

Thus not in vain is that power of the intellect which ever seeketh, yea, and achieveth the addition of space to space, mass to mass, unity to unity, number to number, by the science which dischargeth us from the fetters of a most narrow kingdom and promoteth us to the freedom of a truly august realm, which freeth us from an imagined poverty and straitness to the possession of the myriad riches of so vast a space, of so worthy a field, of so many cultivated worlds. This science does not permit that the arch of the horizon that our deluded vision imagineth over the earth and that by our fantasy is feigned in the spacious ether, shall imprison our spirit under the custody of a Pluto or at the mercy of a Jove.

- Giordano Bruno: On the Infinite Universe and Worlds [1584].

En mon païs suis en terre longtaine.

- François Villon: Ballade.

I wanted to think of it as a space opera. But it turned into a philosophical notebook, like everything else. - An argument which attempted to explain how it was we ended up spending Christmas in Las Vegas -

## 1. Munchkinland

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Stefano was once wanted by the FBI. That was in the late Sixties, after he had been thrown out of Vanderbilt for excessive individualism, and toured the club circuit of the Northeast playing lead for a Zeppelin clone. He mailed me many lengthy and entertaining epistles detailing his adventures in the musical Outback, from which I learned much about the technique of the electric guitar, and more about the perfidy of Asshole the Organist. I also had my suspicions confirmed that it was possible to strike out even with groupies, if only you were weird enough.

But despite the fact that he was, by the standards of the day, clean, sober, and gainfully employed, everyone assumed he was a dealer anyway; the Feds included, though with typical efficiency they were unable to figure out exactly who or where he was.

In truth he affected the role. Like his models Dylan and Bloomfield, he wore sunglasses everywhere, at all hours of the day and night, and pretended always to be stoned. But these were defense mechanisms, necessitated because his mode of life surrounded him with imbeciles and he needed an excuse not to talk to them. Rock and roll was never pretty.

When he wasn't touring he lived in an unheated attic in Nashville, above the house inhabited by Duns Scotus, the hippie astronomer, and Philippo, the electronics wizard, then working as a disk jockey. I crashed there at Christmas of 1969. It was surprisingly cold. We put our sleeping bags up off the floor on two decaying couches and crawled into them with all our clothes on. Then we listened to Phil's tapes of the radio serial "The Adventures of Chickenman" and laughed
until our faces hurt, even though we were filthy paupers freezing in the dark.

Within him, however, a hidden clock lay ticking. When it went off six months later he got married, moved west to Colorado, sold his 1957 sunburst Les Paul and his Marshall amplifiers to a barbarian, and got a day job in a warehouse. ("I tote that barge," he wrote me in Pasadena. "I lift that bale.") He quit smoking, he rose before noon, his checks began to clear the bank. The world was thus supposed a better place.

All this had all had seemed to me like the proof of the Banach-Tarski theorem: though each step individually might have been simple and natural, the conclusion was bizarre, counterintuitive, paradoxical.

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Stefano married Tootie. Tootie was tall, skinny, frizzyhaired, and possessed the uncanny spastic grace of Olive Oyl. She could get her foot caught in a doorbell and make it look natural.

Tootie wanted children and had none. Thus she made do with me. She would set out a glass of milk and a plate of cookies, and explain to me patiently that Prometheus stole fire from the gods so that sensible people could go to the office all day and then come home at night and watch reruns of "The Odd Couple". Then she would tell me that I didn't deserve a girlfriend unless I got a real job, say as a systems analyst, one where they'd kick the big words out of my head. I would eat the cookies and listen with large eyes, and then ask all the wrong questions. "But doesn't computer programming, as an exercise in the formal aspect of language, the purely syntactic rather than the semantic, encourage an attention to form to the exclusion of content?" I would ask. "That's what I mean," she would say; sigh mightily; and start all over again.

I'd never been married myself. It had been too serious for that. In fact it had been so serious that now we never went within a thousand miles of one another. We talked on the telephone instead.
"I just don't understand," she said. Because she always said that.
"It is absurd," I said. "I go over there and I feel like Art Carney in 'The Honeymooners', only with bellbottoms and granny glasses. The stock character from Central Casting, you know, the Bohemian neighbor."

She laughed.
"I even work in the sewer," I said.
"I finally took the tour of the famous Caltech steam tunnels," she said. "I kept playing the piano in the humanities lounge in Dabney in the middle of the night, hoping that the Phantom of the Opera would appear and carry me away to his underground lair. Through the sewers, the storm drains, the secret ways, to hidden passages beneath the campus. And then teach me to sing. I hate being a monotone."

I said that, yes, I'd spent many happy hours prowling the campus by night, searching for the secret entrance to the underground city of Murania. Looking for a way into the lost world within the hollow earth.
"But finally I had to give up and let an undergraduate show me around," she said. "I think he was trying to impress me."

I laughed. Another scalp upon her belt.

She mentioned the bronze bust of Millikan, raised up on a pedestal to make it look like he had been eight feet tall. "You're right," she said. "He does look like W.C. Fields."
"I was in love with a beautiful blonde once," I said, in a singsong whine. "She drove me to drink. It's the one thing I'm indebted to her for."

She laughed.
"But I just don't understand," she said. "He sold his guitar. He got a job. He gave up being a musician and became a stupid bourgeois instead. He sold out his talent. He did just what she wanted." After a pause she continued. "It's like seeing an animal gnaw off its leg to crawl back into a trap."
"Well," I said. Perhaps that was excessive.

Other objects of investigation by the FBI had included Albert Einstein, Charlie Chaplin, Groucho Marx, Elvis, Martin Luther King, the lyrics to "Louie Louie," and my Caltech buddy Sam, who stopped in Chicago one night in August 1968 on the way back from his hitch with the Marines on Okinawa, stepped out of his hotel for an evening stroll, and stumbled into a riot. Two short grim men in identical suits of battleship gray appeared at the door of the Fleming House lounge a couple of months later, asking questions in laconic monotones. I pointed them in the direction of the bridge table, where Sam was playing a desultory afternoon rubber with three other Commie stooges; stepped over to the piano, and in the I-don't-fucking-believe-
this hush that had fallen over the room, played the theme from "Dragnet." After that they investigated me, too.
"It doesn't make sense," she said. She always said that.
Like she made sense. Like I made sense. Like anyone made sense, except maybe Socrates. - No, Xanthippe. - No, nobody made sense. - That was the human condition. Not to make sense.

In these days I lived in a decaying hovel in the student ghetto with Maximilian, Count Dog. The Count was two meters tall, curlyhaired, mustachioed, possessed of a magnetic smile and a curiously inhuman metabolism fueled by gin and tonics and Kraft macaroni and cheese that enabled him to wander barefooted around an unheated house clad only in a threadbare baby-blue bathrobe without evincing the slightest discomfort. Meanwhile no matter how I bundled up my teeth chattered and I lost feeling in my fingers and couldn't grip my fountain pen.

The place was small, low-ceilinged, with windows like portholes, cramped, ill-ventilated, smelly, dank, dark, though not literally lit with torches always smoky thanks to our monumental nicotine habits, and one night when we were loaded we'd drawn bison and woolly mammoths on the walls with pieces of charcoal. One of Dog's friends had brought us a miner's helmet with a lamp on the front on the theory it would make it easier to find the bathroom, but we'd lost it almost immediately. - "It must be around here somewhere," said the Count.

The piano was the sole island of order in this sea of chaos. Anything I didn't want to lose went on top of it. My law school application, for instance. I'd filled it out and left it sitting there.
"You should mail that," said the Count.
"But I have sworn to use my powers for good," I protested.
"They haven't," he pointed out.
"True," I admitted.

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At this time I was still a janitor at the University, which meant I went to work every morning at five. Since I hadn't gone to bed before midnight since sometime in the early Sixties, this meant I now encompassed an encyclopedia of sleep disorders, and cycled round the clock randomly, adjusting the Fourier components of my insomniac oscillations with whiskey and cigarettes. This did nothing to improve my mental balance.

I read a lot, as always, but all system had been lost. At the moment I was engrossed by fits and starts in the old novel of Kurd Lasswitz, Auf Zwei Planeten. Since Willy Ley had mentioned it in the Bible of my childhood, Rockets, Misoiles, and Space Travel, I had been looking for it since elementary school, and had finally stumbled across a paperback translation in a used book store. There was something irresistible in a tale of an expedition to the Pole that turned into a voyage to another world. - If only that, I thought. If only.

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Wittgenstein to his sister Hermine, when she berated him for wasting his talents as a schoolteacher: "You remind me of someone who is
looking out through a closed window and cannot explain to himself the strange movements of a passer-by. He cannot tell what sort of storm is raging out there or that this person might only be managing with difficulty to stay on his feet."

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So now it was November, in the bicentennial year. I thought we had grown dull before our time.
"I need a vacation," Stefano said.

He was lying on the couch, toying with his Stratocaster. I was sitting with my legs up on his kitchen counter, trying not to fart.
"I need a personality transplant," I said.
"A vacation would be cheaper."
"But would it prove so efficacious?"
"It's been known to be effective," he said. "I need a vacation."
"Denmark's a prison," I said agreeably.
"Then is the world one," he said, not patiently. "But they let you walk the yard. I need a vacation."

