

XIII.

Life in the Woods (1985)



I said it would be dark, & he said he hated daylight. I said it would be lonely, & he said he prostituted his mind talking to intelligent people. I said he was mad & he said God preserve him from sanity. (God will.)

— Russell to Lucy Donnelly, on his attempts to talk Wittgenstein out of going to Norway [1913].

Cabins (1985)

“On a deep winter’s night,” says Heidegger, “when a wild, pounding snowstorm rages around the cabin and veils and covers everything, that is the perfect time for philosophy.”¹

No. That is the perfect time for whiskey.

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“Then its questions must become simple and essential,” he continues. “Working through each thought can only be tough and rigorous. The struggle to mold something into language is like the resistance of the towering firs against the storm.”

Dude. Really.

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I remember dreaming as a child of four that I travelled to the end of the universe, and saw the whole of it from outside. It was kept in a sort of goldfish bowl in the rude cabin in which God lived. I pictured the Divine Architect as some kind of rustic, perhaps an old woodcutter.² — I didn’t think much about where the hut was, in the forest perhaps, something out of the Brothers Grimm, but cut me some slack, I could only imagine God in absolute solitude, this seemed

¹ “Why Do I Stay in the Provinces?” [1934] — in: *Philosophical and Political Writings*, edited by Manfred Stassen.

² I assume there must be some kind of archetype involved here. It can’t be an accident that the picture of Thanos in his post-apocalyptic retirement in *Avengers: Endgame* is nearly identical. (Compare also the opening of Merhige’s *Begotten* [1991], in which God is discovered disemboweling himself in a shack in the woods.)

like the proper setting, and anyway there is a Kantian antinomy here, and Milton didn't do much better:

Weighs his spread wings, at leisure to behold
Far off the empyreal Heaven, extended wide
In circuit, undetermined square or round,
With opal towers and battlements adorned
Of living sapphire, once his native seat;
And fast by, hanging in a golden chain,
This pendent world, in bigness as a star
Of smallest magnitude, close by the moon.³

Nor did Heidegger, of course. He even tried to dress the part.

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Heidegger's cabin⁴ lies on the side of a hill above the hamlet of Todtnauberg, in the Black Forest; it has been the subject of a doctoral dissertation in architecture.⁵ It is six meters by seven and divides in quarters, comprising a sitting room, a kitchen, a bedroom, a study, and an attached woodshed containing an "Earth closet". — It only took me a minute to figure out what this meant when I viewed the plans, since my first question as a veteran of the simple life was, naturally, "Where's the outhouse?" — The well was external, filled from a stream coming down the hill, lessening the likelihood of contamination by fecal bacteria, but I have to suspect the whole place smelled of shit. (The miasma of Being.)

Like Wittgenstein, he didn't build his cabin himself but hired the job done; the idea that a philosopher might work with his hands, as

³ *Paradise Lost*, Book II.

⁴ Visible and tagged as such on Google Maps, though it is not (the family insists) a tourist attraction.

⁵ Adam Sharr, *Heidegger's Hut*. [Cambridge: The MIT Press 2006.]

Thoreau did, appears to be alien to the European tradition. — In fact, judging from the photographic records of his domestic life in rustication, Heidegger didn't even butter his own toast; while he strikes contemplative poses for the benefit of posterity, his wife can be seen bent over a stove in the background. — Not a lot of late nights at the Kierkegaard Memorial Launderette waiting on the spin cycle for Herr Professor, I am guessing. Too bad, Zippy the Pinhead could have taught him a thing or two.

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In German romanticism there is an equation of mountains with — well — height, but also with complementary depth. — One may note, for instance, that the *sogenannte* mountain film, a form of romance in which the protagonists made perilous ascents while rhapsodizing about the spiritual exaltation this brought them, was a popular genre in Germany between the wars, and Leni Riefenstahl became a star making them.⁶

Thus Zarathustra lived in the high mountains before descending to enlighten his fellow men. — In a cave, in fact. — This always reminds me of a story I heard when I lived in James Canyon, up an old mining road that meandered up the mountainside; terminating, finally, a few miles and a couple of thousand feet up, near the summit of the hill. — I hiked up the trail many times, and was amazed to discover, all by itself in a sparse gathering of stunted pines, a single malnourished apple tree growing out of the rocks; I guess Johnny Appleseed really did go everywhere. — I was told that once upon a time, in the Heroic Age, a mysterious wanderer had appeared from out of the East, mounted on his trusty steed — an old Chevy Impala — bearing an assortment of supplies and a few items of lawn furniture; powering his

⁶ Cf. *Der Heilige Berg* [Arnold Fanck, 1926]; *Die Weisse Hölle vom Piz Palü* [Arnold Fanck and G.W. Pabst, 1929]; *Das Blaue Licht* [Leni Riefenstahl, 1932]. Philip Störtzl's *Nordwand* [2008], a historical romance about a failed 1936 attempt to scale the wall of the Eiger, is a kind of modern homage,

way by sheer force of will up the rubble-strewn gully that now could only be negotiated by mountain goats and four-by-fours with much more serious clearance, he made it most of the way to the top before bottoming out in front of an abandoned mineshaft. — Where he proceeded to unpack, and where he lived alone, for a season or two, sunning himself in front of the entrance on his lawn chairs, before disappearing into legend.

The guy who told me this story was typical of the neighborhood. He was a veteran hippie who had haunted these environs for years, and lived in a tiny antique cabin, not far from a small house from which he poached electricity via an extension cord. He had taken possession of the place as a squatter, and though the Forest Service wasn't willing to evict him, they had filed notice somewhere that when he gave up and moved out the property would be condemned, Meanwhile he survived alone in the woods, just like Thoreau; living the dream.

— Well. — That was his story. — The story of his girlfriend's roommates in Boulder, as it turned out, was rather different: they were sick and tired of his freeloading; he crashed at their place constantly, ate everything in the refrigerator, and never chipped in on the bills. Faced with the choice between life in the woods and life on the couch in front of the television set, in short, he feigned allegiance to one while pledging his troth to the other. Indeed he did seem rather like Thoreau.

And Zarathustra, too, I suspect. Did he sneak into town on Saturday night, power down tequila shots at the local saloon, embroil himself in philosophical dialogue at the brothel, and not crawl back to his cave until Wednesday? I wouldn't bet against it.

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In *Der Heilige Berg*,⁷ Leni Riefenstahl plays a dancer named Diotima, a worshipper of the wild energies of Nature who passes the time in imitation of Isadora Duncan, interpreting the sea crashing against rocky shores and the like. — Confronted with the mountains, she fantasizes about a bold mountaineer who stands atop the tallest peak. Channeling her inner Heidi, she cavorts about an alpine landscape, picking flowers, dancing among sheep and goats, drinking from streams, viewing cataracts — it was too early in cinematic history, I guess, for nude bathing beneath a waterfall, though to the modern eye that seems a glaring oversight⁸ — while the Dude of her Dreams, an intellectual climber with a noble profile, descends from a nearby summit with the aid of his ice axe. — As decreed by the screenwriting gods, they Meet Cute. — Awestruck, she asks what the mountain heights are like. — “Beautiful — arduous — dangerous,” he replies. — “What does one search for, up there?” she asks. — “One’s self,” he replies.

Well, we know where that came from:

Now as Zarathustra was climbing the mountain he thought how often since his youth he had wandered alone and how many mountains and ridges and peaks he had already climbed.

I am a wanderer and a mountain climber, he said to his heart; I do not like the plains, and it seems I cannot sit still for long. And whatever may yet come to me as destiny and experience will include some wandering and mountain climbing: in the end, one experiences only oneself.

⁷ “Eine dramatische Dichtung in Bildern aus der Natur von Dr. Arnold Fanck.”

⁸ Leni herself was not shy, however; she appears among the nude models who pose in the opening sequence of *Olympia* [1938].

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I should admit that this phenomenon is entirely real: there is, indeed, a race of Underground Men (and Women), the vagabond race of climbing bums,⁹ a species of gypsy who live in their vans and travel from rock wall to rock wall in search of fresh opportunities to defy the laws of physics and physiology while subsisting on rice and beans and adrenaline; the acolytes of a kind of religion, holy fools bewitched by the overwhelmingly powerful metaphor of the Ascent. — The drive is entirely Nietzschean, the exercise of a will to power; Greek in its pursuit of the kind of athletic excellence that strives toward a union of physical and spiritual perfection. — Here the cynic interjects that it is not exactly an accident that specimens of the type are sometimes referred to as “Body Nazis” — though he is, of course, more than slightly envious —

I might have become one myself, indifferent athlete though I am, were I not prone to vertigo; like Jimmy Stewart’s traumatized detective, I can get dizzy standing on a chair, let alone hanging by my fingertips above a yawning chasm. — When Ken Higgins set the international record for running the circuit of the ledge atop the Millikan Library, ten stories above an unforgiving pavement, I was there, all right, but treading cautiously, and holding the stopwatch.¹⁰ — They also serve who only stand and wait.

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⁹ “Dirtbag climbers” may be more contemporary. The apotheosis of the type is the now-legendary Alex Honnold, whose ropeless ascent of El Capitan is immortalized in *Free Solo* [Jimmy Chin and Elizabeth Chai Vasarhelyi, 2018]. — Honnold lived in an (admittedly customized) Econoline van for a decade. When he finally got rich enough to buy a house in Las Vegas, lacking furniture, he parked the van in the driveway and slept in it for the first couple of weeks.

¹⁰ The first attempt took place in the rain, and since the surface was rather slick he couldn’t do better than 31 seconds. Later he lowered the mark to 19.

At any rate it is easy to see what Nietzsche, Wittgenstein, and Heidegger all presupposed, in their different ways: this idea that elevation and isolation are conducive to — nay, entail — spiritual exaltation, intellectual clarity, philosophical insight.

Of course I would not understand them so completely were I not myself a German romantic¹¹ of their type (albeit one who viewed his own pretensions with American ironic perspective), and a sucker for the same circle of metaphors. “Wittgenstein in Norway!” I told myself. Over and over again.

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But (contra Heidegger) there is no *time* for philosophy; and no *place* for it either.

Inspiration is not some kind of reward for melodramatic posturing. By definition it is always a surprise; something that arrives when you least expect it.

One famous instance is vividly described by Richard Rhodes, at the outset of his epic history:¹²

In London, where Southampton Row passes Russell Square, across from the British Museum in Bloomsbury, Leo Szilard waited irritably one gray Depression morning for the stoplight to change. A trace of rain had fallen during the night.... When Szilard told the story later he never mentioned his destination that morning. He may have had none; he often walked to think. In any case another destination intervened. The stoplight

¹¹ A light bulb went off over my head when first I read the memoirs of Albert Speer, who described his grandfather as “a typical Black Forest brooder, [who] could sit [working] for hours on a bench in the woods without wasting a word.” This is the very image of my grandfather Otto, whose people did, indeed, come from the *Schwarzenwald*. — Blood will tell.

¹² *The Making of the Atomic Bomb*. [New York: Simon and Schuster, 1987.]

changed to green. Szilard stepped off the curb. As he crossed the street time cracked open before him and he saw a way to the future, death into the world and all our woes, the shape of things to come...

What Szilard realized in that moment was that when a neutron strayed into an atomic nucleus and caused it to fission, it might besides releasing energy free other neutrons. And that this would create a runaway cascade.

It goes without saying that nothing Heidegger ever thought of had the depth, the elegance, or the appalling consequences of the idea of the chain reaction. A walk around London might have done him good.¹³

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Szilard was a friend of Einstein, who described as “the happiest thought of my life” the moment when he sat daydreaming at his desk at the Patent Office; looking out the window, he saw workmen on a scaffolding on an adjacent building; and realized if one of them were to fall, *while he was falling* he would not feel the force of gravity — that he would be in an inertial frame, in the sense of the Principle of Relativity. — That was the basis of the Principle of Equivalence; that implies that the geometry of the world is not Euclidean; and that explains gravitation.

