment is only alignment within the cosmic order of things, and rats don’t know or understand that they live in a paradise created by the temple keepers. But we, as viewers, know this particular cosmic arrangement. This is a learning opportunity. The stunned look of the human who has dropped acid, or become enlightened under a tree, or survived the struggles of the long dark night of the soul, is a clue. There you see a body that knew, somehow, briefly, of its alignment within the cosmos. And the body moves on, it must eat, shit and fuck as before.

Among the rats, it is said that one in a thousand knows to look for that central place on the threshold. It is also said that of those who search, one in a thousand finds the place. What merit goes to the rat? None whatsoever! As rat, it had no idea. But as *kābā* within the confines of the temple, we outside viewers can recognize the chance alignment of one body with the design of the

Garden of Eden. The center of the temple is the center of the Garden, but there are no trees there to break the symmetry.

## 7.5 Denouement

The temple can teach us a lot. For one thing, these devotees seem to know rats rather better than the scientific humanists. Indeed, the problematic notion of ‘behaviour’ has been developed largely by getting rats to do things they would never normally do. We have had them run countless mazes, and drawn inferences that are beyond fanciful. We have used stressed rats as a model for our own schizophrenia. We got them addicted to drugs, and then treated them with psychedelics. They spoke back to us in the only way rats can speak. When they were given a rich community and social life, we could no longer get them addicted to drugs. Truly, we have approached rats badly.

The rat here is an embodied being we can consider even as we recognize that we do not know what a human, an animal, or an organism is. This is the precious ignorance of embodied cognitive science.

## Chapter 8

# Zero

The perfidious symbol of Zero came from India, and facilitated calculation, while strangling the imagination. The ease with which a symbol is employed makes no demand on its interpretation, and once inserted into the economy of signs, symbols and exchange, its tenuous attachment to the world becomes invisible.

Reality is triune before distinctions are drawn. It is full. There is no absence. There is neither something, nor nothing. Pure charged pregnant virtuality.

Later, in multiplicity, an absence is a quotidian thing. I had 6 cans of beans and now I count five. One is missing. This kind of absence underlies structuralism. Patterning reveals negative and positive forms. And so the integers, if regarded as tins of beans, can represent an absence without trouble.

But the integers have their attachment to things through the monadic postulate that allows the very entertainment of the audacious hypothesis of one, of ONE, of the point, the determinate position, the instant. God is the can of beans that cannot be thought away.