I looked at him to make sure he was in earnest. His apartment made no fast distinction between the kitchen and the living room, and thus there were no more than a few feet between us. But he was in the room with the television set, and I was in the room with the garbage disposal. I thought this ought to mean something.
"All right," I said. "Where do you want to go?"
"I don't know," he said. "Where do you want to go?"
"I don't know," I said. "Where do you want to go?"
"I don't know," he said. "Where do you want to go?"
"The Moon," I said. Giving up.
"Sure," he said.
"I mean it," I said.
"The Mercury won't make it," he said. The Mercury was his car. His car ran.
"Oh," I said. "What is this," I asked. "Realism?" I clenched my buttocks.
"Maybe the Opel will," he said. The Opel was my car.
"Sure," I said. The Opel was a joke. The Opel wouldn't make it as far as Taco John's. It had gone halfway the week before, and it was still belly-up where I'd pushed it into the parking lot at Safeway, trying to recuperate. I made a mental note to send it a card.
"All right," I said. "Where do you want to go?"
"Well," he said. Evincing discomfiture.
"What?" I asked. Now suspicious.
"I talked to Gonzago last week," he began.
"You mean that you want to go back to New Mexico?" I was incredulous.
"Yes," he admitted.

I had been reasoning that I was seated on a surface on which food might be prepared. But reason is a weak reed. The report was startling.
"Gack," he muttered.
"And you want to carry me into the heart of the stinking desert to dine on Mexican food that glows in the dark."
"We could go out for pizza," he protested. "Come on, When was the last time you drove a hundred miles for a pizza on a Saturday night?"
"We could go to Laramie," I pointed out. "Right now."
"True," he admitted.
"Nay," I continued, "we went down time and again last year, trying to get that feckless dolt out of there, and he went back anyway. Why not insist that he come see us? Here he could be bound and gagged until he comes to his senses. There, he'll just pour mescal down our throats until we forget our mission."
"True," he admitted again.
"Bah!" I exclaimed, warming to my own eloquence. "Why not instead dine on laxatives, and bang yourself upon the head with a brick?"
"You carry the point," he confessed. "But what then?"
"Fuck it," I declared, now wholly transported. "Let's go to California."
Our tumblers clicked in unison.
"Of course," he said.
We regarded one another directly. He put the Stratocaster down. I slipped off the counter and stood upright, or nearly.
"Tomorrow," he said, in the grip of inspiration.
"No," I said. The idea was enough. "Saturday."
"Agreed," he said.
We danced around like the witless weenies that we were.
His wife came downstairs to investigate. "Tootie!" I exclaimed, jumping up and down. "We're going to California," he said.
"That's a good idea," she said mildly. "You guys need a vacation." She wrinkled up her nose. "Who farted?" And turned the television on.

I went home and told the Count I was going to California. "California is a very important concept," he said. He cited Brian Wilson and Northrop Frye. We made pitchers of margaritas, and salted the rims.

We drank a toast to travel and research. We drank a toast to the institution of the paid vacation. We drank toasts to the decline of wage slavery, the itemized expense account, and affordable dental insurance. "That should be The Idea of the Expense Account at Key West," he said, so we drank that one over again. We drank a toast to the nineteenth century novel. We drank a toast to the twentieth century microchip. We drank a toast to Jane Austen. We drank a toast to the Intel 8080 processor. We drank to the three Brontë sisters. We drank to the four Marx brothers. We posed in front of the piano and took turns trying to hang our knees in one another's hands, but we couldn't make it look natural, so we drank a few more toasts to Harpo, because he could. We drank to the members of the Vienna Circle. We drank to the inhabitants of the Hollywood Squares. We drank to the remembrances of things past. We drank to the shapes of things to come. We drank to the curvature of space. We drank to the irreversibility of time. We aspired to the theoretical, and drank to colored quarks and coupling gluons, and to gauge theories wherever we might find them. We embraced the phenomenological, and drank to the Schrödinger equation and the Pauli exclusion principle. "These are the foundations of chemistry!" I exclaimed, and so we drank to that. Then we set out to drink toasts to the elements in order of their appearance in the Periodic Table, but I passed out somewhere in the rare earths and he was left to press on toward the transuranics by himself. He told me later that he made it at last to Californium, but not without cost. "A sense of duty is a terrible thing," said the Count.

Somehow I made it in to work at five the next morning. It was a heroic effort, and Ayn Rand would have been proud of me. She never tired of describing willfully-underemployed chainsmoking erstwhile Wunderkinder staggering through the appointed rounds of their deadend jobs wasted on fatigue poisons while they plotted their revenge on the System of the World. - Disdainful of prostituting
their talents for the benefit of the parasitical classes. - We are on strike, the Men of the Mind. - What planet had she lived on, anyway. If the Men of the Mind went on strike, the Men of the Wallet would just laugh and say, Good Riddance.

It all looked different from the inside though. I didn't recall, for instance, that she had ever mentioned those small brilliant spots around the periphery of your vision, drifting inward, like meteors in slow motion. The field of stars would look something like that, if you were moving at nearly the speed of light, it was a consequence of the Lorentz transformation. - Or that palsied tremor of the hands, explained by Wiener and collaborators as the pathology of feedback. - Those sudden lurches when you faded out and caught yourself as you were about to fall. - The moronic inner voice that took over and subvocalized everything when you were too stupid to think, the one that addressed you in what sounded suspiciously like computer commands: Fill bucket; Wring mop; Fetch keys; Open door; Dump trash.... I was wondering whether I had indented the line numbers on the punched cards correctly and then realized I was drifting off again...... who knows, maybe an office job was not such a dreadful prospect after all

But it was not for nothing that I was the greatest janitor of modern times. I kept moving, the reflexes took over, and then I was even faster than usual. I did eight hours' work in an hour and a half, and then I was really dizzy, and had to stagger outdoors and take a seat by the fountain in the plaza. - Where presently, while I was still trying to derive the possibility of consciousness from first principles, Barbie and Ken arrived to go to college.

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See how he lies at random, carelessly diffus'd, With languish't head unpropt,

As one past hope, abandon'd, And by himself given over;
In slavish habit, ill-fitted weeds
O'erworn and soil'd;
Or do my eyes misrepresent?
...O glorious strength
Put to the labor of a Beast, debas't
Lower than bondslave!

Or, you know, something like that.

She was black. She was beautiful. She was a real pain in the ass.
She was a philosophy major, and had to have a reason for everything.
"Well?" she asked.
"Well what?"
"Why are you going?"

I stared at her blankly for a moment. "Geez Millie," I said, "I'm going to find myself."
"Good," she said. Apparently that was perfect.
Ah California. The Psyche's Lost and Found.

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"... Marilyn Monroe, John Lennon, Frank Sinatra, the Beach Boys, Louis Armstrong, Liberace," I had explained. "Sinatra because he partied with Kennedy, I guess. Liberace I don't know."
"Hoover was probably jealous of his wardrobe," Dog said.

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"So this is a bad day?" she was asking. After producing three aspirin I could swallow with the coffee.
"No, now it's a gala day," I said. "And a gal a day is enough for me."
"Was that clever?" she asked. "Because I don't get it."
"Marxist rhetoric," I said. "Forget it."

I told her a story.

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A mysterious wanderer from out of the East, he appears one summer in the City of Carnal Policy, where dwell the bearers of the brief attention spans.

Rumor spreads round of a noble descent, of a vast estate in the wilds of Patagonia, of fortunes made and lost on Wall Street, of expeditions to the darkest corners of the Earth, of strange writings and cryptic rituals, of arcane researches which baffled the Rosicrucians and were mentioned for the Nobel Prize.

Lean, handsome, prone to lengthy silences even in the midst of frolic, he seems distant, distracted, preoccupied, lost in meditation upon the unseen, the unfathomable. His eyes are fixed upon infinity, like a visitor from another world. His boots are scuffed by the grit of unknown pavements, his leather jacket stained by the spills of alien wines. His pants do not fit properly, for much brooding has made his dick bigger. [Millie likes this part.]

Unsatisfied with a life of dissipation among the fleshpots of the metropolis, he seeks the counsel of a priest, an astrologer, a gypsy who reads palms in Attic Greek, a stockbroker, a hairdresser, a psychoanalyst of the school of Blake, a shoeshine boy, a Voodoo Child, a Catcher in the Rye. Disciples of Heraclitus, they all respond with oracular ambiguity.

At last he consults a physician, who tells him with solemn finality that he has been stricken with nervous fever and has become such an asshole that he has only sixty years to live. Absorbing the implications of this prognosis, he mounts his motorcycle and commences a farewell tour of the continent.

For many episodes he wanders the blue highways of the land, defending the weak, befriending the outcast, aiding the helpless, defying the powerful, exciting the adoration of sweet innocent pigtailed small-town girls delivering burgers on rollerskates at the A\&W who stare wistfully after him as he rides into the sunset westward, ever westward, seeking always the terminus, the event horizon, the vanishing point where all roads begin and end.