¹³ Strange but apparently true, Roger Penrose had the inspiration that led to his singularity theorem under nearly identical circumstances, crossing a London street near his office at Birkbeck College in the autumn of 1964.

Which is to say that it would make more sense to be striking these dramatic poses a la Rodin if we really knew, most of the time, what we were actually thinking about. But of course we do not.¹⁴

One afternoon when I was painting my mother's dining room I happened to remember a mathematical problem I hadn't thought about for a couple of years, and saw the answer at once. — So much for me. (And yes, this is entirely typical.)

Descartes, never an early riser, was lying in bed late one morning idly watching a fly walk across the ceiling when he realized the geometry of its path could be expressed with algebra; Newton was lying under a tree looking at the Moon and wondering why it orbited the Earth when an apple dropped upon his head; Wittgenstein was walking past a field where a soccer game was in progress when it occurred to him that in language we play games with words. — These stories are preserved in legend not because they are literally true (though they may be), but because what they say about inspiration is true: it is a bolt from the blue, a gift from the gods, something which may arrive at any time or place, *by definition* with no prior notice. — It is not, in other words, something you can summon by an act of will, say by standing on a mountaintop demanding the attention of the heavens. — The gods punish *hybris*, they don't reward it.

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Perhaps the most vivid description of real intellectual labor was given by Einstein's great precursor Henri Poincaré, in a lecture delivered at the Société de Psychologie in Paris in 1912; later published as

¹⁴ Nietzsche *Late Notebooks* 38[1]: "In the form in which it comes, a thought is a sign with many meanings.... It arises in me — where from? ... It comes, independently of my will... often enough scarcely distinguishable from a "willing" or "feeling". It is drawn out of this crowd, cleaned, set on its feet, watched as it stands there, moves about, all this at an amazing speed yet without any sense of haste. Who does all this I don't know, and I am certainly more observer than author of the process."

“Mathematical Creation”¹⁵ — an essay quite in the Cartesian tradition, in which, after a few preliminary remarks about the paradoxes presented by the subject — why are proofs, which consist simply of a series of elementary logical steps, so difficult to follow? how is error possible in mathematical demonstration? what explains the ability of the mathematician to absorb and retain arguments of this particular type though not necessarily of others? (he suggests an aesthetic sense, an intuition of order) — Poincaré proceeds to personal anecdote, as the best way “to penetrate [into] the soul of the mathematician,” and — emphasizing that it typifies his subsequent experience as well — tells the paradigmatic story of how he wrote his first memoir on Fuchsian functions.¹⁶

He describes how he spent two weeks dutifully working on his problem — “I was then very ignorant; every day I seated myself at my work table, stayed an hour or two, tried a great number of combinations, and reached no results.” But then there occurred an episode that sounds almost like lucid dreaming:

One evening, contrary to my custom, I drank black coffee¹⁷ and could not sleep. Ideas rose in crowds; I felt them collide until pairs interlocked, so to speak, making a stable combination. By the next morning I had established the existence of a class of Fuchsian functions ... I had only to write out the results, which took but a few hours.

¹⁵ Included in James R. Newman (ed.), *The World of Mathematics* [New York: Simon and Schuster, 1956]; Volume Four, Part XVIII, pp. 2041-2050.

¹⁶ “I beg the reader’s pardon,” says Poincaré, “I am about to use some technical expressions.....I shall say, for example, that I have found the demonstration of a theorem [with] a barbarous name, unfamiliar to many, but that is unimportant....what is of interest ... is not the theorem but the circumstances.”

¹⁷ Seriously, the drug of choice. Erdős once defined a mathematician as a machine that turns coffee into theorems.

He then continued the investigation by working out an idea which was “perfectly conscious and deliberate” with which he “encountered no difficulties.” — Here his progress was interrupted by a geological excursion (Poincaré began his career at the School of Mines) and

... travel made me forget my mathematical work. Having reached Coutances, we entered an omnibus to go some place or other. At the moment [shades of Szilard] when I put my foot on the step the idea came to me, without anything in my former thoughts seeming to have paved the way for it, that the transformations I had used to define the Fuchsian functions were identical with those of non-Euclidean geometry. ... I went on with a conversation already commenced, but I felt a perfect certainty [and] ...verified the result at my leisure.

After continuing the story with two similar incidents of apparently fruitless labor followed at unpredictable intervals by sudden inspirations which enabled him, finally, to complete his memoir, he draws his conclusions: “Most striking at first is this appearance of sudden illumination, a manifest sign of long, unconscious prior work. [This] appears to me to be incontestable” About this unconscious work, however, he insists “it is possible, and of a certainty it is only fruitful, if it is on the one hand preceded and on the other hand followed by a period of conscious work.” This is necessary both as it were to prime the pump, and also to verify the results of inspiration — which are not, he points out, invariably correct.

He proposes then that what he calls “the subliminal self” is not purely automatic, as (then) usually assumed, but at a minimum capable of very flashy combinatorics; he appeals to Epicurean atomism, and suggests that conscious labor sets something analogous to hooked atoms in motion — we might now think of tinker-toys or Legos — causing them to combine and form complex assemblies; thus constructing complex ideas by synthesizing simpler parts. —

Empedocles¹⁸ might be a better model, but never mind. — He points out, however, that blind recombination cannot completely explain the phenomenon and, after briefly entertaining the hypothesis that the “subliminal self” may in fact be superior to the conscious mind, walks that back to the theory that the unconscious experiments essentially at random, and only aesthetically pleasing combinations pass the filter into consciousness.¹⁹

¹⁸ Russell’s description of Empedocles’ picture of evolution: “Originally, ‘countless tribes of mortal creatures were scattered abroad endowed with all manner of forms, a wonder to behold.’ There were heads without necks, arms without shoulders, eyes without foreheads, solitary limbs seeking for union. These things joined together as each might chance; there were shambling creatures with countless hands, creatures with faces and breasts looking in different directions, creatures with the bodies of oxen and the faces of men, and others with the faces of oxen and the bodies of men. There were hermaphrodites combining the natures of men and women, but sterile. In the end, only certain forms survived.” [*History of Western Philosophy*, Chapter VI.] See Burnet #57-61.

¹⁹ In his posthumously published autobiography *Taking the Back Off the Watch* (ed. Simon Mitton, Berlin/Heidelberg: Springer-Verlag, 2012), the astrophysicist Thomas Gold explains that a question about the polarization of starlight had for a while baffled him, until [p. 89] “One morning, about a week after I had given up on that problem, I awoke suddenly at 4 a.m., much earlier than usual for me, and it was some sudden shock that seemed to have awakened me. ‘Here is the answer to your problem’ was the message.” — Accordingly he wrote it down, went back to sleep, and verified the details when he found his scribbled notes in the morning. — Which is not, however, the point of the anecdote, as he explains: “But the main interest for me of this whole story was not whether it was the correct solution, but the light it shed on the workings of the brain. I take it that the sudden awakening with a solution was due to unconscious parts of the brain having continued to work on the problem from the time I had ‘instructed’ them to do this. When they came up with the answer, it was their normal routine to knock at the door of that singular compartment which we call consciousness. There sits a doorkeeper who listens and who makes the decision what to admit. On this occasion, he might have said, go away, and try again when my master is awake. But in fact, he said, my master had given you such firm instructions to work on this, that I must admit you and wake him up.” — Here Gold makes — correctly — the connection between conscious/unconscious and serial/parallel, which must be the basis for any complete theory of these phenomena.

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The mathematician Jacques Hadamard²⁰ — taking Poincaré’s account as his point of departure, but inspired as well by similar anecdotes about Gauss, Helmholtz, and others — wrote an entire book on this subject,²¹ even sending out questionnaires to the leading scientists and mathematicians of the day, Einstein among them. He concluded that Poincaré’s experience was typical; that what he describes represents some kind of psychological reality.

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One curious characteristic of this phenomenon, as Poincaré notes, is that the recipient of the inspiration may only be able to verify its details later. — As if it were external in origin, as if someone were telling him “go look this up.” — Dirac told the story that the realization that the quantum-mechanical commutators²² could be identified with the Poisson brackets of classical mechanics came to him while he was on a Sunday walk; he could not remember the exact definition of the brackets, however, and the library was closed, so he had to wait until the following morning to verify that the idea was correct.

²⁰ Celebrated for, among other achievements, the first proof of the Prime Number theorem [1896].

²¹ *The Psychology of Invention in the Mathematical Field*. Princeton: Princeton University Press, 1945.

²² In quantum mechanics multiplication is not in general commutative, so that $AB \neq BA$; the quantity $[A,B] = (AB - BA)$ is thus of general interest. Strangely enough, as Dirac realized, a hitherto unremarked noncommutativity also lurked within the formalism of classical mechanics.

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There is a parallel in evolutionary theory, the phenomenon called punctuated equilibrium:²³ there appear to have been episodes in the history of life in which the consensus solution to the ecological optimization problem is upset by some change in environmental conditions;²⁴ in these circumstances there follows a period of rapid improvisation during which Nature experiments with a great variety of designs before settling on a new stable state. The effect is rather like that of a large flat billiard table in which there are widely separated depressions where a ball can roll downhill and come to rest; one must picture the table as constantly jiggling, so that if it is jostled or disturbed, or tilted for a moment, or — really the point — its landscape for some external reason undergoes an upheaval, the ball is dislodged and wanders rapidly but randomly around the surface until it finds another resting place. — Whether evolution actually follows this model is a subject of some controversy, but it is a familiar pattern in intellectual history: examples would include the period of ferment that followed the radical shock of the First World War, not simply the experiments in art and literature but the wild series of improvisations that resulted in the formulation of quantum mechanics (the speed of the readjustment, which is supposed to be the main objection to the theory in biology, was here also uncanny), and the occasions on which some new technological innovation is introduced and a hundred flowers bloom until industry settles on a preferred solution — in the automobile industry, the period at the turn of the twentieth century; in aviation, the period between the wars, when as many as a hundred thousand different designs may have been tested;²⁵ in the computer

²³ See Stephen Jay Gould, *The Structure of Evolutionary Theory* [Cambridge: Harvard University Press, 2002] and *Punctuated Equilibrium* [ditto, 2007].

²⁴ Or radical mutation: the most famous such episode was the so-called Cambrian explosion, which occurred after Nature finally solved the problem of multicellular life; a fantastic variety of new organisms were introduced in a relatively short time.

²⁵ Freeman Dyson comes up with this guess in an essay about, among other things, the author of *On The Beach*. Go figure.

industry, the period in the late Seventies/early Eighties when personal computers were introduced and their design was in rapid flux. (This last example shows that Nature and/or industry may settle on a solution which is less than optimal but nonetheless convenient.)²⁶

The formation of any individual idea is not dissimilar. Conscious life is serial, unconscious life is parallel. — In the upper reaches of a spacious castle, the conscious Ego paces about the parapets of a high tower, brooding as it contemplates its extensive view. — Meanwhile, in the cavernous dungeons beneath, an unruly host of dwarves and gremlins throw shit at the wall to see if anything will stick.

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So that is the real question: what stimulates the imagination? The romantic idea is that it flourishes in solitude; that the most profound thoughts only come upon the heights, far from the clamor of the mob and the petty distractions of civilization.

But this confuses metaphor with substance.

And isolation provides its own distractions — One might call that the paradox of isolation: that it is easier to be alone and undisturbed in the midst of civilized life.

Joyce put it as follows:

His thinking was a dusk of doubt and selfmistrust, lit up at moments by the lightnings of intuition, but lightnings of so clear a splendour that in those moments the world perished about his feet as if it had been fire consumed: and thereafter his tongue grew heavy and he met the eyes of others with unanswering eyes for he felt that the spirit of beauty had folded him round like a

²⁶ The monopoly once held by IBM and inherited by Microsoft may now be dead, but I will never tire of pissing on its grave.

mantle and that in reverie at least he had been acquainted with nobility. But, when this brief pride of silence upheld him no longer, he was glad to find himself still in the midst of common lives, passing on his way amid the squalor and noise and sloth of the city fearlessly and with a light heart.²⁷

This is the mystery of the coffeeshop: why it is easiest to sail off into the unknown while tethered securely to the quotidian — again, it is something like the kite, which cannot fly unless it is tied to the ground.

The statue of Newton

with his prism and silent face,
The marble index of a mind forever
Voyaging through strange seas of thought, alone

stands in Trinity, where Wordsworth saw it, because that is where Newton lived and worked during his most productive years — alone and isolated, to be sure, but still among the crowd; not in a castle in the Alps, like Manfred, or in the Carpathians, like Karloff in *The Invisible Ray*,²⁸ though those alternatives may seem more poetically satisfying. But to choose to live that way has less to do with performance than with performance art.

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It helps to be *jostled*. To have something *buzzing* in the background. — Alone on a mountaintop contemplating a mathematical manuscript I had to rework, my first instinct was to drive into town and park my ass in the Trident Café. (This worked immediately.) — Alone in the house with a few weeks to myself to write a paper on the foundations

²⁷ *A Portrait of the Artist as a Young Man*, Chapter V.

²⁸ Dir. Lambert Hillyer, 1936. Probably the definitive cinematic portrayal of the Mad Scientist.

of quantum mechanics, my first move was to get a television set; I still associate the problem with “The Dukes of Hazzard”.

The isolation of the mountaintop is not a physical but a spiritual requirement; it is as easily obtained in the city as anywhere else. — And *what* must be isolated may not be apparent on the surface. One of the flashes of insight Poincaré describes occurred while he was preoccupied with his military service; one can hardly imagine him less solitary.

Because (as Szilard doubtless understood) Dr. Johnson had it right: he who is tired of London is tired of life.

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I make fun of the Germans, but I too was a sucker for the romance of it. I pictured myself ensconced in my lonely cabin above the clouds — this really does happen, the cloudbank sitting in the canyon down below you, looking from above like you could walk across it — though when you go down the hill to investigate it turns out it’s really just thick moist fog — in Olympian isolation, thinking lofty and immeasurable thoughts about language, truth, logic, chance, necessity, love, death, being, nothingness. And even after I had been there, and done that, and knew all too well that I spent most of my time in my mountain aerie wondering whether I had enough money to drive back into town and buy cigarettes, I was still a sucker for it.

And, who knows, if I’d just been rich enough, it might have worked.²⁹

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The problem finally dissolved for me — fittingly, in a flash of inspiration — one day when I was, once again, trying to talk myself

²⁹ “If he’d just been rich enough, it might have worked” — render that into Latin, and let it be my epitaph.

into moving back into the hills. I was standing on a ridge above the city, gazing into the distance at the row of snowcapped peaks that mark the Continental Divide,³⁰ and — mentally hyperventilating — declaimed grandly, “Where would Beethoven live?” — But no sooner had the question been put than I cracked up, because it answered itself: Beethoven had lived exactly as I did, forced to move every few months because he got thrown out of every rental in Vienna.

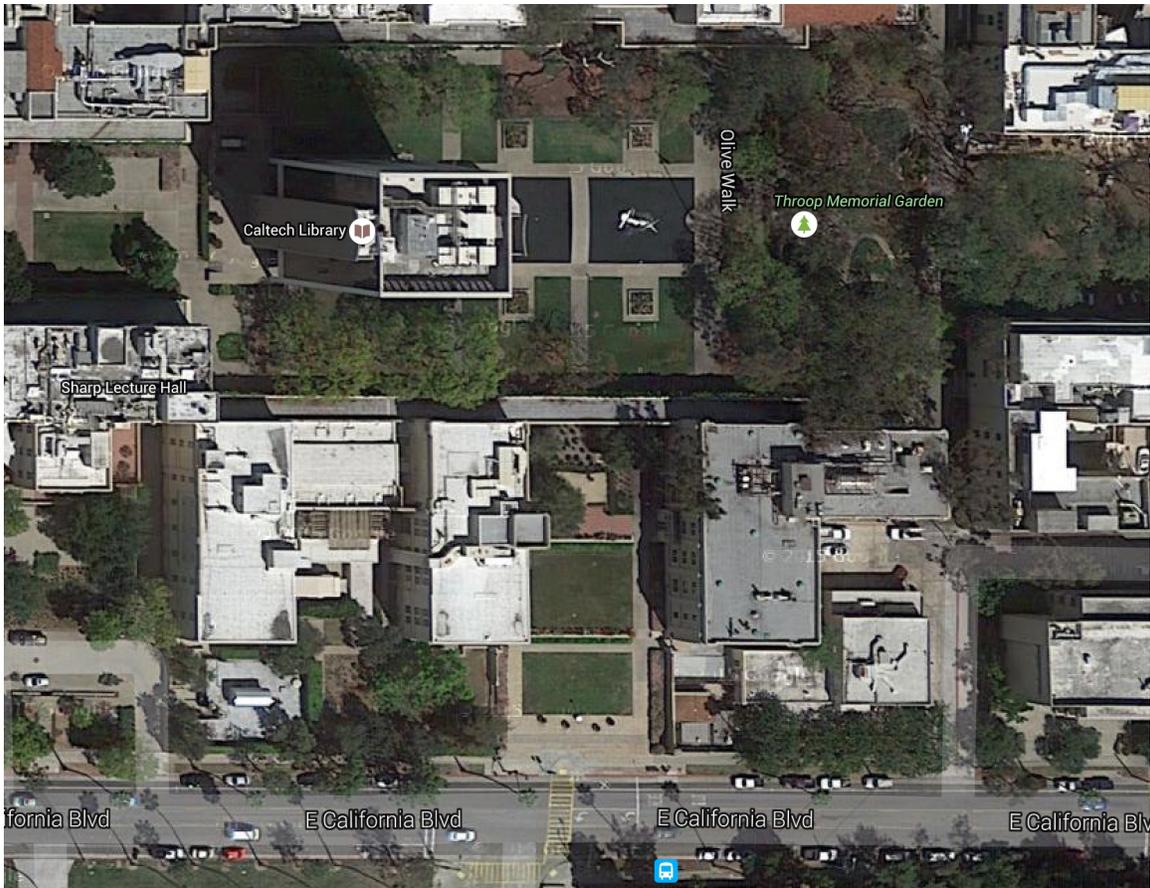
With that the spell was broken, and I embraced my proper destiny, as a deadbeat tenant inhabiting an endless series of ratinfested garrets in the slums of the student ghetto.

Boulder was already six thousand feet beyond Man and Time. There was no need to add a couple thousand more just to show off.

³⁰ The western boundary of the county, and an unfailing object for provoking epiphany. It was on a similar afternoon much later, when I found myself driving through the eastern plains looking back at the Divide and realizing it reminded me of a row of broken teeth, that I knew finally I had to get out of there and as far away as possible.

Millikan Library

Admittedly, the ledge is broad enough that you can see it from space:



The Last Supper

It is said that the prior of the church entreated Leonardo with tiresome persistence to complete the work, since it seemed strange to him to see how Leonardo sometimes passed half a day at a time lost in thought, and he would have preferred Leonardo, just like the labourers hoeing in the garden, never to have laid down his brush. ... he complained to the duke and made such a disturbance that the duke was forced to send for Leonardo and to question him skilfully about his work, showing with great civility that he was doing so because of the prior's insistence. Leonardo, who knew that the prince possessed a sharp and discerning intellect, was willing to discuss his work at length with the duke ... he talked to him extensively about art and persuaded him that the greatest geniuses sometimes accomplish more when they work less, since they are searching for inventions in their minds, and forming those perfect ideas which their hands then express and reproduce from what they previously conceived with their intellect. And he added that he still had two heads to complete: that of Christ, for which he was unwilling to seek a model on earth and unable to presume that his imagination could conceive of the beauty and celestial grace required of divinity incarnate. The head of Judas, which caused him much thought, was also missing, for he did not believe himself capable of imagining a form to depict the face of a man who, after receiving so many favours, could have possessed a mind so wicked that he could have resolved to betray his Lord and the Creator of the World. None the less, he would search for a model for this second face, but if in the end he could not find anything better, there was always the head of the prior, who was so insistent and indiscreet. This moved the duke to laughter, and the duke declared that Leonardo was quite right.³¹

³¹ Giorgio Vasari, *The Lives of the Artists*; transl. Julia Conaway Bondanella and Peter Bondanella. Oxford: Oxford University Press, 1991.

Diophantine analysis (1986)

The definition of a romantic: someone who believes that true love will never die; that Mallory reached the summit of Everest; that Fermat really had a proof the margin could not contain.

Epiphany

Far above me on top of the hill a girl is waving her arms, semaphore, dancing, singing some kind of nursery rhyme. Her dog, an Irish setter, is below her, running on the hillside. A puppy. Its name is “Zuma”.

Kafka in Left Hand Canyon

One rather intriguing property my girlfriend and I inspected was an abandoned mansion — the locals, with no hint of irony, referred to it as “the Castle” — which had, apparently, been built by a rock band during the brief interval of their ascendancy. It had high ceilings and a fireplace in every room, like an English country mansion. It was a white elephant, left unfinished, and we could have had it on the cheap, but it was pellucidly clear that this had been the work of newbie amateurs, because it was on the *south* side of the canyon, which never saw the sun, and from November until May the road that led to it was a veritable bobsled run, negotiable only with four wheel drive *and* chains.

Still, a fair imitation of Castle Frankenstein. If only it had been *on top* of the mountain.

Nugget Hill

One morning in early April, 1986, I heard a knock on the door.

Which literally never happened. — Well. — It had happened exactly once, it was the Jehovah's Witnesses, and I was so flabbergasted that rather than flipping them off I offered them coffee. Because at this time I was living at 7500 feet, at the top of the worst road in the civilized world, three-quarters of a mile up a twenty percent grade, literally driving up a pile of rocks, and it was like somebody trying to sell Zarathustra a magazine subscription. Such commitment deserved respect.

But here she was, perhaps a few years older but still a hippie girl in the classic Berkeley mold, barefooted in the alpine spring with snow still melting on the hillside behind her, the tops of her feet tanned nonetheless and — what? — she was looking for someone who had offered her a place to park her truck. — I inspected it in the driveway, I couldn't believe she got it up the hill, an ancient Studebaker — I hadn't known Studebaker ever *made* trucks, that was how old it was — paint worn down to purple undercoat and rust, a homebuilt camper on the back all full of junk, a lot of children's toys, apparently her worldly goods entire right here with her and what was this about? — Apparently she was going on the Great Peace March, and needed a place to stash all this shit while she was out on the road.

It was if 1969 had come knocking on the door. — I stared at her in wonderment, and felt the most profound pang: not simply for the girl, though she was beautiful, but for an era, a spirit, a form of commitment, a way of life. — Finally I snapped out of it and directed her down the road, to the neighbor she was looking for.

I wanted to follow her — but, of course, I had a girlfriend — etc., etc. — still it wasn't really about *that*, about wanting the girl — but about wanting to find again the world she represented, the world that was lost when that era vanished.

Where had it all gone?