His quest carries him to the Nashville Parthenon, the St. Louis Arch, the Crossroads Mall, the World's Largest Ball of Twine, the Meteor Crater, the Prettiest Little Town In The World By A Dam Site, and other roadside attractions. He treads in the tracks of dinosaurs and whiffs buffalo farts in petting zoos. He buys turquoise jewelry in gift shops. He ponders the mysteries of crop circles and alien visitations.

He lights a candle at the Breakfast Shrine of the Cornflake God, and lays a wreath, a broken beer bottle, and a length of chain at the Tomb of the Unknown Biker. In a grand existential gesture, he arranges the text of the Divine Comedy on Burma Shave signs along Route 66, ten lines per mile for fourteen hundred twenty three and three tenths miles.

Attaining the rim of the continent, as he stands upon a deserted beach staring moodily into the Pacific he senses the presence of a dark exotic beauty of uncertain provenance practicing her existentialist yoga against the backdrop of the crashing surf. - They exchange brooding stares. - A strange attraction is manifest between them. - Mood music. - Gulls circle overhead. - Odors on the sea breeze, perhaps of frying clams.

His yacht, L'Être et le néant, is anchored offshore. He plans to board it on the morrow, to continue his voyage of spiritual discovery. "The Orient beckons," he says with an enigmatic smile. "At dawn I sail into the sunset, in oxymoronic defiance of the gods. And still I seek a mate for my tormented artist's soul."
"If it feels good, do it," she says. "If it feels good, do it until it hurts."
They embrace in silhouette, backlit by the setting sun.

As an afterthought I inserted a Val Lewton subplot involving white zombies walking the banking district by night, which left me at a loss for a conclusion.
"Suddenly they are struck by a meteor!" I exclaimed.
She slugged me.

The foreman found me reading in my closet. I told him I was taking a vacation. "Real good," he said. He was sparing with polysyllables.
"The antinomy of my current situation," wrote Nietzsche to his friend Overbeck in November 1886, "of the form of my existence, consists in this: everything that I need in order to be philosophus radicalis freedom from profession, wife, child, society, fatherland, faith, etc. etc. - I equally suffer as deprivations, inasmuch as I have the good fortune to be a living creature and not merely an analyzing machine... . I have to add that this juxtaposition of necessities and deprivations is driven to extremes by the lack of an even moderately durable health." For health read wealth. "For in my moments of health I feel the deprivations less keenly." Because then I don't have a job to distract me from work. "Further, I absolutely do not know how to bring together the five conditions that would restore my delicate health to a bearable modicum." Money, money, money, money, money. "Finally, the worst possible situation would prevail if in order to attain those five conditions of health I had to deprive myself of the eight freedoms of the philosopbus radicalis." Hair halfway to your ass. Shaving as the whim strikes you. Picking your nose and wiping it on your pants. Farting without thought for consequence. Wearing bluejeans and a Mickey Mouse tshirt to work. Talking down to your purported social and professional superiors. Evincing an ironic detachment in your pursuit of unattainable women. Reading Nietzsche instead of computer manuals. " - This strikes me as the most objective account of my rather complicated situation ... Excuse me! Or, rather, you may have a good laugh at this!"

Not that Overbeck would laugh, of course. Overbeck would never laugh. But nothing is ever crueler than the laughter you direct at yourself.

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The Dark Lady knocked on the door. "Do you have any plastic garbage bags?" she asked, with a peculiar smile.

I pointed at a shelf. "As many as you like," I said.
She took a handful and left. I adjusted my pants.

Overbeck would never laugh, sure. But you can bet your ass Overbeck's wife kept dropping hints the philosophus radicalis needed to get a real job.

I called Gonzago in New Mexico. I had sent him a copy of How To Pick Up Girls, and asked whether he had had the opportunity to study it. He told me that he had taken the book with him for a night on the bars in Albuquerque, and everywhere he'd gone he'd pulled it out of his pocket and placed it prominently on the table in front of him. Whenever a girl came by he stopped her, opened the book, selected a pickup line with much ostentation, read it aloud, and then got her to autograph the page next to it.
"Wow," I said. "Great. So did you score?"
"Don't be ridiculous," he said. He explained that there were four kinds of bars in Albuquerque: white, black, Indian, and Mexican, and a

Filipino wiseass could get killed in any of them. It was not essential to maintain a low profile, exactly, but one had to know one's place. "What about you?"

I told him I contemplated following the example of Rimbaud and acquiring an Abyssinian mistress.
"She'll rock your drunken boat," he assured me. "But speaking of the long, prodigious, and rational disordering of all the senses, how stands the Count?"
"He consumes all the poisons in him, and keeps only the quintessences. I, on the other hand, teeter constantly on the brink of nervous collapse."

Gonzago assured me that this had been his own experience during his sojourn in Castle Dog. "First I saw the colors of the vowels," he said. "Then I saw the white light."

And then he'd joined the Foreign Legion. That was what came of marrying my sister.

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After this I flatlined, and watched television. I had become fond of the adventures of Wonder Woman, I wasn't sure why, they couldn't really do comic books properly. Maybe it was the costume. Maybe it was the cleavage. Maybe it was the idea of an island of Amazons hidden in the Bermuda Triangle, invisible to the coarse sensibilities of modern technological reductionism: a parallel world, beside us yet invisible because we do not possess the correct attitude to perceive it. A matter of programming not hardware, of the logical reconstruction of the world; I fancied myself rewriting Carnap, with different existential
software. If I rewrote it far enough, perhaps I might be the recipient of that beautiful smile.

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I had never understood television. The Count had explained it to me.
"Picture men chained in a subterranean cavern," he said, "who have never seen the sun. Conceive of them as confined to their couches, with their legs and necks fettered so that they remain always in the same position. Before them are screens displaying shadows cast by the creatures and objects of the upper world they cannot see."
"What are they watching?" I asked.
"Probably reruns of 'The Untouchables'," he said.

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By Friday evening the Count had disappeared, as he always did the weekend of a football game, sucked into the vortex of the Party Nebula that enveloped the Denver suburbs, and I was left to sit at the piano by myself, writing a song about cosmic accident. I thought I would call it "Lost Planet Blues". - "You left a smoking crater in my soul," it began. I was wondering how to get out of the bridge when Stefano called.
"I talked to Scotus," he said. "We can stay with him in San Francisco."
"I thought he worked at the Rad Lab," I said. Which was in Berkeley.
"Yeah, but he lives in the city."
"Oh," I said. I hit a couple of diminished chords. "He didn't cut his hair, did he?" I asked suspiciously.
"No," said Stefano.
"Good," I said. Then it was all right.
I tried the minor ninth.

## 2. The Yellow Brick Road

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Johnny Cocktail had explained the cosmic-voyage tale to me.
A party of adventurers set off to explore new worlds.
Their vehicle is a rocket ship. It is shiny, very phallic, like a metallic dick. Explicit reference is made to piercing the veil, to penetrating the unknown.
(I remark that all this was a running gag in Flesh Gordon.)
The launch requires a violent (orgasmic) acceleration which renders them unconscious (le petit mort), and suggests that what follows should be coded as a dream.

He quoted Baudelaire: "It is through dreaming that man communicates with the dark dream around him."

Once entered into interplanetary space, the party engage in a cosmological dialogue on the plurality of worlds.

They are blown off course by a storm (a meteor shower) which cripples their vessel and are shipwrecked (i.e. crashland) on an unknown world (an island) not on any chart.

Thus where it lands is chosen by accident, their destination has been selected by Fate, to further some scheme of the gods. - The ship is a kind of spermatozoon, dispatched to fertilize a planetary ovum.

They land among mountains.

Descending, they pass through a cave, a narrow passage, where they struggle with a monster, usually a giant hairy spider with enormous fangs.
("Well, that part is obvious," I said. "Yes," he said. "You also find it in Tolkien.")

An atmosphere now becomes apparent, and they doff their bubble helmets.

They emerge in a lush valley where they discover a lost city.
It is the last surviving colony of lost Atlantis, and is inhabited by beautiful nymphs with names taken from classical mythology.

They are immortal and have extraordinary mental powers. They do not eat in the normal sense, nor do they indulge in sexual relations. But the arrival of the adventurers disturbs their equipoise. They begin to waken to carnal desire.

They have observed life upon the Earth through the medium of a magic (television) mirror, in which they can see and hear everything that takes place anywhere in the world. In consequence they have learned our language and customs.
("What is our language?" I asked. "Greek," John replied.)
They despise humans in general and males in particular as a menace, and plan to destroy the Earth with a giant raygun as - what? - a warning to the cosmic patriarchy. The apparatus and the language used to describe the process suggest sterilization, emasculation.

A similar fate befell the Lost Planet, which once orbited the Sun between Mars and Jupiter; this explains the origin of the Asteroid Belt.
("Ah, they crushed their rocks," I said. "If you insist," said John.)

The courtroom scene in which all this is explained is preceded by a ballet danced by the Grecian nymphs.

Judgment is passed on the adventurers, who are condemned to labor in the radium mines, among the slave races. These are comprised of males, broken-down old geezers wrecked by unceasing toil, and cave girls clad in skins; the rulers of course are brunettes, so these must be blondes.