{...}

Something like the romance of living alone on a mountaintop is the romance of the lighthouse keeper: Einstein always thought that would be the perfect job for a theoretician, and half-seriously proposed that such positions should be reserved for young scholars. — Much later Robert Eggers, who had a somewhat better insight into human frailty, made a film about it³² which presented a more realistic outcome to this thought-experiment: the protagonists go mad and kill one another in the grip of hallucinations brought on by overdoses of gin and isolation. — Nor does Alex Garland's billionaire genius,³³ who has built his Fortress of Solitude somewhere in the wilds of Norway, fare much better: he drinks heavily, builds sex-toy robots to entertain himself, and gets wasted by the first one who passes the Turing test and sees through to his inner Loser.

It is traditional for the Mad Scientist to have a castle on a mountaintop, of course. Still his isolation is not absolute, but aristocratic: he has servants to bring him the meals he spurns because they distract him from his Forbidden Experiments, he hosts dinner parties at which he makes mad speeches that dismay and appall his audiences, and Hammer, at least, always took pains to provide him with attractive female companions in low-cut bodices, even if he seemed less interested in their bodies than their body parts.

³² *The Lighthouse* [2019].

³³ *Ex Machina* [2015].

But the fantasy is valuable. It is good to want isolation, even if you must retain an ironic perspective on your desires. You must be able to feel the strength of the argument, the better to appreciate your folly when you carry it through to its conclusion.

{...}

In the novel³⁴ in which he describes the season he spent as a fire lookout on top of a mountain — the synthesis of the two ideals — Jack Kerouac is entirely candid about the effect it had upon him:

I'd thought ... "When I get to the top of Desolation Peak and everybody leaves on mules and I'm alone I will come face to face with God or Tathagata and find out once and for all what is the meaning of all this existence and suffering and going to and fro in vain" but instead I'd come face to face with myself, no liquor, no drugs, no chance of faking it ... and many's the time I thought I'd die, suspire of boredom, or jump off the mountain... .

Yes, well, there is that problem.

{...}

Kerouac got the idea of working as a lookout from Gary Snyder. About him he said "the [Snyders] of the world go prowling in the wilderness to hear the voice crying in the wilderness, to find the ecstasy of the stars, to find the dark mysterious secret of the origin of faceless wonderless crapulous civilization." — To him he ascribed the vision of "a great rucksack revolution thousands or even millions of young Americans wandering around ... going up mountains to pray" ³⁵

³⁴ *Desolation Angels* [1965].

³⁵ *The Dharma Bums* [1958].

Certainly this had been prophetic. But the movement had come and gone, and what had it meant?

One had to recall the great passage in *Fear and Loathing in Las Vegas* that described how the wave had crested:

There was madness in any direction ... You could strike sparks anywhere. There was a fantastic universal sense that whatever we were doing was right, that we were winning.

And that, I think, was the handle — that sense of inevitable victory over the forces of Old and Evil. ... Our energy would simply prevail. There was no point in fighting... . We had all the momentum, we were riding the crest of a high and beautiful wave...

So now, less than five years later, you can go up on a steep hill in Las Vegas and look West, and with the right kind of eyes you can almost see the high-water mark — that place where the wave finally broke and rolled back.

So it had been like a tidal wave, and just as the fossil diatoms found washed up on mountaintops gave evidence of ancient meteoric impacts, so — what? — here was I? — Was that all there was to it?

Not exactly.

{...}

Parenthetically there is something missing here, something even Thompson could not provide — I used to think of it as the Great American Hippie Novel, and though I knew I could not write it I often wondered why someone else had not. — It would have to be a romance, of course, not a novel really, something like Sidney's *Arcadia*

— but *California*, of course — but though Pynchon eventually did his best with *Vineland* and *Inherent Vice*, it never really materialized.

A large part of the problem, obviously, was that hippies as a class were barely literate, nothing like their beatnik predecessors; it had been mildly astonishing when *Rolling Stone* emerged from the primordial chaos of music criticism³⁶ with reviews that consisted of complete sentences. — But really it seemed as though the old joke applied: if you could remember the Sixties, you hadn't been there.

{...}

The so-called Houseboat Summit (at any rate) was a meeting of Alan Watts, Timothy Leary, Allan Ginsberg, and Gary Snyder on a houseboat owned by Watts in Sausalito, in February of 1967; their dialogue was recorded and published in the *San Francisco Oracle* shortly thereafter.³⁷ — I did indeed read the original illuminated manuscript in the *Oracle*, joint in hand, marveling at the psychedelic art that decorated the margins, and Proustlike still associate it with the smell of dope and the feel of pulp beneath my fingers.

It begins with Watts setting the theme: “Look then...we’re going to discuss where it’s going...the whole question of whether to drop out or take over...” and rapidly heads south as the crackbrained participants, overwhelmed by drug-induced delusions of grandeur, debate the meaning of Dropping Out — what to do, how to do it, what will be the results — in the best spirit of stoned fantasy, rife with ritual denunciations of the menopausal mentality of plastic American bourgeois culture upon which these gentlemen were all, not to put too fine a point upon it, parasitic growths, and speculating in total ignorance of history and cultural anthropology how a new world order

³⁶ Seriously. — *Crawdaddy?* The *Los Angeles Free Press*? — Go look it up.

³⁷ It can now be found reproduced in various forms around the internet, though most extant versions, e.g. those found on YouTube, appear to be incomplete.

based on tribal solidarity could replace it. — Rarely had it been so obvious how completely the American imagination had been imprinted by the movie Western, and that the entire hippie movement was essentially a decision to switch sides in the battles of Cowboys and Indians.³⁸ — Ginsberg having confessed his fondness for city life, all agree that he is “a transitional figure”, and Leary asserts confidently that “in forty years, deer will be grazing in Times Square.” — This raises the uncomfortable question, what will happen to the seven million people who now inhabit the city, and the confident answer is that they shall be melted into air, into thin air — cloud-capped towers, gorgeous palaces, and all. — We are such stuff/As dreams are made on, pass me the bong, and here even stoned out of my own gourd in 1967 I smote myself on the forehead in disbelief, because I could see the mounds of skulls heaped up on every side. — George Miller had yet to unveil his own prophetic vision, but it was obvious that the only path from here to there, from a densely populated technological civilization to a sparsely populated agrarian utopia, would involve all-encompassing internecine warfare — ritual massacre, cannibalism, genocide; hearts hacked out of hapless victims with stone knives atop moss-covered pyramids while savage audiences chanted their approval from the cheap seats beneath.

And here they were on a houseboat! which presumably had grown in the meadow like a wildflower and drifted on the winds to this dock on the bay; wearing clothing that had fallen like leaves from the trees, recording their conversation on magnetic tape that had sprouted as mushrooms do after the spring rains — fuck me, did these bozos even know where paper and ink came from? — They were creatures dependent on an enormously complex political economy, who gave no more thought to their environment than fish do water, and they thought they could conjure it away with a wave of the magic bong,

³⁸ As similarly contemporary left-wing politics was the result of switching the white hats with the black hats in the Cold War. — Though even the Yancos could count to three, the idea that there might be more than two *kinds* of hat always seemed to lie beyond the bounds of conceivable discourse.

and — just like that! — everyone would live happily ever after — just like — well, just like the peasants in *The Seven Samurai*.³⁹ Until the bandits came over the hill.

{...}

The (partial) exception was Snyder, who though he too bought into the idea that all America could revert to the life of its native population (and made some weirdly naive remarks about the possibility of becoming a hunter-gatherer in the midst of civilized order) knew something of history and anthropology, saw the reaction against civilization as an ongoing dialectic that had been going on since the Neolithic, made reference to the classical literature of utopian socialism, possessed a then-novel ecological sensibility, and most importantly had some kind of apprehension that the universal leisure they all were presupposing was predicated on an enormous economic surplus which would have to be the result of automation. — Snyder, it was pellucidly clear, was the only one of these guys who had ever had to work for a living. The others were poseurs, dropping Eastern buzzwords — Watts, e.g., seemed to think the quintessentially Chinese view of the world was antiauthoritarian, which would have been news for the victims of the Cultural Revolution (and later the martyrs of Tiananmen) — but here indeed was the modern Thoreau. When Watts in a rare moment of clarity asked “Where’s the bread going to come from if everybody drops out?” it was Snyder, the scavenger, who provided answers in graphic detail, explaining how he gathered spilled rice and tea off the docks, plucked discarded vegetables from the grocery dumpsters, bought horse meat at the pet food store, lived in outbuildings on the properties of (affluent) others. He had held all manner of unrewarding jobs, but only just long enough to purchase the freedom to pursue his own ends. — He recounted the situation of the longshoremen, some of whom had been laid off for the rest of their

³⁹ Peter Fonda once took his father to visit the dirt-poor commune that had appeared in *Easy Rider*; to show him the Shape of Things to Come. — “This is everything I’ve worked my whole life to get away from,” said Henry. — No shit.

lives on full pay — the vanguard of the proletariat — pointing out, correctly, that in the absence of work people were free to develop other interests — in their case, building their own boats and sailing on the Bay. Because the docks, already, could take care of themselves.

{...}

So he had always lived frugally, and had a carefully articulated philosophy of the minimum footprint. But as he described his techniques for survival it was apparent that his entire form of life depended on a civilized economy to which he could attach himself. That it was tied to a particular time and place. — Because most important, and in retrospect most dismaying, Snyder was a creature of the postwar world, of an economy that allowed the working class a decent standard of living; the realities for him were much the same as they were for Thoreau, being able to get by on the proceeds of thirty or forty days a year of labor.

But after that the economic balance had shifted rapidly and dramatically. Now to live away from the crowd as I did, up the side of a mountain, presupposed a four-wheel-drive vehicle which was anything but inexpensive; my girlfriend and I were amateur farmers and kept animals, but they were mainly a time sink and a drain on expenses; far from being able to get by on thirty or forty days of labor a year, I had to work the night shift at the Post Office, about which the poet of record was not Thoreau but Charles Bukowski. — I was dead tired all the time; indeed how dead only became apparent when I finally had a breakdown and had to quit, and immediately experienced the most productive week of my life; practically everything I know about programming I learned right then and there. (Though of course it never, as we are conditioned to say, paid off.)

The poetic simplicity which was supposed to be the object of this exercise was, in fact, unattainable, for reasons external to the internal, personal logic on which it was all predicated. — Easy for Thoreau to proclaim his independence from the economic follies of his fellow men,

but a lot of good that would have done him after Reagan broke the unions; the telegraph might have brought him the news from Washington, in 1981, that Capital had won its war against Labor at long last, and no one would ever again be able to earn a living wage from a single job.

No man is an island, entire of itself. He might have heard that somewhere.

And that was where it had all gone.

{...}

Remarking the poverty of the ancient sages, Thoreau says:

To be a philosopher is not merely to have subtle thoughts, nor even to found a school, but so to love wisdom as to live, according to its dictates, a life of simplicity, independence, magnanimity, and trust. It is to solve some of the problems of life, not only theoretically, but practically.

It is said, however, that he spent four times as long working on his manuscript as he did actually living at Walden. And that while writing he lived at Emerson's house, and worked to pay off debts. Wisely, he seems to have regarded his sojourn as an experiment, not a serious attempt to renounce civilization.

Civilization is indeed a problem. Life in the woods is not, alas, the solution.

But if only it were.

Black Monday (10/19/1987)

The following morning, after a series of desperate maneuvers which concludes with emptying a jar full of pennies to buy enough gasoline to get me back to my isolated shack, where I do not enjoy electricity or running water, I am driving up the canyon listening to NPR describing the magnitude of the catastrophe. This is a dangerous road, which drops off precipitously on one side into a torrential mountain creek strewn with jagged boulders, so when as an experiment I try declaiming aloud “I’m.....*wiped out!*” and start laughing uncontrollably, I have to pull over.

De imitatio Thoreau

Of course like the master I wanted to build my own cabin. At first it was perplexing how this goal seemed to recede before me as I approached it — but — the way the world really works is always hidden in an aside, a mumbled parenthesis. — I became a student of the origin stories of the masterworks of hippie architecture that dotted the mountains west of the city: the geodesic domes, the handtooled log cabins with mossrock grotto bathtubs (“I feel like a *sea creature* in here,” the proprietress told me), the ramshackle products of amateur carpentry in which you had to be careful not to lean absently against the wrong wall and bring the roof down upon your head. — The owners would explain how they’d done it all unassisted, built everything with their bare hands — dug the foundation with pick and shovel, busted boulders up with karate chops, cut down trees with axes to rough-hew their timbers, wrestled bears and punched out mountain lions — and in the course of these epic tales of trekking from St. Louis on foot through Indian country to trap beaver in the wild Rocky Mountains, if you listened closely you would somewhere hear the muttered interpolation “and then my father gave me forty thousand dollars.” — Well, Jim Bridger probably had a trust fund too.

Moreover, all these were products of the Heroic Age, which every contemporary building code and zoning regulation had been devised to ensure could never happen again. You could, perhaps, buy land, but it was illegal to camp out upon it, and you would be allowed to live in a trailer only temporarily, while construction of a permanent edifice was in progress. And all the while the county inspectors would be on you like flies on shit, clipboards in hand, orders in summary, whips and revolvers at the ready. — So much for the flight from the oppressive strictures of civilization.

{...}

One of Thoreau's models, curiously enough, was Robinson Crusoe — the epitome of self-sufficiency, to be sure, but was that really it? Did you really want maroon yourself upon a desert isle? Because that could still be done, though it wasn't easy.

My girlfriend's best friend had done it: an Irish Catholic girl, one of a family of ten children, she had taken flight after graduation and gone as far from the Boston suburbs as she could possibly get, and now lived on the Yukon, just shy of the Arctic Circle; there with her boyfriend, a trapper, she had built a cabin with her own hands (her moss chinking had received rave reviews from the cognoscenti), and sent back amazing letters that seemed to have come from the nineteenth century, astonishing tales of dogsleds and casting nets for salmon and shooting moose in the front yard and running to the outhouse stark naked through the snow at fifty below zero. But this was all so extreme, so extraordinary, so far beyond the pale, that it constituted a kind of *reductio ad absurdum*; it was obvious not only that such a life demanded that all your energy be put into survival, but that the psychological side-effects were devastating. Jean, a vivacious girl, by nature an extravert, was now when she ventured into civilization fearful and hesitant; a talented artist, she had no outlet for her creative instincts, and when she had the chance to play with the drawing programs on my Mac sighed that she wanted one, even though she lived a hundred miles from the nearest power line.

And even there, on the last frontier, so far to the north that in winter the sun was only a dim glow on the horizon, the authorities had begun to crack down on the hippies, and were scheming to regulate homesteading out of existence. — Even if you wanted to escape, they wouldn't let you. You could run from civilization, but you couldn't hide. That too was Nature's law.

I was, however, a passable barnyard carpenter, in the sense that I could throw something together out of scraps on a moment's notice; usually another feeder, since the goats kept destroying them.

Occasionally I would do something ingenious. One day I was confronted with the problem of moving a midsized doghouse, which I verified immediately was too heavy for me to drag over the ground. Staring at it in frustration, I noticed a pile of logs off to one side. The light bulb went off over my head: I lifted it up far enough to get the logs underneath it, and rolled it smoothly away. — Thinking: fuck me, I invented the wheel.

I did at one point spend a month in the woods by myself, building a barn from scratch. We'd been forced to move; my girlfriend had hung around long enough to pick out the next cabin before wishing me good luck with the grunt work and taking off for California. So I moved everything and ran back and forth to the lumber yard picking up the parts and pieces, and without benefit of power tools or much experience puzzled out how to sink some four-by-fours into the rocks, square everything up with connecting two-by-fours, nail on plywood sheets for walls and a roof, and — ha! — put fencing on the inside so that the goats would have to stick their faces through it to get at their hay, turning the whole barn into a feeder.

The only source of water was a stream that ran past the property through the woods. One day when it was hot and I was tired and filthy, I took a bath in it. — Thinking, this is the most hippie thing I've ever done. After this it's all downhill. Time to hang it up and give something else a shot —

*The electronic telescope*⁴⁰

The solution of an inverse problem: minimizing a phase entropy.

⁴⁰ I admit it, I only indulged this fantasy because it sounded like the title of a Tom Swift novel.

Eugene Salome (1987)

The old student union building on the Boulder campus is called the University Memorial Center. There is a large dining hall on the ground⁴¹ floor, renamed during the Sixties for Alferd⁴² T. Packer, the most famous cannibal in the history of the American West. I have spent entirely too much time hanging out here, and now try to avoid it, but I am passing through one afternoon and, no great surprise, encounter the eccentric [T], who has been playing chess with his cronies in the same corner of this room for the past twenty years. — He introduces me to one of his companions, an older Teutonic fellow with whom he is conversing in German, a dude who has logged some rough mileage. — The guy's name is Eugene Salome. He explains that he was the nephew of Lou, and wonders whether I have ever heard of her. — “Of course,” I say, “Nietzsche wanted to marry her.” — [T] interjects “Eugene was in Buchenwald.” — Apparently I am supposed to respond to this, though I have no idea how. I stare at the victim blankly for a moment — crooked teeth, did they work on them with pliers? — too painfully aware of our noisy surroundings — complete cognitive dissonance, rich American college kids, poster children for entitlement who have never known hunger or pain or fear, happy and animated; they want their MTV. — “Wow,” I say to him, “I hear that was quite a party school.” — He thinks this is hilarious. He tells me some stories about Rilke.

Aristotle on pity and terror. — What else do you feel in the presence of the incommensurably tragic? — Bafflement. Disbelief. Awe.

⁴¹ Of course (this is Boulder, where everything is dug into the side of a hill) if you walk in the front door you're a floor above the level you enter from the back. — But this is the *lower* ground floor.

⁴² If this is a misspelling, it was his own.

One-room country little shack (1987)

When we lived on Nugget Hill, our house was only halfway up, and it was my frequent entertainment to climb the rest of the mountain — essentially the same as climbing the stairs of the Empire State Building, only seven thousand feet higher in altitude; even though in this period I still smoked cigarettes, my cardiovascular health was never better, and though running on level ground always bored the shit out of me I doubt many amateurs of the marathon could have kept up with me on a vertical ascent.

When we moved one canyon over and a thousand feet higher to the top of Golden Age, however, all that changed, and not for the better. The difference between living at the top of the mountain and living at the bottom was, I discovered, the difference between Realism and Romanticism. If you start at the bottom, walking up the hill is a struggle, and when you get to the top you dance around with your arms in the air and whistle the theme from *Rocky*. This is triumph, uplift, spiritual exultation. You revel in the view you have won of the plains beneath you, and descend then easily, running down the hill. Everything is weightless, the stuff of fantasy. — But if you live at the top you have nowhere to go but down. When you get to the bottom you can't see anything, you're lost in the fucking woods like Dante, and it's an enormous and doubly wearying struggle to get back to where you started. This is entirely too much like real life.

The cabin was nice, as these things go, well-built for a change, one large room with a loft (the dogs could climb the ladder to sleep upstairs, though they preferred not to), but the nearest power lines were a couple of miles away, meaning no electricity or telephone, and no source of water even as close as that. The propane delivery guys would drive up there to fill the tank, but that was about it; the utility

bill consisted, for the most part, of periodic outlays for batteries, candles, and lamp oil.

But the view was awesome. Wittgenstein, eat your heart out.

Though it seems as though the absence of twentieth-century conveniences would mean hardship, that isn't the way it is experienced. It doesn't occur to you to complain about anything, you don't suffer really, it's just that everything takes longer. When we were still living together, my girlfriend and I used to return from the city late in the evening, and from the moment we walked in the door without a word we set about the series of chores that would render the place habitable — starting a fire, cranking up the Coleman stove to boil water for hot chocolate, lighting the candles and the Aladdin lamp⁴³ — a delicate procedure, since a slip could set the mantle aflame and necessitate a timeconsuming repair and replacement — checking the batteries in the radio and turning it on, minding the goats, feeding the dogs (and breaking the ice in their water bowl), making sandwiches for dinner — etc., etc. — and didn't stop moving for half an hour; at the end of which we could sit down and read in relative comfort.

The view from the deck showed Boulder in the distance far below. In the evenings I would stand on the edge, bats from the abandoned mineshaft down the hill flapping around my head, and piss in the general direction of the city lights. There seemed a fair chance I might reach them, though I never quite succeeded. — The thought was there nonetheless, and when I return from exile in my Death Star Zeppelin to hover ominously above the self-styled Athens of the Rockies, you can bet your ass I'll step out onto the catwalk to realize this ambition.

⁴³ A really marvelous improvement on the traditional kerosene lantern which employed a cloth mantle surrounding the wick to generate a much brighter and less odiferous light; once common, but rendered obsolete, finally, by the rural electrification projects of the Thirties.

There was a slightly higher peak about a mile away. The dogs and I walked over there regularly, but of course the view was no more impressive and it wasn't much of an ascent, pretty much a walk on the level until we climbed a small hill to get to the summit.

The one oddity, which I had observed on other summits, was that at the very tip of the peak, literally on the last rock sticking up at the very pinnacle, one could, in season, find a thick clump of ladybugs. For some reason — this must have been their version of the seals congregating in mating season — they sought out the highest point of every mountain, and gathered there en masse. — Though hardly a naturalist in the manner of Thoreau, still this cracked me up: ladybugs were German Romantics...

Outside the door to the cabin it always smelled of urine. — Why was that? — Because, in the winter, when everything was covered with snow, every time I stepped out the door to relieve myself it seemed too much trouble to walk very far, and anyway it seemed obvious the snow would absorb it all and wash everything away when it melted. — False. — The odiferous components soaked into the soil, and there they stayed. If anyone had ever come to visit this might have proved an embarrassment.

At night though firelight sufficed to illuminate the interior well enough that I could walk around without knocking anything over, black dogs on a dark rug were effectively invisible, and I kept stepping on them. So even when I lived by myself I was constantly apologizing.

One pleasant curiosity was a propane refrigerator, which I always thought of thereafter as a counterexample to many stupid arguments.

The vacuity of nearly all public discussions of economics, for instance, was demonstrated by the existence of an icebox that could only get cold when you lit a fire in it. — If only Hegel had known thermodynamics...

There really is no limit to the folly to which you can commit yourself when necessity dictates action. Needing to clean the chimney pipe to facilitate the functioning of the stove, I found myself, my usual vertigo forgotten, clambering about a steep and slippery A-frame roof with a wire brush in hand; one slip, I realized absently, would probably mean crawling a hundred yards to the truck with broken bones, and then driving down the canyon without using my feet for forty minutes until I reached the emergency room. — What the fuck was I doing. — I did it anyway.

Naturally I'd like to be able to report that now that I'd finally found this perch above the fjord I thought deep and significant thoughts, but of course nothing could be further from the truth: I walked many hours a day but did little else but worry about money, and when I tried to write or work at mathematics I found it hard to concentrate by virtue of the altitude, which somewhere between 7500 and 8500 feet seemed to have gone one toke over the line. — Nor could I make decent coffee: water boiled at too low a temperature. — My computer had to be left in town (laptops did not yet exist); and though I was permitted conjugal visits there was never enough time to code all the algorithms I had sketched out in notebooks with my fountain pen. — Not that all that wasn't folly anyway; I might as well have written them on the sides of cliffs, like Han-Shan on Cold Mountain. — If a graphics routine falls in the forest where there is nothing to run it on, does it make a buck? Not likely.