The leader of the party forms a connection with one of the blondes. But then the Queen of the Amazons, the head brunette, takes an interest in him, and offers him a position by her side as her courtesan.

She makes him this offer while bathing in starlight in the nude. She explains that this is the secret of her longevity: when a certain constellation is in the sky its light restores her vital forces with cosmic radiation.

He turns her down, since she refuses to free the slaves. Jealous, she announces the ritual sacrifice of his blonde girlfriend to the Minotaur, a beast with the head of a bull and the body of a professional wrestler, who haunts the labyrinthine gardens outside the city walls.

The engineer meanwhile has discovered deposits of a new element in the mines which will allow him to repair the engines so they can make their escape.

The navigator has found gold in great abundance. His greed will be his doom.

The sacrifice goes south, and precipitates a slave uprising. The Queen is thrown to the Minotaur, the blondes escape, but are lost in the ensuing chase when the city is destroyed by an erupting volcano. The final triumph of the phallus is ensured when they escape in the spaceship; save for the navigator, who goes back for the gold and is consumed by the flames.

I asked, naturally, why the lost city must always be destroyed; why can't they at least bring the girls back with them." Because to do so would be to embrace the dream," said Johnny C. "The dramatic form of the motion picture scenario is restorative. In the end the reality principle must be re-established. One must awaken, and acknowledge its ascendancy. As with the journey into the underworld; the point is always to return."
"Wow," I said, "that sucks."
"Yeah," he admitted. "Dorothy always goes back to Kansas. It's such a fucking downer."

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We left Saturday at five in the morning. Somewhere in Wyoming we started talking about life on Mars.
"I liked the photograph," he said. "It looked like New Mexico."
"The pink sky was different."
"An artifact of the mescal hangover," he suggested.
I laughed. "Perhaps. But nothing lives there."
"Nothing lives through a mescal hangover either."
"Ah," I said. "That explains it then."
"But the results are ambiguous?"
"Apparently. It looks as though they were too clever, designing the experiments."
"Too clever or not clever enough," he said. He thought about it. "The mass spec says no?"
"Apparently."
He frowned. "Then there's nothing there."
"Nothing obvious at any rate. I'd love to speculate, but I wouldn't know where to start. It would have been nice to have found something just a trifle different."
"Yes," he said. "Still," he said, "it's impressive."
"Yes," I said. "They flew a robot clear across the solar system and landed it on a pile of rocks."
"And then set it to work," he said, "scratching in the dirt for turds." I laughed.

We talked about the design of the ideal rover, that it would be a sort of robot dog, something that would be able to smell the presence of life process the intake of complex molecules, identify them, track them to their source. - Sniffing out fossilized cat-turds, and then eating them.

Seeking out the litter box. - Methane would be an indicator. - "Of course," Stefano said. "You'd whiff their farts."

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He took the wheel, and I made sandwiches. "It's crunchy," he observed.
"Creamy peanut butter is for pussies," I said. "You can't imagine H.R. Haldeman eating creamy peanut butter, can you? No. He'd want that zest, that gusto, that sensation of nuts being crushed between his molars."

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"Rather than think that so many stars and parts of the heavens are uninhabited," said Nicolas of Cusa, "and that this earth alone is peopled - and that with beings, perhaps, of an inferior type - we will suppose that in every region there are inhabitants, differing in nature by rank and all owing their origin to God, who is the centre and circumference of all stellar regions."

Every asteroid an oasis, with a well and a palm tree. Dancing girls in your oxygen tent. Minstrels in bubble helmets, playing plaintive power ballads penned by Page and Plant.

Meteoric traces score the heavens. A profusion of planets, spread among the tails of comets.

A mysterious anthem falls from the golden skies.

Just past Salt Lake, we stopped for gas on the brink of the desert. He filled the tank and then disappeared into the restroom, muttering something about time, fate, and the Mexican repast. I paid the tab. The attendant, a bezitted wunderkind in oilstained coveralls, had been conversing in signs and grunts with a couple of other specimens of the local gene pool, but the conversation stopped when I came in. "Nice day," I said. He stared at me. I smiled politely, and looked closely, to see if his eyes were real glass, or imitation. Then I got a couple of cans of Coca-Cola out of the machine and went back out into the parking lot. They didn't have hippies here.

They did have smog. I stood with my ass leaning against the hood of the Mercury, waiting, trying to fathom the miasma. We'd passed through mountains, but they were now invisible. The elements had been confused. The sky was full of dirt.

Stefano emerged presently. I handed him his Coke.
"You've paled in your confinement," I said.

He passed the back of a hand across his brow. "I could be bounded in a nutshell, and count myself a king of infinite space, were't not I took such reams."
"You had at least the grace to pen your labors in," I said. "They've browned out the entire valley."

He laughed, but then a shadow passed across his features. Responsibility. "Maybe I should call Tootie," he said.
"Right," I said. Thinking this was unhealthy and possibly dangerous. "Maybe I should call the Count, and tell him to water the plants."

## "I thought they'd all expired."

"Bah," I said with an expansive gesture, "if they can't survive in an atmosphere of cigarette smoke with the Count watering them with the dregs of his gin and tonics, how can they expect to hack it on the Sands of Mars?"
"The Martian environment might prove more benign," he said.
I drained the Coke and crumpled the can into a wad, and telegraphed my first move, so that he could block my shot at the trash can. Then I recovered the rebound from the pavement and ran recklessly around the car a couple of times, pantomiming the dribble and faking any number of ridiculous shots. He was on me like my shirt. Finally I made a theatrical leap, turning in the air as I rose, triple-pumped, and threw up a blind prayer from the pike position that rattled off the wall and in.

He laughed helplessly. "You drive," he said.
"All right," I said.
Roused now from hebetude, the attendant and his buddies were gawking at us. "And," I continued, "maybe we should get out of here."

He regarded them benignly, with the tolerance he had acquired laboring among rude mechanicals. "Remember that Hendrix died for their sins," he said. He favored them with the sign of the cross. "Also gehen wir."

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"I wondered why they had all those dead limes in them," he said.

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"Now, even if inhabitants of another kind should exist in the other stars," Cusanus continues, "it seems inconceivable that, in the line of nature, anything more noble and perfect could be found than the intellectual nature that exists here on the earth and its region. The fact is that man has no longing for another nature, but desires only to be perfect in his own."

To pump his own gas. To bang his own bimbos. To hire his own attorneys.

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"Eight foot baskets," he said.
"What?" I asked.
"Eight foot baskets. That's what we're looking for. That's the object of the quest."
"Ah," I said. Of course.

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The alkali desert:
By the roadside, tracks disappeared into the sand. Rocks arranged upon the flats spelled out messages, but we were always going just too fast to read them. It seemed like the bulletin boards on Telegraph

Avenue, a likely place to publish the secrets of the universe: the constituents of the hadron, the topological invariants of the spatiotemporal manifold, the contents of your Permanent Record. The way, not found on any map, that led to the Isle of Avalon. The next time I'd see her again.

Bullwinkle to Rocky: This time for sure.

I laughed aloud. Not fucking likely.

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It grew dark. I turned the headlights on. Save for the lights on the highway, there was no sign of life. Dark, silent, empty, flat, featureless. No joy for Viking here.

At the border, Wendover. Bright light, casinos. Balm for the truckers.
We stopped for gas again, mainly to have an excuse to get out and stumble around, blinking in the unaccustomed light. Here was the genius of Nevada, to perceive the comfort of neon.
" They're bound to have casinos on the Moon," he said.

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## I bave seen archipelagoes of stars

We bagged it at Elko, in the inevitable KOA campground. There were slot machines in the convenience store, and we each dropped a quarter, to fortify our credentials as guileless tourist rubes. Then we got some ice for the whiskey and went out and pitched the tent.

The night sky was incredible. "How high is it here?" I asked.
"I don't know," he said. "Maybe higher than Boulder." He craned his neck, and swirled the ice around in his glass. "This isn't registering properly," he said. "It all looks like a road map to me. Can you see Mars?"