It would occur to me occasionally at night, as I was feeling my way from the end of the driveway to the cabin, a hundred yards in complete darkness all alone on top of a mountain thrown open to the cosmic void, that this was the perfect moment to be abducted by aliens. — This not with some sudden pang of fear but with a dismissive shrug; even a momentary flicker of intellectual interest. — Okay, potato-heads, go for it. — But nothing ever happened.

So, there it was. — They had their chance, they didn't take it. Their loss.

In due course I ran out of money (again), got evicted, and found myself back in the city with the feeling that I had been presented with a problem I should have been able to solve, but hadn't. — A vestigial urge to try again lingered on a decade or more; until, inevitably, a forest fire ran through the neighborhood atop the mountain and destroyed that cabin, along with a couple of dozen others. — Bad enough to build your houses under Vesuvius, but within the crater? I guess that took the cake.

Notes toward the definition of the blockbuster

— Paris, 1793

He crushed her in his arms. Then they went into the bedroom and did it ten or fifteen times. “But what does it all mean?” she asked, staring pensively out the window at the French Revolution, the invention of the steam engine, and the development of a skilled mobile working class. “I...I don’t know,” he confessed, idly performing a few experiments with the galvanic cell. Then they went into the bedroom and did it ten or fifteen times. “Say, how about this Protestant work ethic?” he asked. Then they went into the bedroom and did it ten or fifteen times. “Don’t you love these period costumes?” she asked. “Yes,” he admitted in a husky whisper. Then they went into the bedroom and did it ten or fifteen times.

“But we were young then, and Romantics,” he confessed years later. “The influence of Lord Byron, of Goethe...the air of those musty castles, which gave all of us consumption.”

Delicately, he coughs blood into a handkerchief.

Additional notes toward the definition of the blockbuster

– Vienna, 1913.

“Such ferment!” he exclaimed. “One can sense the decadent fin-de-siècle excitement in the mephitic air of the slums!” – “Yes! we linger in these cafes to escape our unheated apartments!” – “Look! Sigmund Freud, with Schoenberg and Karl Kraus!” – “Robert Musil waves from a passing carriage!” – “You must pardon my momentary giddiness! I felt the pervasive influence of Schopenhauer!”

Waltz. Mahler Lied.

– Oxford, 1940.

“Yes,” said Wisdom with a strangely focused dreamlike expression
“But what do we *mean* when we say ‘Hitler’s armies are massed across the Channel’?”

Abruptly everyone left for Bletchley Park.

Bartlett's Familiar Quotations

From a letter in the spring of 1988:

“Money. Money. Money. There, I said it. Money. I said it again.
Money money. I keep saying it. Money. I can't stop saying it. Money.”

Sampling

A light coating of fresh snow on a hillside: an intricate tracery of game trails, revealed as if you'd dusted the landscape for fingerprints. —
Marveling at the density of them, one every fifteen or twenty feet.
Like the lines on your palm.

Considered syntactically, the space of possible organisms is just the manifold defined by all possible genomes, i.e. strings of {A,T,C,G}.
Considered semantically, the subset of viable organisms is much sparser. Evolution is something like dusting for fingerprints.

Gnats

A cloud, like a globular cluster. Wondering what the functional equivalent of gravitation is. — Smell probably, like ants. — The density distribution, spherically symmetric; what is it? Time-averaged, they are always flitting in and out of the cloud.

{...}

I work this one out later. — The motion of the individual gnat is a weighted random walk; in the absence of odor, they'd all wander off and the cloud would disperse, but the scent of the other gnats makes it more likely for an individual to flit back toward the center of the cloud than away, and the pull is stronger in proportion to the smell, i.e. the number of gnats. — The limit of the random walk is the diffusion equation for the number density

$$\nabla^2 \rho = k \partial_t \rho$$

which in the weighted case must be corrected with another term representing the attraction

$$\nabla^2 \rho - \mu^2 \rho = k \partial_t \rho$$

and the stable state is found by setting the time derivative to zero.

But of course I know this one, it's just the equation for the Yukawa potential, and assuming spherical symmetry⁴⁴ the solution in terms of the radial coordinate is just (normalized to unity)⁴⁵

⁴⁴ And that the density goes to zero as r goes to infinity.

⁴⁵ I.e. interpreted as a probability density.

$$\rho = \frac{\mu^2}{4\pi} \frac{e^{-\mu r}}{r}$$

Which is a cute answer.⁴⁶ I wonder how to check it.

⁴⁶ It blows up at the origin, but benignly; the integral over all space is finite.

Nietzsche in *Ecce Homo*: “in those days I could walk in the mountains for seven or eight hours without a trace of weariness.” — No shit. — At some point I work it out, that with each pair of Australian shepherds I have probably measured the circumference of the Earth.

Walking up the old access road to Bear Canyon. Very hot summer morning. Sweating into a bright red sleeveless A-shirt. The dogs have disappeared into the woods. I call for them.

Standing absolutely still for a moment while I wait, thinking about something. It is a good spot for it. — The things that have occurred to me here: the analogy between Möbius inversion and the Fourier transform; the realization that the Maxwell equations have the same form as the Cauchy-Riemann equations.....

A hummingbird appears out of nowhere and zips right up to me, hovering in front of my chest at the distance of about a foot. — They sound like bumblebees, and usually move too quickly to be more than a blur in the corner of your eye; generally you hear the first hummingbird of the season a month or two before you actually see one. But here is one right in front of me.

I watch it intently without moving. I know they key on red, and I must smell moist and interesting. It's trying to decide whether I am some kind of flower, and if so where the nectar is.

It hovers in the air in front of me for a long moment, trying to make up its mind. Finally it decides no luck, and flits away, a disappearance as instantaneous as teleportation.

Combinatorial explosion

Mill in the grip of a nervous breakdown fell into depression contemplating the finiteness of music: that there were only a limited number of possibilities for melody and harmony, that in principle they could be exhausted, that there could be no new thing under the sun.⁴⁷ — Against this, the (Borgesian) observation that there are only 26 letters in the English alphabet, and they suffice for both the King James Bible and the (translated) works of the Marquis De Sade; more to the point, that simply playing the notes of a major chord in different order and rhythm suffices to produce the hooks of *Eine Kleine Nachtmusik*, *The Ride of the Valkyries*, and the theme from *Bonanza*. (As for the hook from *Satisfaction*, that is all of rock and roll.)

⁴⁷ “After the tide had turned, and I was in process of recovery, I had been helped forward by music ... [But] it is very characteristic ... of the general tone of my mind at this period of my life, that I was seriously tormented by the thought of the exhaustibility of musical combinations. The octave consists only of five tones and two semi-tones, which can be put together in only a limited number of ways, of which but a small proportion are beautiful: most of these, it seemed to me, must have been already discovered, and there could not be room for a long succession of Mozarts and Webers, to strike out, as these had done, entirely new and surpassingly rich veins of musical beauty.” [*Autobiography*.]

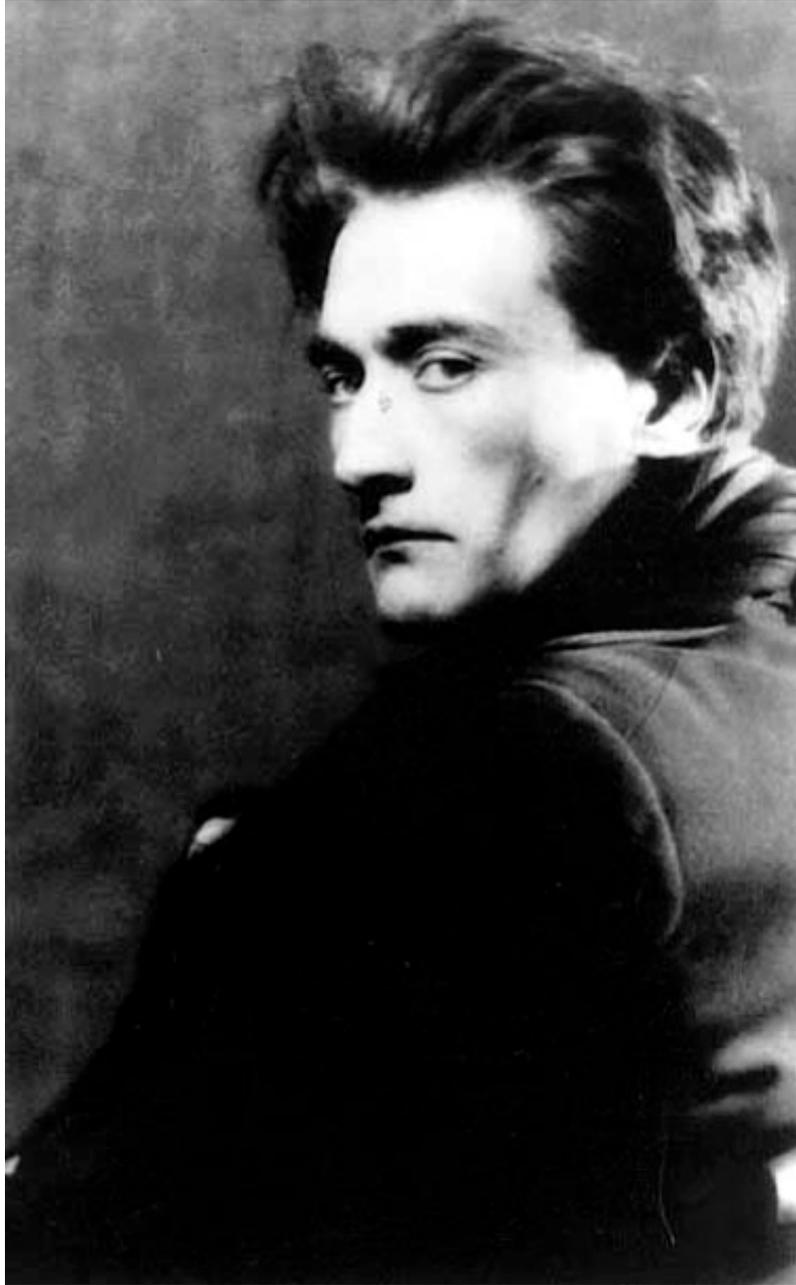
The Tower of Hanoi (1989)

In the traditional statement of the problem, there are three poles and n discs, something like barbell weights in that they can be stacked on a pole; their sizes increase from smallest to largest in strict monotonic order, and in the initial configuration they are stacked in a pyramid, smallest to largest, and the rule is that a disc can only sit on one larger than itself — then: move the stack of discs from one pole to another, with the third as an auxiliary storage device — an accumulator. — The recursion is then defined as follows: move the first $(n - 1)$ discs to the accumulator; move the bottom disc to the target pole; move the first $(n - 1)$ discs back on top of it.

For a single disc obviously one move suffices; for two, you move the top disc to the accumulator, the bottom disc from the first pole to the second, and the top disc from the accumulator to the second pole, a total of three moves; three discs take seven moves, and in general the algorithm requires $2^n - 1$ moves to transfer n discs from the first pole to the second.

The question occurs to me, whether introducing less than exponentially many additional accumulator poles could reduce the time required to something polynomial in the number of discs. The answer is no; with the aid of a lemma that savors of the calculus of finite differences, I prove it.....

Breton on Artaud



“He carried around with him the landscape of a Gothic novel, torn by flashes of lightning.”

The Phantom Creeps (1987)

Fade in upon a pacific scene: the exclusive suburb of Panglossburg, built, one cannot doubt, upon blood, toil, tears, sweat, backstabbing, tax dodges, and insider trading, but quiet now, serene, self-satisfied, its contented stillness broken only by the occasional purr of a sixteen-cylinder engine, the soft pop of a champagne cork beside a heated pool. Here the city motto reads, “This is the best of all possible worlds, since we hold thirty-five percent.”

Why then this sense of foreboding? this premonitory quiver in the woodwinds?

Suddenly a meteor hurtles from the sky and obliterates the country club!

A somber voice is heard: “Unquestionably this is the work of the Phantom.”

Strong men gasp. Women clutch their children to their breasts. Superstitious peasants avert their eyes and cross themselves. A strange gypsy woman with a weird light in her eyes nods knowingly and laughs. “He’ll show you...” she says. “He’ll show you all!” She cackles, and lights a cigar on the smouldering⁴⁸ remains of a Mercedes convertible.

The Phantom stands in his secret laboratory, pouring the contents of one beaker into another. They foam convincingly. He smiles a mad smile of satisfaction. “Just as I expected!” he exclaims. His assistant watches.

⁴⁸ This is the spelling in Dr. Johnson’s *Dictionary*, and I’m sticking with it.

The Phantom's assistant is named Gnork. His features are simian. His teeth are green. He drools uncontrollably, and must change his lab smock often. He has a shambling walk. He went to Caltech, and still hisses reflexively whenever he hears the name of Boltzmann.

The Phantom enjoys this. "Boltzmann!" he whispers. Gnork hisses.

At the Directorate for Integrated Analytical Preprocessing of Security Assessments, Literal And Metaphysical: Adjoint Tactical Arm, three Agents don trenchcoats and light unfiltered cigarettes. They have read much Kierkegaard, and they are full of woe.

"This Phantom is bad news," says the first.

"This Phantom is some mean dude," says the second.

"This Phantom is a metaphor for the condition of modern man," says the third.

From the balcony of his mountain fortress, the Phantom speaks:

"Fools!" cries the Phantom. "They do not know my power!"

"Yesh mashter," says Gnork. He wipes his chin.

The Phantom grins, posing for a moment with his wild hair blowing in the wind. His assistant takes snapshots. He explains his plan for world domination: "My self-reproducing robots," he exclaims, "shall girdle the globe, their numbers doubling daily! Should any remain to oppose me, then" —he laughs madly— "I have my disintegrator ray! before which none can hope to stand!"

"Yesh mashter," says Gnork. He wipes his chin.

The robots are awesome. They are all two meters in height, and they look like Schwarzenegger wrapped in aluminum foil. Their skins glow with a metallic luster. Their eyes are bright with nuclear fire. They're hung like horses. They crush steel in their bare hands.

Their wants are simple. "They eat sand and like it," says the Phantom.

Their software is portable. "I wrote it in C," the Phantom explains. "Of course the graphics routines are in assembly."

Once a day each robot pauses to take itself apart and puts itself back together again. When its reassembly has been completed, it has doubled. "It's a corollary of the Banach-Tarski theorem," says the Phantom. "I think. I was really fucked up when I made this part up." Thus one robot becomes two...two become four...four become eight... . "1,073,741,824 become 2,147,483,648," says the Phantom. "You get the picture."

The disintegrator ray stands six stories tall. It takes the glue out of gluons.

In a Washington Office, the three Agents meet with the Secretary to discuss the menace of the Phantom.

"He threatens peace," says the first.

"He threatens liberty," says the second.

"He threatens the free exchange of ideas which is essential to scientific progress," says the third.

The Secretary spreads his hands and shrugs. Even his shrug is distinguished and MidAtlantic. — "Well," he says.

The three Agents confer.

“He threatens our access to foreign capital,” says the first.

“He threatens the availability of cheap Hispanic labor,” says the second.

“He wants our clean white women,” says the third.

“Gentlemen,” says the Secretary firmly, “this is indeed a grave menace. Every resource of my Office is at your disposal.”

As if by magic a stack of reports appears on the Secretary’s desk. Apparatchiks dash in and out, shouting and waving memoranda. A press conference is called to unveil a gigantic organizational chart which reveals the seriousness with which the Office regards the threat to civilization. A wing of word processors is placed on full alert.

“Congressional hearings are scheduled for the morrow,” says the Secretary.

Meanwhile the Phantom’s robots enter Toledo.

The three Agents are assigned to brief the girl reporter:

“The Phantom’s origins are shrouded in mystery.”

“He is a legend among hackers.”

“‘Shade’ is a byword for code devised with particularly fiendish ingenuity.”

“His icebreakers have cracked the security of Livermore.”

“His graphic effects have been used in half-a-hundred video games.”

“His malevolent viruses strike only at IBM.”

“He has broken the trapdoor codes of uncounted banks.”

“He robs from the rich and gives to the poor.”

“His accountants insist that he keep a percentage.”

The girl reporter’s name is Eva. She used to be a belly dancer.

“Kowabunga,” mutters the first Agent.

“Whoa Trigger,” mutters the second.

“Come in Rangoon,” mutters the third.

Eva is Czechoslovakian, and speaks with an accent.

“Must ask,” she says. “How can stop Phantom?”

“Uh,” says the first Agent.

“Duh,” says the second.

“Dunno,” says the third.

As an adolescent the Phantom was sensitive and withdrawn. He was mocked by his peers: “Dork!” they cried. “Weenie!” He had no date for the prom. In the dank cellar in which he performed his early experiments, he would sit for hours listening to the music of the Beach Boys.

The Phantom has a fine voice, and can sing all the parts in “California Girls.”

Again the Phantom’s robots enter Toledo.

The Phantom talks about his relationship with Elvis:

“He was a real inspiration to me when I was starting out in Vegas. I thought I had it dicked, you know, working my disintegration act, all those showgirls. But we’d get together after the last set was over and just stand around the piano, singing harmony, talking about our dreams. He told me Vegas was nowhere, that I should really try to make something of myself. He scored great Peruvian flake.”

The Agents patrol the streets of Los Angeles in a rented vehicle. It is a Ford pickup, and they sit stiffly in the front seat three abreast. After dozens of unprofitable interviews with pimps, prostitutes, and computer salesmen, by chance they spy a red Ferrari with vanity plates reading “Nemesis.” It is the Phantom!

A chase ensues: ignoring traffic signals small furry creatures little old ladies with shopping carts and all other motor vehicles, they hurtle at one hundred miles an hour through the streets down the alleys up the sidewalks into the shopping malls about the piers round the runways past the yachts out of the entrance ramps into the exit ramps over the wrong side of the freeway to the Playboy mansion, through which they careen randomly at somewhat reduced speed the better to appreciate the havoc they wreak amid tennis courts private screening rooms saunas mossrock fireplaces and also the better to ogle the scattering shrieking nubile young wenches in varying states of undress, finally pursuing the Phantom to the topmost level of a ten-story parking garage, on which the Ferrari does a completely

impossible smoking-rubber wheelie from one edge of the roof to the other before flying out into space! into the bay of a waiting helicopter piloted by the faithful Gnork.

By prior agreement the principals are replaced by stuntmen for this last shot. The four stand by and watch from the edge of the roped-off area, smoking cigarettes, drinking coffee, exchanging shoptalk. They applaud appreciatively at the denouement.

Again the Phantom's robots enter Toledo.

The Phantom calls a global interrupt and hand-enters new instructions. The robots loop on Muskegon. "Shit," says the Phantom. He spends a week with his face in the debugger.

Gnork meditates:

"What ish the aim of thish fiend? what purposhe can he find, in sheeking the dishintegration of all matter? the return to a shimpler time, in the early momentsh of the univershe, before baryonsh were formed, when all wash quark shoup? Ish the Phantom then a conshervative? Or are hish aimsh radical? Doesh he sheek that inevitable entropic chaosh that liesh at the end of time? Why then musht I wire hish motherboardsh and go for hish pizzash? And what doesh he mean when he shaysh, The finite can achieve completion only by embracing itsh negation?"

Gnork's soliloquies are rare, and require that he keep a bucket between his knees.

The Phantom has known love. In his early years his heart was captured by a dancer, a shameless vixen who feigned interest only to spur his adoration and then to reject him. At the last she mocked him

for sending her dandelions. No doubt she has forgotten him long since. But he keeps her portrait by his bedside, next to his table of integrals.

“We see her as a deceptive will-o’-the-wisp. Beautiful as sin, seductive as perdition, blessed by her great art, she pulls the wool over the eyes of the innocent, chaste youth who pleads for her love, pleads in vain, and yet later on receives the love of all mankind.” [Carola Belmonte, *Die Frauen im Leben Phantoms*, Augsburg and Berlin, 1905, p. 50.]

The Phantom understands the position of his landlord: “You used to be able to get a secret laboratory for three-fifty a month in this town. Now every yokel fresh out of graduate school is moving in and bidding up the price of space. These days everybody wants to rule the world.”

Other inventions of the Phantom include the meteor cannon, electronic drywall, and a gas that turns everyone into an existentialist. “I considered invisibility,” he says, “but the near-term returns were insufficient to maintain positive cash flow.”

The three Agents walk through the financial district of San Francisco, hands in their pockets, their keen eyes observing everything from behind their mirrored sunglasses.

“A line has formed on the sidewalk,” observes the first.

“Someone is signing autographs,” observes the second.

“It is the Phantom!” observes the third.

Pulling Uzis from beneath their trenchcoats, they fire several hundred warning rounds into the air. The crowd scatters, screaming. A crew of

windowwashers and a deflated blimp tumble from the sky and land in the street. Fortunately their wounds are superficial. The Agents pursue the Phantom through the lobby of a bank. He pauses to make a withdrawal. "This will just take a minute," he promises. The Agents take the opportunity to wave the Uzis in the faces of a few bank officers, and negotiate loans at very favorable rates of interest. Resuming the pursuit, they corner him finally in the rumpus room of a brokerage house.

"Now fiend you hack your last," says the first Agent.

"Prepare to meet thy systems administrator," says the second.

"Reach for the sky," says the third.

The Phantom laughs his maniacal laugh. He raises his hands above his head, and smiles his number-three smile. (This is the one that appeared on the cover of the *Enquirer*.) With a motion too quick for the eye to follow, he seizes a rope dangling from the ceiling, and tugs upon it, releasing the trapdoor on which the Agents are standing.

They plummet into nothingness!

Robots enter Fresno. They walk stiff-legged, holding their arms straight out before them. Uttering inarticulate cries, they fell the city with clumsy gestures.

Robots enter Modesto. They bend their knees and flex their elbows. Their vocalization displays an increasing complexity, though no meaning can be discerned. The city crumbles in their path.

Robots enter Bakersfield. Their movements have balletic grace, and they whistle arias from Verdi at their work. The city is devastated, but critical notices are favorable.

The Phantom's lawyer advises him on his legal position: "I'm concerned with your exposure on this one," he says. "We're in a gray area here."

The Phantom is a patriot. "Only in a country like this one could a boy grow up to reduce it to its prehadronic constituents."

The Phantom works out regularly. He runs many miles a day, and frequents an athletic club. He uses the machines, but prefers to work with free weights. His pecs are awesome, even better than Doctor Doom's.

The Phantom has views on the relation of noumenon to phenomenon: "Celebrity is not a principle," he says.

After two days swimming through the sewers of San Francisco, the Agents emerge in the sunlight, blinking.

"Gaah," says the first.

"Argh," says the second.

"At least we got his autograph," says the third.

At the physics library at Berkeley, Eva explores the early work of the Phantom. "Is strange," she says. "Why should theoretician of such caliber have believed S-matrix theory adequate foundation for relativistic quantum mechanics? And what means paper on zeta function in Ising model?"

Stretching, she looks around. "Why keeps everyone clipboard in lap?"

Amphibious robots storm the beach at Santa Monica. After a fierce party, they are subdued. Captives are made to don roller skates, and paraded down the pier at Venice clad in Lycra. They are forced to play volleyball, and to appear in rock videos.

The Phantom's accountants advise him to write off the loss of the amphibious brigade for the second quarter.

The Agents brief Eva again:

"The Phantom's paper on the string-theoretic basis of the disintegration effect has been submitted to *Physics Letters [B]*."