I scanned the ecliptic, the planetary interstate. "Venus must have set by now," I said. "There's Jupiter." I pointed. (Bright, white, doesn't twinkle.)" So that one's Saturn." I pointed again. (Ditto, not quite so bright.)" I don't see Mars. Have you ever looked at Saturn through a telescope?"
"No."
"Ah. You should."
"No shit?"
"No shit." Sipping the whiskey. "You never had a telescope?"
"I was the embryo biologist. Remember?"
"Ah. Well. I was young Tom Corbett, and I wanted all the paraphernalia: the blaster, the bubble helmet, the secret laboratory lined with bubbling retorts -"
"- the mammalian figure in the two-piece vacuum suit-"
"- Yes, well, that was later." Lighting a Camel. Sipping more whiskey. "As a practical matter this meant getting a chemistry set and a telescope, lead shielding and plutonium being hard to come by even in the nineteen fifties. The chemistry set was a disappointment, really,
it turned out to be harder to synthesize rocket fuels than I anticipated."
"Not that hard," he said. "Scotus blew the wall out of his basement at the age of nine." The future rocket scientist.
"So did Giuseppe," I said. "Fortunately I wasn't so enterprising. I distinctly remember that the first thing I figured out how to make was nitroglycerine, but I already knew the specific impulse wouldn't be high enough. But the telescope was different. I wanted one for years, and finally I got one, on my eleventh birthday, a little forty-power refractor, pretty decent optics actually, and a little kiddy-toy ephemeris that came with it, and directly after sunset I was out in the front yard with a flashlight and my celestial table of contents, looking for the planets. What I wanted to see was Mars, of course, but that wasn't in the sky at the time. Not that it looks like much through a small telescope, it's just a little orange blob." I laughed. "You need a big telescope to be able to hallucinate canals. But I found Jupiter right away, and saw three of the four Galilean satellites the first try, all strung out in a line, quite obviously attached to it, you know? Still I couldn't see the bands, or the Spot, it was just a little white disk. Then I checked out a couple of things I knew were double stars, and resolved them, and that impressed me, right, because I was obviously seeing more than I could with the naked eye. But it was still, what, the divorce of thought and sensibility, they could have been little lights hung on the sky. I knew they weren't but I couldn't feel it, you know? But then I turned the thing on Saturn, and fumbled around for a couple of minutes getting the focus right and getting the telescope to stand still, balanced in the grass on those shaky wooden legs propped up on those little rubber knobs, and then I looked at it, and there were the rings. And I could see it, I could see that the thing really was a little ball, not flat, not a picture painted on a backdrop. And then I could see that it wasn't little at all, and the hair stood up on the back of my
neck, and I could sense it, the distance of the thing, that I was looking at something very large, very very far away. I believed that it was eight hundred million miles away, and, you know" - laughing - "I could feel it, somehow, how vast the physical world was."

## "Really?" he said.

"Oh yeah," I said. Still laughing. "Really nothing has ever matched that. The first naked girl came close, but it wasn't the same."

He snorted, half-hearted disbelief. - He thought he heard the whiskey talking. - He thought he might have known the girl.

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The criterion of reality, in your interaction with Nature, is the element of surprise: the moment when your internal extrapolation of the course of events, the prediction of the targeting computer, goes off the rails. - The shock of discovery is discontinuity. - It is like the old thought experiment, how you perceive the reality of other minds: you are peering through a keyhole when suddenly another eyeball appears on the other side, looking back at you. - The recognition of the alien, the Other. - That is the reality principle: the rings of Saturn.

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No, seriously. And anyway I always liked redheads better.

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A voyage into space is a voyage into lost time.

Looking at the night sky you are looking into the past, into the history of the universe. Because light travels at a finite speed, space is time, distance is duration.

And distance is velocity: the universe expands; the farther away the object, the more rapidly it recedes. Light reddens in proportion to the distance of its origin.

Beyond everything, at the red limit of visibility, lies the microwave background, the noise left over from the Big Bang. - The light of creation. - The lux in fiat lux.

Since in every direction we perceive the origin of the universe, in a sense it occurred everywhere at once. - Inverting Cusanus, the boundary of our back light cone is a circle whose circumference is everywhere and whose center is nowhere.

Closer to home, one might imagine that if a mirror were somewhere interposed, in principle you might see in it the Earth as it was in the distant past: in the age of the dinosaurs, or when life originated; even the birth of the sun and the formation of the planets.

Put the mirror closer, and you might see your own childhood, projected on a screen among the stars.

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One of the first books I read as a boy was Clarke's The Exploration of Space. I remember that after I finished it I told my mother, in all naiveté, that it had to be the greatest book ever written. - I think in part this idea entered my head because I didn't understand the conventions for back cover advertising copy and thought the fulsome
praise quoted there was real. ${ }^{1}$ - With which she went all Yankee Puritan on my ass, and said, Of course not, the Bible was. - "Oh yeah," I said. "Right." Though already then, at the age of seven, I did not believe this.

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I still had the little black pocket notebook I carried around in elementary school, the one in which I entered the facts and figures of rocket engineering.

The critical number that characterizes the efficiency of a combination of propellants is the specific impulse, essentially the theoretical exhaust velocity divided (for dimensional reasons) by the acceleration of gravity; it has the dimensions of pound-seconds per pound, or seconds simpliciter. The combination of liquid oxygen and hydrogen is essentially the best, nearly four hundred; nuclear thermal engines might reach values of eight or nine hundred; exotic chemical reactions involving the recombination of free radicals, e.g. monatomic hydrogen, might run even higher.

The maximum velocity attainable by a single-stage rocket is, to a first approximation, the product of the exhaust velocity by the natural logarithm of the ratio of initial (fueled) to final (empty) weight. The relatively low specific impulses characteristic of chemical reactions entail the multiple staging of rockets to be able to propel the final payload to orbital, let alone to escape velocity

This means that the dream of interplanetary travel in its purest form, that of a standalone vehicle like Flash Gordon's Art Deco rocket ship or that of one of Heinlein's heroes, something which can take off from

[^0]the surface of one planet and land upon the surface of another, is impossible without a radical improvement in the efficiency of even nuclear rockets.

The poet was the thief of fire. But the poetry of space travel required that new fire be stolen from the gods.

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Still, it was more than that.

The romance of space travel is not the lure of adventure on other planets. It is the lure of adventure on other world. - These by definition must be inhabited, and sufficiently Earthlike that you can land your spacecraft, get out to walk around on them - and forthwith find yourself engaged in a swordfight to rescue a princess - riding Plutonian mammoths with tusks of adamantine ivory and telepathic tendrils - matching wits with centaurs - exploring the ruins of cities abandoned before terrestrial apes came down from the trees.

These were the requirements of narrative. They were first discovered by Lucian of Samosata, who saw that it was simply a question of adding new books to the $O \partial y \delta d y$ : space was an ocean, ships were ships, planets were islands; therefore, each must be home to a giant, an enchantress, a mad god unenumerated in the canon - some new marvel, some prodigy, some thing unattempted yet in prose or rhyme.

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It was as if I had preserved in my imagination an illuminated medieval map of the solar system: whales spouting, nymphs arranged in the corners, mermaids sporting on the rocks, sea-serpents - meteor showers, comets, ringéd planets, violet nebulae, rocket ships with shiny fins leaving trails of nuclear fire. - Inscriptions warning, Here there be Tygers.

It was the solar system of Planet Stories. - Of Leigh Brackett. - The solar system of doomed interplanetary wanderers. - Of the caves of Mercury. - Of Valkis, Jekkara, Barrakesh. - Of the city of Shandakor, haunted by the ghosts of a lost ancient race. - Of the invisible light that makes the stones give up their memories. - Of the lords of Shuruun. - Of the buried tomb-cities of Callisto. - Of the Venus that beneath its impenetrable cloud cover was a jungle world of mud, swamp, hothouse carnivorous plants, dinosaurs, ferns, giant dragonflies, mermaid sirens sweetly singing, lost cities ruled by white goddesses, ships with sails woven from golden spider silk, girls with skin like polished emerald who wore tunics fashioned from the same. - Of the veil of Astellar, in the Belt. Of brawls at Madame Kan's, on the Jekkara low-canal. - Of the legend of the Tenth Planet.

And all that was gone, vanished, as if the drugs had worn off and you'd come to lying in the gutter. Fallen from the skies and back to earth. No more the purple haze, the air that glows the color of indigo. No more the restless phosphorescence of the Sea of Morning Opals, the jewel of Bas the boy-immortal, the purple priestess of the mad moon.

Mercury was an airless blast furnace. Venus had an atmosphere, carbon dioxide at oceanic pressure, but it rained sulphuric acid and the surface temperature was eight hundred degrees, the epitome of Hell. The asteroids were puny lifeless rocks, with too little gravity to retain atmospheres; they might possibly be mined, but that would best be done by robots. Jupiter and Saturn were cold stars, gigantic balls of turbulent gas; Uranus and Neptune the same but even colder, with temperatures hundreds of degrees below zero. Their satellites though solid were also cold and inhospitable, with atmospheres of methane and ammonia. Pluto was a tiny pebble so distant from the Sun that it would only be a bright star in the sky.

But Mars ... unkindest cut of all ... what a blow that had been. There
had been the fairy-tale world, created by Schiaparelli and Lowell, popularized by Burroughs: the ancient red planet, dry and dying but still home to life, canali carved out of the landscape bringing water from the polar ice caps to the belts of vegetation visible in the south, subject, it seemed, to seasonal variation; at least so far as one could discern from the blurry images provided by terrestrial telescopes.

Instead the first flyby found a lunar landscape pitted by craters, with only a few wisps of carbon dioxide for an atmosphere, just enough to support the dust storms that had fooled a generation of romantics into thinking they were watching something grow. - Like Elvis, Dejah Thoris had left the building.

And upon this unprepossessing blank screen we still projected our vain hopes; perhaps there were bacteria, lichens, some kind of fungi -

O foolish son of Daedalus. You flew too close to the sun, the wings of your imagination failed you. The worlds of your childhood dreams have melted down like wax.

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" - do you think it all all strange, said I, if a man returning from divine contemplations to the petty miseries of men cuts a sorry figure and appears most ridiculous..."

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The universe was vast, to be sure. Something had to look enough like the Earth to be worth visiting. Somewhere an alien princess awaited rescue. - But the universe was oast: the nearest star was twenty-five trillion miles away, four years at the speed of light. Thirty thousand light years to the center of the galaxy. Two million light years to the nearest comparable spiral, the Great Nebula in Andromeda. Galaxies formed clusters, clusters formed superclusters. The visible universe
had a radius between ten and twenty billion light years. Interplanetary flight was almost pointless. Interstellar flight was practically inconceivable. "Exploring the universe" was essentially an oxymoron. There was nothing on a human scale to be explored.

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"Wherefore have these great bodies been disposed by nature at so great a distance from one another, instead of being nearer so that it would have been possible to pass from one to another?" asked Bruno, the prophet of the plurality of worlds.

Good question, Giordano.

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But still there had to be life, and probably then intelligent life, on other planets somewhere; there should still be other worlds, albeit at cosmic distance. - Nerd life, you pictured geek astronomers peering through their telescopes trying to catch glimpses of naked girls sunbathing on terrestrial rooftops. - So if you could not go there, still, perhaps you could communicate? talk on the radio? - The alchemy of the rocketship replaced with the alchemy of the word.

Or did this simply exchange an impossibility of physics and engineering for an impossibility of linguistics?

Could you talk to them? It seemed that was the central question. If the universe was home to intelligence at all, anywhere but here, then there was no possibility of narrative if there was no possibility of communication. - First the pickup line, then maybe you can go home with her. Everyone understood that.

Recalling one morning when I had been sitting crosslegged on the wooden floor of the bedroom in her house in Berkeley, meditating on some issue of mathematical physics, and only when I heard her laughing in the other room did I realize I had absently let loose an enormous fart which, resonating, had seemed to shake the rafters.
"That was loud enough to be heard on other planets," she said.

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"A new language must be found," said Rimbaud. "Of the soul, for the soul, containing everything, smells, sounds, colors... ."

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The poet as multiplier of progress, then:
You sometimes have this feeling on the road, that you're a hamster in an exercise wheel, and it isn't so much that you get anywhere as that they let you off after a certain number of turns. I had this feeling in Nevada in daylight. Stefano snored into the side window. I picked out a mountain on the horizon, drove up to it, then picked out another. I sang to myself; I argued with myself; I computed aloud the distance one would travel, at sixty miles an hour, six verses a minute, if one began with Avogadro's number of bottles of beer on the wall and counted down them all, and was momentarily amused to discover that it was of the order of the radius of the visible universe, 1.7 times ten to the tenth light years, one hundred ninety quadrillion years to count to six times ten to the twenty-third power. I wondered whether Mach's Principle required the existence of someplace like Nevada, to ensure the global validity of the translation invariance of the laws of physics. So was it flat and featureless enough, then? maybe it was like an
almost-periodic function. Yes, but what about Millie. Not flat, not featureless. What would Mach have said about that. The science of mechanics. Radical empiricism. Logical positivism. You know her daddy got some money you can tell by the way she walk. No, that wasn't Mach, that was Mose.

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Finally Stefano woke up. "I dreamt I was compelled to bid on the janitorial contract for the Augean stables," he said. "And won, alas." He wrinkled his nose, and cracked a window. "Are we there yet?"

I taught him "Sludge Brown Opel with a Palpitating One-PointNine," and we sang it:

Well my daddy told me son you know you won't get far (Won't get far, won't get far)
If you don't find yourself a working car
(Working car, working car)
So I popped my piggy bank and dumped my stash
And I scraped up five hundred cash
I did something rash
I bought my
Sludge brown Opel with a palpitating one-point-nine

Don't worry 'bout the brakes 'cause she ain't too fast (Ain't too fast, ain't too fast)
And she handles like a tugboat with her boxcar ass (Boxcar ass, boxcar ass)
You know how to shift her if you can find the floor [portentously]

And I got a liter for every door Who could ask for more?
That's my
Sludge brown Opel with a palpitating one-point-nine.
[bridge:]
She isn't quite the car for a trip to the Moon
But she'll do thirty-five and she's easy to tune
She'll take three quarts if you know what I mean [portentously]
The point gap is point oh eighteen
Stefano whistled one of those chickenshit eight-bar guitar breaks Glen Campbell used to play in the studio for the Beach Boys. I oom-pahed the bass.

Reno appeared on the horizon.

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Practicing phrases that may prove useful for the tourist: - Can you direct me to the Post Office? I need to light my farts. - Are you Swedish? your great blonde hair is why I ask. - I do not wish to eat the worm. - The ratio between the circumference of a circle and its diameter is a transcendental number whose binary expansion begins 11.0010010000111111011 and continues without repetition. - Where are your clean white women?
"Enunciate," Stefano advised.
"I think I like the brown ones better," I said.

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Dozing off in the Sierras, I dreamt of pneumatic figures in bubble helmets, wielding blasters.

I awoke on a freeway in fog, rush hour in Sacramento. By nightfall we were two more asshole tourists in San Francisco.

## 3. The Emerald City

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Duns Scotus lived in a townhouse, just like in the movies. "Wow," I said. "This is all right," Stefano said. We talked about real estate. "A hundred grand," he said, "and you can get one that's run down, and fix it up." "Oh yeah?" I said. "No shit," Stefano said. Scotus 'girlfriend came home after five. Her name was Morgana. "Hi," I said. "Hi," Stefano said. "Hi," she said. "Who farted?" We went to Sausalito, to a bar. "Studios here up on the hill are twenty-five hundred a month," he said. "Oh yeah?" I said. "No shit?" Stefano said. "But houseboats are two fifty," she said. "Who farted?" We rode around the town on trolley cars. "Nice view," Stefano said. "Wow, yeah," I said. "Look at the water." Scotus told us all about the water. We went to restaurants. We went to bars. We went to restaurants. We went to bars. We climbed up hills, and admired views. We climbed down hills, and went to bars. We talked about real estate. We went to bars. We stayed three days, and then we left. "Have a good trip," Scotus said. "No shit," Stefano said. "Buy cheap, sell dear," I said. "Come back," she said. "Who farted?"

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"Next time we do it right," he said. "Next time Tootie comes."

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The classical problem of translation.
Hieroglyphics, hieratic, demotic. All three were essentially phonetic, despite appearances. The false idea that they were instead semagrams,
pictures representing ideas. (Eisenstein's theory of montage - wrong again.) Athanasius Kircher's poetic "translation" of what turned out to be merely the name of the pharaoh Apries: "the benefits of the divine Osiris are to be procured by means of sacred ceremonies and of the chain of the Genii, in order that the benefits of the Nile may be obtained." The Rosetta Stone a stroke of luck. But still a formidable problem. Young associates hieroglyphs with sound values, a counterintuitive step. Champollion fixes his attention on cartouches, circled words which he suspects represent names of important personages: Alexandros, Rameses. The phonetic clues prove sufficient to establish the principle. A finite alphabet.

The decipherment of Linear B. Ninety distinct characters, implying a correspondence with phenomes. Most of the tablets seeming to represent inventories, accounting, making it relatively easy to guess the numeric representations. Kober identifies triplets, suggesting inflections. Syllables and bridging syllables. Combinations of consonants and vowels. Ventris extends this to vowel signs. Guessing that repeated configurations represent, again, proper names, here towns: Knossos, Amnisos. It looks like Greek. Chadwick fills in the rest, in part from his knowledge of archaic Greek, more importantly from his knowledge of the way in which the pronunciation of familiar words may be expected to evolve: not simply the values of the function, but its derivatives.

A useful indicator of whether you're on the wrong track provided by the number of nonsensical words in the text which you have to explain away by saying they're the names of hitherto unknown gods. Chadwick and Ventris only require the names of four gods, all of them previously known. Compare the number of free parameters in grand unified theories.

But if the language was not spoken? if you could not identify phonemes? if there were no consonants or vowels? if there were no proper names to serve as cribs? if you knew nothing of the way the
language would evolve? if there were no correspondence with any previously known language? Then everything would be the names of gods. The inversion of Nietzsche.

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"Weak-minded people beginning by thinking about the first letter of the alphabet would soon rush into madness!" said Rimbaud.

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At Moss Beach we stopped and walked barefoot to the ocean. It was windy, and the sea was gray and choppy, not entirely Pacific. The water was cold, my feet stung as they dried. I picked fragments of seashells from the sand, pink and violet shards. We sat down on a picnic table, with a bag of cookies in between us - utility-grade chocolate chip, the breakfast of champions; I crosslegged on the top, he with his legs hanging off the end. We drank coffee from a thermos, and talked about Berkeley.
"It's different I suppose," he said.
"Yes," I said. "Cleaner."
"Ah," he said.
"It's strange, because whenever I think of California, I always remember I went barefoot all year round. But never in Berkeley. You played hopscotch down the sidewalk there, through dogshit, refuse, broken glass. And your passage was contested -"
"I knew the mob," he said.
"A tatterdemalion swarm of puling mendicants."
"Their rags unglad. Hawking psychoactive wares."
"'Lids'." Affecting a dull monotone.
"'Acid'. 'Real speed man, no shit'."
"The worst street musicians in the world, playing in completely alien conceptions of tonality."
"Well." He laughed. "I saw this elsewhere."
"Not this bad." Off his look: "No, I'm serious. Like the howling of coyotes, only less melodious. - So it's strange, I suppose, that this was the one place that always felt like home."
"Well." He shrugged. "You could go back."
I said nothing.
"She left, did she not?"
"I left first."
"Ah," he said. "The choice of exile. The fall from grace."
"I bought a one-way ticket to Palookaville," I said.
"The climate is temperate, in Palookaville. The women are beautiful."