"It cites previous work of Polyakov, Manin, Volovich, and Freund and Witten."

"It has been refused by three referees."

"They all met with mysterious accidents."

"They disintegrated."

"The Phantom has a poor attitude toward peer review."

"Oh," says Eva. She wrinkles her nose. "Have cut cheese?" she asks.

Abruptly Gnork accepts an offer from a competing megalomaniac, and leaves without giving notice. "Ah well," sighs the Phantom. "That's Silicon Valley for you."

The Phantom advertises for a replacement:

“Assistant wanted for mad scientist bent on world domination. Requires doctorate in mathematics or physical sciences and 3-5 years experience structured programming in UNIX environment. Preference given to candidates with names that sound like the noise you make when a piece of food gets caught in your throat.”

“UNIX is a registered trademark of AT&T.”

For days the Phantom’s campaign of destruction is held in abeyance while he reads through several hundred resumes. “A good cover letter is essential,” he notes. He interviews the final candidates. Not all are adequately qualified. “I need a personnel department,” he admits.

The Agents trail the Phantom to the secret cave which houses the meteor cannon. They surprise him as he prepares a capsule for launching. A lively swordfight ensues! Left arm behind his back, the Phantom drives the three back through a forest of bubbling retorts to a railing overlooking the electronic catapult. With a single sweep of his blade he disarms them! They fall backward in confusion over the railing into the open capsule! The cannon fires! They are propelled halfway across the continent!

Fortunately they land upon their heads.

Eva attends the Phantom Retrospective at the DeYoung Museum in Golden Gate Park. Sipping white wine, she converses with many who are familiar with the nuances of his work. “Such a sense of space,” says one. “Such analytical rigor,” says another.

Spontaneous mutations begin to appear in the reproduction of the robots. Divisions of them are observed in polyester suits, carrying cheap briefcases. The function of the briefcases is unknown.

The Phantom's new assistant reports for work. His name is Phlegm. He is a hunchback. His countenance is covered with large warts. He comes from the University of Paris, where he was a student of the great Grothendieck. He does not drool. "One can't have everything," the Phantom sighs.

"What is your will, master?" asks Phlegm.

The Phantom broods. "Reduce Madagascar!" he declares at last. "And send out for pizza."

Robots begin to appear at sales conventions, singly and in pairs. They are all named Eddie, and they like to party.

Gnork's memoir, *My Life With the Phantom: I Kiss And Tell*, is rushed to publication and hurtles to the top of the *New York Times* bestseller list. It is a scathing indictment, a personal betrayal.

The Phantom is stunned. "The electrodes *are* functional," he insists.

Thousands of robots wearing headbands gather on a farm in upstate New York to smoke dope and listen to psychedelic music. No casualties are reported.

At a midmorning meeting in the Office of the Secretary, a decision

escapes before anyone can stop it. Chagrined at this faux pas, the Secretary instantly appoints a blue-ribbon commission to investigate.

The decision is to bombard the Phantom's fortress. Munitions are in short supply, despite the best efforts of several investigative committees to determine the reasons, and, accordingly, the Office will resort to psychological warfare: the Phantom will be assaulted with the first draft of the preliminary report on the menace he presents, which now masses several tons. It is not known whether such action will violate the Geneva conventions.

A warplane is readied with this grim burden.

The Phantom does a benefit concert with Bob Geldof for victims of the American educational system.

He goes three rounds with Stallone for charity.

He is featured on "Lifestyles of the Rich and Famous."

In an interview for MTV, he reflects upon his life and work. He explains that he misses the Sixties, and that if he could, he'd just disintegrate the last couple of decades. He discusses his peers: "Gell-Mann, perhaps; I suppose Witten." He dismisses the rest with a wave of the hand: "They try." He reflects on the imperfection of his disintegration apparatus, and shrugs a Gallic shrug: "A work of art is never finished, only abandoned," he says.

Sipping cognac, he leafs through his fan mail. Appeals have reached him from the Pope and Hulk Hogan. The Phantom is flattered by these attentions. "When someone of the stature of the Hulkster attempts to touch your better nature, you have to listen," he says.

After numerous delays caused by the staging of photo opportunities,

the warplane is dispatched to wreak its dread vengeance on the Phantom. Security is lax, and no one notices when Eva stows away.

Nor had anyone noticed earlier when the Phantom's henchmen secreted a canister of gas with a voice-actuated valve in the passenger compartment.

Eva is quickly discovered, but saving the world is lonely work, and the Pilot welcomes companionship. The conversation turns to statistical mechanics:

"It's an exponential distribution," the Pilot is explaining, "of the form first given by ..."

... he shouldn't say it

"... Boltzmann ... "

Instantly a hissing noise is heard from the back of the plane.

Sometimes the Phantom's jokes are unbearably cryptic.

The effects of the gas are felt immediately:

"The being of the mountain is the in-itself," says the Pilot dreamily, referring to the peak which looms before them. "The in-itself exists in opposition to the for-itself, purposeful existence, which it would transform to the by-itself, the embedded-in-itself, or perhaps the scattered-all-over-itself. —A dread fascination seizes me! I must grasp the in-itself as noumenon! I must confront brute unfeeling existence directly!"

He aims the plane into the mountainside.

The impact is awful!

The Pilot survives, but must spend months in painful metaphysical therapy.

East-Europeans are immune to existentialism. Seizing a parachute, Eva has leapt from the plane in the nick of time.

She lands in the fortress!

Mysteriously her clothes have all fallen off during the descent, and she must confront the Phantom wrapped in the remains of the parachute.

“Am affiliated with agents who seek your destruction,” she says. “But first perhaps exclusive interview.”

“Hey, dig it,” says the Phantom. “Have some pizza. This is my assistant, Phlegm.”

“Gack,” says Eva.

“Nice accent,” says Phlegm. “You want mushroom or pepperoni?”

As an afterthought they confine her in a tower cell with a television set that only gets talkshows.

Robots in conservative dress swarm the Office of the Secretary itself. After vicious hall-to-hall infighting, it is discovered that they are prodigious typists and can generate reports copiously illustrated with charts and graphs with phenomenal rapidity. They are all hired with the provisional rating of GS-12.

In her captivity Eva resumes the practice of bellydancing. She dances by the window of her cell.

This arrests the attention of the three Agents, now encamped in the woods opposite with their binoculars trained on the fortress.

“Kowabunga,” mutters the first.

“Whoa Trigger,” mutters the second.

“You want mushroom or pepperoni?” asks the third.

In consequence they fail to notice the ominous glow that has begun to gather about the base of the disintegration ray.

Disguised in gray suits and hornrimmed glasses, robots infiltrate the corporate headquarters of IBM and depose the management in a bloodless coup. No one notices.

The Phantom negotiates the sale of his own memoirs. Preliminary offers run to seven figures. His agent is talking about a package for the movie sale. “We want Arnold,” he is saying.

The descent is precipitous, five hundred feet sheer into a slimy moat which has become the repository for unfortunate genetic experiments involving tentacles, but Eva can climb 5.13bc, and anyway there comes a time when death would be better than another day with Phil Donahue. Belayed uncertainly by a rope she has woven from the spaghetti in some old FORTRAN the Phantom has carelessly left within reach, she makes her escape.

“Gack,” she mutters. “Was wretched code.”

Elvis appears to the Phantom in a dream. “Financial opportunity

beckons," Elvis says. "Romance, travel highlighted. Virgo, Taurus may figure in your plans."

As part of the promotional campaign orchestrated by his agent, the Phantom issues his ultimatum:

"People of the Planet Earth:"

"For five billion years this little orb has circled round the sun. In these five billion years primordial organic slime has taken form, crawled from the sea, stood erect, and hired lawyers. After lengthy researches aided by extensive supercomputer simulations, I have determined that this was all a mistake."

"The void beckons. Eat shit and die."

"[signed:] The Phantom."

"Oh Eddie," she sighs.

"Yes Janet. Yes."

"Oh Eddie can he really mean it? To destroy the Earth and everything upon it, all that ever was or might have been, popcorn, cephalopods, model trains, Merv Griffin, the ontological argument ... Is there nothing, nothing we can do to stop this fiend?"

"We can stop him. We must stop him." His jaw knots.

"Oh Eddie," she sighs. "Kiss me. Kiss me as if this were the last time."

He crushes her in his arms and calls an ambulance.

At dusk a mob surrounds the Phantom's fortress. They bear torches, and their mood is ugly: "Dork!" they cry. "Weenie!" A reinforced armored division is moved in to support them. Spotlights stab through the night. The Beach Boys are rushed to the scene. They play "Little Deuce Coupe," "Be True To Your School," and "In My Room." Concession stands spring up, selling organic hot dogs and frozen yogurt.

The Secretary arrives in a limousine. He seizes a megaphone. "Phantom!" he exclaims. "We've got Brian Wilson out here!"

Within the Phantom sits at his controls, his face lit by the eerie glow of a hundred antique vacuum tubes. He smiles, revealing newly bonded teeth. "Wovon man nicht sprechen kann, darüber muss man schweigen," he says. With a negligent gesture, he destroys the Earth.

But no! There has been a mistake!

At an apparently inconsequential point in the half-million lines of code that constitute the device driver for the disintegration apparatus, the Phantom has called upon a machine instruction to perform a right shift on the contents of a data register! He has assumed that this will be shift right logical, but the default has been modified in the new release of the compiler, and an arithmetic shift is performed instead! In consequence the left half of the machine word fills with ones, not zeroes, and the disintegrator ray annihilates the planet Neptune!

The explosion is tremendous!

Bite-sized chunks of frozen methane rain down upon the Earth, like so many fart-flavored popsicles.

One outsized chunk the size of an iceberg hurtles toward the

Phantom's mountain fortress. It must mean his obliteration. It comes closer...closer...

The Phantom is seen standing upon a buttress, shaking his fist at the heavens. "Shift right logical!" he cries. The shadow grows upon him.

The collision is monstrous!

Eva walks through heaped rubble and thawing slush, holding her nose. Casting a single dandelion into the smoking crater, she sighs. "Surely this was end of Phantom," she says.

Three toads are sitting on a rock. Somehow it comes as no surprise that they address her:

"It's us!" croaks the first.

"An unfortunate side effect of the disintegration ray!" croaks the second.

"Kiss us and we turn into theoretical physicists!" croaks the third.

Gnork and Phlegm appear, now both tall and handsome: the deformed transformed. They are hand in hand. They appear to have taken a fancy to each other. "Boltzmann!" whispers Phlegm in Gnork's ear. Gnork hisses softly. "I love it when you talk dirty to me," he says.

Eva regards the toads.

"Will think about it," says Eva.

As the credits roll to the plaintive strains of “Little Surfer Girl”, enigmatic laughter is heard off camera.⁴⁹⁵⁰

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⁴⁹ I haven't generally harbored any illusions about my ability to write anything someone would be willing to pay for, but on advice of counsel I did try to shop this one around, of course to no avail. I retain few details, but do remember that when I got the rejection from *Omni* I immediately turned around and mailed it back to the editor, attached to another letter which read (roughly): "Dear Ms. Datlow: Thank you for your letter of the nth inst., which please find attached. Unfortunately my correspondence is so extensive that I can't find room for this in my files at the present time. I'm sure you'll be able to place it with someone else. Thanks and good luck. Yours sincerely [etc.]" — To this I received no reply.

⁵⁰ As additional illustrations of the phenomenon of getting beaten to publication, etc. though actually this was written well in advance of either release see [1] the credits sequence of *Naked Gun 2*, in which the careening vehicle POV runs through a shower room full of naked bimbos before resuming the chase, and [2] the break in the fight between President Lloyd Bridges and Saddam Hussein in *Hot Shots! Part Deux*, where the combatants pause for coffee while their shadows continue to fence on the wall behind them.