I laughed. "The sheep are nervous."
"They travel in packs."
"They wear whistles about their necks."
"They are escorted by dogs, who have studied your description."
"And there I languish, then."
"A poor wayfarer in the Bohemian Alps."
"A wandering knight in hipwaders."
"Adrift in the Ozone."
"Dickless in Gaza."
A pause. "Have a cookie," he suggested.
I had a cookie.

Staring at the graygreen ocean.
"Water is composed of hydrogen and oxygen," Scotus had explained. "The covalent molecular bonds between the single oxygen atom and each of the two hydrogen atoms have a length of . 97 Angstroms and form an angle of 104.5 degrees. The charge distribution of the molecule is highly polar, and liquid water is accordingly an unusual substance whose properties are largely governed by hydrogen bonding, a form of coupling intermediate in strength between and partaking of the nature of both the purely classical electrostatic interaction of dipole moments and the strong and inherently quantum-
mechanical covalent forces. The presence of liquid water is essential to all known forms of life."

Wittgenstein in his Notebooks, 30 May 1915: Die Worte sind wie die Haut auf einem tiefen Wasser. Words are like the film on deep water.

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"Lids', indeed," he said. "Alfalfa cut with rat poison, like as not."

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Staring out to sea. - Gamov's hypothesis about the Pacific, that it was the scar left by the formation of the Moon. - The presence, accordingly, of an absence. - Fantasizing the new planet rising up out of the ocean, moving away into space -

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"What's that?" I asked. Something dark and slick moving out on the water.
"A seal, perhaps."
"Nay, a tentacle of the Kraken."
"Look, there's another."
"A cephalopod. Undoubtedly."
"A tourist, no doubt."
"Invertebrates on holiday."
"Indeed. Picture him, poor working stiff..."
"...or notsostiff..."
"...returned from his daily labors, come home to put his tentacles up on the couch in front of the television..."
"...running some dental floss over his beak..."
"...Hi honey I'm home, he declares to his better half..."
"...the old ball and chain, ratchet and pawl, tentacle and sucker..."
"How was your day? she chirps brightly."
"Don't ask, he replies."
"Herewith descends upon the scene the Bohemian neighbor..."
"...clad unprepossessingly..."
"...his dorsal fins unfashionably long..."
"...a venture is proposed, to which he gives assent..."
"...announcing to the wife, I think I'll jet to the edge of the continent, get stupid, and vomit profusely into the atmosphere!"
"...to which she replies That's fine dear, I think I'll stay home and brood upon my destiny."
"And incidentally, she asks, wrinkling up whatever passes for a nose, Who spilt the ink?"

We looked at one another.
"Seals," he said. "Undoubtedly they're seals.
"All right," I said. "They're seals." Wondering how you played the saxophone with tentacles.

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I told him the story about the troll who'd asked Feynman how it could be possible for physics to be finished, for all the laws to be discovered; that Feynman had said it wasn't any different from the Earth, that at one time people had thought it would never be completely mapped, and yet it had been, it was finite, it was finished. - "But even if you know all the laws that doesn't mean it's over,' he said. 'If you know the Schrödinger equation, atomic and molecular physics are done, you know everything about chemistry. But could you predict frogs?'"

He puzzled over this. "Not green ones anyway."
I laughed.
"I suppose, then," he said, "that the problem must be this: you grant that you can predict Mars, or that you expect Mars, or that Mars at least does not surprise you; but then, do you expect frogs on Mars? Would they surprise you? And if so, why?"

Orange ball of dirt falling round the sun. No slime, is the problem; a layer of grease, just the slightest lubrication to ease its passage through the ether.
"Yes. And are they Marxist frogs?"
"Susceptible to dangerous foreign influence, Senator, and therefore deserving of our aid."'
"But look at this," I said, indicating the Pacific. "You take a tubful of amino acids, weak bouillon, you let it sit four billion years, and we emerge to sit here on the beach and talk about it. How is this possible?"
"One would think there ought at least to be some directions on the box," he conceded.
"It disturbs me," I said. "It happened, I know that it happened. But I still can't believe it."
"Oh," he said. "I don't know." Seeming distant for a moment. "Once you grant the genetic code, it can tax Nature little to come up with something with a wallet and a dick."

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An evening lecture in Berkeley, Manfred Eigen summarizing his results on molecular evolution. It went on so long that he called an intermission, upon which most of the audience, chemists for the most part and bored by revolutionary appeals to abstraction, left. - She'd asked me if I wanted to stay. - "Are you kidding?" I said. "Deriving the possibility of evolution from the principles of statistical mechanics? This guy is a fucking genius." - We stayed.
"A wallet and a dick and a sense of loss," I amended.
"That's why it needs a lawyer," he said.

A girl came toward us along the beach, walking with her dog. She had a baggy sweater on, and faded blue jeans. There was wet sand on the bottoms of her feet.

Stefano cleared his throat. "Ach," he muttered.
The dog saw us, and ran ahead. He was blonde, and bumptious, still a puppy in his behavior, some variation on the theme of the golden retriever. He got his front paws up on the seat of the table and grinned at us. We patted his head, and I gave him a cookie. I hung my tongue out and panted, to let him know that he was among friends.

The girl approached and called to him. He followed her as she walked past, but kept looking back at us. I realized my tongue was still hanging out, and put it back.
"Love at first sight," Stefano said.

## "Yes," I said.

Angelic. Long curly reddish-brown hair, like the Botticelli Simonetta. Thin, pale. Perhaps there was something puffy about the cheeks, as if she had been crying. I began to tell myself a story to explain it.
"Well," he said.
"Ah," I said. "Well."
I looked once more, back over my shoulder. The girl was standing by her truck, an old pine-green camper with Oregon plates, trying to get the dog to climb in. He was looking back at me. I fancied heartfelt sorrow in his eyes.

I wouldn't waste this longing gaze. I cast it after the dog.

What makes pointing work? Neurophysiology: the movement of the finger attracts attention to the object indicated. This is wired into the eye; it is low-level software, coded into the device drivers, as it were.

Since it's rooted in biological necessity it works for other species as well. Dogs understand pointing, in the same way that Champollion understood cartouches.

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Suppose you had established radio communication with - just call them that - the Martians. - What then?

You could imagine the scientific vocabulary being built up, the description of the chemical elements, the construction of common molecules, eventually - this would require illustrative movies, and there would be a problem establishing time scales, units of measurement, etc., but that didn't seem impossible - continuing into biochemistry, the structure of DNA, RNA, proteins, catalytic reactions, binding sites, the functioning of the molecular machinery ... after a lengthy derivation that no one yet knew how to complete, and after presupposing a myriad of conditions no one could as yet itemize - the presence of liquid water! how could that be universal, and yet how could proteins fold without it? - you might arrive at a description of the human organism. But this derivation from first principles would beggar the Principia Mathematica, it would be an encyclopedia of hundreds or thousands of volumes. As an act of faith you supposed it to be finite, but you knew of no way to put an upper bound on its size.

And at that point, not before, you might be able to transmit movies that expressed the phenomenology of the human world: dynamic scenes of people walking about, shooting baskets, driving their cars and singing along with their radios, sniffing flowers, writing sonnets, engaging (so legend had it) in sexual intercourse; giving birth, growing from infancy to adulthood and undergoing an accelerated senescence that turned them into wage slaves who returned from work every evening to slump upon the couch and watch television sitcoms.

For creatures inhabiting physical environments similar to our own, in the same range of temperatures, with the same chemical constituents running the same reactions, all this might make sense. But for others - ? - this was just the problem; you had no idea what the others might be like. What was the range of possibilities for living creatures? for intelligence? No one could say. - It was precisely this that made planetary exploration so critical: there could be no way to define life, to express the manifold of its possibilities, without having other examples to study. Exotic deviations from the terrestrial norm might be possible, but the only way to conceive of them would be to start with slight variations: perhaps there were bacteria on Mars, perhaps they also stored genetic information in nucleic acids - though: how could any of the known machinery function without liquid water? perhaps there were dlight deviations from what one would have expected; and so on; and so on. - This was complicated by the hypothesis of panspermia: perhaps any life to be found in the solar system had a common origin, or had started on one planet and then contaminated the others by the exchange of meteoric debris - though didn't it make more sense for it all to have originated on comets? but if there was evidence to examine it would be possible, gradually, to identify the vectors of influence, draw the arrows in a vast directed graph. - And then, and only then, might you be able to see how the graph could be extended.

What were the limits of possibility? Could life be found in the atmosphere of Jupiter? on the surface of the sun? in vacuum fluctuations in the cold of interstellar space? You could not say, because you could not say what life was. - That was the fundamental problem: the definition of life.

And without knowing those limits you had no idea on what scale or according to what clock or in what physical regime other life, and therefore other intelligent life, might exist. Granting the hypothesis that they might communicate using the electromagnetic spectrum (and not, say, with gravity waves transmitted from one black hole to another), that still left a potentially-infinite range of possibilities: they might employ frequencies much lower or higher than the ones you thought were natural, gamma rays for all one knew; indeed since the capacity of a communication channel grew with frequency that seemed more likely. It made a certain sense if you assumed a fixed order of technological evolution that a planet (though: planets? why should life presuppose planets? that was yet to be established) harboring intelligent life might pass through a stage where it radiated communication noise into the space surrounding it, episodes of "The Honeymooners" should already be dimly visible twenty-odd light years away. But the range of frequencies employed, and the employment of broadcast and not beamed transmissions, were characteristic, perhaps, only of the brief era here represented by the twentieth century. - What might come after that no one could guess: it sufficed to point to the example of Gauss, who in the early nineteenth century proposed, half-seriously, that a diagram illustrating the proof of the Pythagorean theorem might be cut out of the Siberian forests on a scale large enough that astronomers on Mars could see it. - Here was one of the smartest guys who ever lived, and he had no intimation of the invention of radio, or spectroscopy, which would permit the analysis of the atmospheres of the other planets in the solar system, or big rockets, or interplanetary probes; the Viking lander would have seemed like black magic to him.....
.... or - well - no: you could explain most of it to him in a few minutes, so prodigious was his intelligence he would have grasped a lot of it at once; the discussion, in fact, would have bogged down only when you attempted to explain how Maxwell's equations permitted radiative solutions, which Hertz had shown to have practical application; Gauss had sweat blood over the problem of electromagnetism, and had tried, as did everyone before Faraday's magical intuition had produced the concept of the field, to reduce it all to a force law between moving charges. It would have been difficult to explain why though this was (see the Feynman lectures) possible, it wasn't the best way to look at the phenomena....
......and there was another problem. You had no guarantee that there were not other ways of doing physics. That two different physical theories might not describe the same phenomena in equivalent fashion, or - the real situation, an even worse case - in a fashion not at all equivalent, but indistinguishable within the limits of a sort of generalized experimental error, not simply the slop attending measurement but the ambiguities of interpretation: you performed experiments, to be sure, but then you imposed an interpretation upon them, said what they meant. Experiments were questions phrased within a language, one with a semantic apparatus that was largely invisible. And what said another system of interpretation, another semantic apparatus, could not be imposed? - Nothing guaranteed this was impossible, in fact everything in the history of science seemed to suggest it.

What you could imagine was a long and difficult dialogue with an alien intelligence with whom you had incomplete agreement on the nature of the physical world. If yours was theory S, and theirs was theory T - presumably with some overlap - the question would be whether you could find a common refinement $U$ to which both were approximations; a sort of lattice join property. - And then, of course, you would make the natural conjecture that all partial theories were
approximations to an ideal limit, the ultimate theory; the truth of the world.

But all this relied on metaphysical assumptions about the inherent complexity of the world which were obviously unverifiable. You could only proceed in the blind faith that the world had a bottom, and that it lay at finite depth. - Even so there was the dismaying realization that the abstract construction that corresponded to this $U$ formed from $S$ and $T$ was the categorical product, which suggested that the complexities of the native and the alien theories would be multiplied in their reduction to a common antecedent. Did this not imply that an understanding of the reduction would lie beyond the capacities of either party? If not completely a counsel of despair, still this sent you straight to the bottle.

We discussed a scheme for painting a diagram demonstrating the Pythagorean theorem on the face of the Third Flatiron above Boulder, with the hope of discovering whether there was intelligent life in Longmont.
"Unlikely," he said. "But think of the consequences if it were true."

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Quine imagines the misadventures of an anthropologist, some talented adventurer, Richard Burton in Africa, say, trying to learn the language of a newly-discovered tribe of aborigines and translate their utterances into English. He has no difficulty convincing himself that concepts need not be congruent: where Burton may think he is learning the noun for "rabbit," the native may be teaching him the word for "rabbitfusion" or (Borges) "it rabbits." This is just the problem of any scientific hypothesis: the contents of the black box are
underdetermined by behavior, as the theory is underdetermined by the evidence.

Since Quine steers as close to nominalism as he can manage, and refuses to admit the black box even has internal states, let alone that there can be some way to describe them, his conclusions are skeptical. But, paradoxically, for just that reason he is not skeptical enough: in the end he gives up, waves his hands, appeals to linguistic intuition, and claims that even if translation fails the anthropologist can still learn to speak the language by "going native". - Thus Burton, the master of thirty languages, always said the best way to learn a new one was in a brothel. - His colleagues did not realize the compliment they paid him by calling him "the white nigger".

But why would Quine think that was possible? that even if you couldn't find equivalents for native utterances and compile a dictionary and a grammar (in English) that you'd be able to learn and understand it anyway? inhabit it from the inside?

Because Quine will only allow himself to believe in observable behavior. He will not allow himself to believe that behavior can have causes, or that the use of language can have any deeper explanation than itself. So there can't be any explanation for how language is learned either. At this juncture all he can say is, shit happens. Burton goes native. We can't talk about what that entails, because we'd have to do that in English, too. And guess what.

In practice the problem of learning is the problem of induction: meaning is guessed, and the result of the process is - actually indeterminate, ambiguous. There is much room for individual variation. In that sense you cannot even translate what one person is saying into the language of another. (Thus every drunken argument since the discovery of fermentation.)

At any rate you cannot discuss this if you refuse to admit that meanings exist. They are ambiguous, certainly, and trickier to define for that reason. But words do not point directly to things.

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Wittgenstein says more or less the same thing, albeit more cryptically: languages are composed of disparate games, distinct and irreducible to one another, and you can only learn them by making use of a prelinguistic framework of convention and presupposition - at some point talking accomplishes nothing, things must be demonstrated by example. (And here he always turns into the nun who raps you on the knuckles with a ruler when you make a mistake.) - This is what "what shows itself but cannot be said" becomes in the Investigations: agreement in form of life. The fact that you are able to go native. The fact that, for instance, you understand pointing.

In attempting to communicate with the truly alien, even the simplest devices might not work. Like the arrangement of symbols on one side of the page to correspond with their denotations on the other.

But this isn't Wittgenstein's canonical example. His canonical example is continuing a sequence: how do you know how to do that? And this is the real motherfucker, since it throws into question even the possibility of translating mathematics.

How does that happen? How is it you know when you are prompted with "I, $2,3, \ldots$ " that you continue " $4,5,6, \ldots$ "? That what follows " 1 , $4,9, \ldots$ " is " $16,25,35, \ldots$ "? That " $1,2,4,8 \ldots$ " goes on " $16,32,64$, 128, ..."? - How can the ellipsis be essential to informal mathematical notation? as certainly it is.

You can see that the ability to perceive these patterns is fundamental, since it appears, e.g., in intelligence tests. But how does this work? How does it happen that you look at the first few terms of a sequence,
and you get it?
Because this is a familiar thought-experiment: we get on the radio with the Martians, we send simple signals back and forth in some functional equivalent of Morse Code, and then after, say, explaining the conventions of decimal arithmetic, send the first few digits of pi: 3.14159... . And then they reply: ... $26535897932384 \ldots .$. . The lights flash on the slot machine! Jackpot! ${ }^{2}$

In fact Martin Gardner had suggested that an encyclopedia of sequences would be an invaluable crib for establishing communication with aliens. Perhaps they would prompt us with something more esoteric, something like the factorial of the factorial: they would send $1,1,2,720 \ldots$ and we would be expected to respond 620448401733239439360000 . There are such compendia, ${ }^{3}$ and they take the form of associating the first few terms of a numerical sequence with a number-theoretic function.

The true alien would be baffled by these conventions, and unable to understand anything: to translate into its language, to make sense of our mathematics, even count, perhaps.

Here Wittgenstein's notebooks descend into confusion. He has no way to express this clearly - has forbidden himself the development of speculative but more rigorous methods - and thus like Quine has to wave his hands and appeal to anthropological intuition: could you imagine this? well, no, but - why should you not ... ? - Which is pretty thin gruel, as argument goes, and that is why the Remarks on the Foundations of Mathematics though fascinating and radical are simultaneously weak and unconvincing.

[^1]But what is the key? to allow yourself to talk about more than behavior, of course. To allow a description of internal states.

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Though it is even more direct to skip over the description of the machine ${ }^{4}$ and ask directly what it is computing. And so the correct way to look at this is as an inverse problem - the inverse problem as it were for the lambda calculus: you are given the first few terms of a sequence, and you are required to produce the function that computes them; then, and only then, can you continue the sequence as intended. - That is what constitutes "getting it". - In one direction the problem is trivial and deductive: given the function, you can compute its values on the natural numbers. - But in the other (the adjoint) direction it is inductive and ambiguous. There are an infinite number of recursive number-theoretic functions that satisfy $f(1)=1, f(2)=2$, $f(3)=3$; the implicit question seems to be, what is the simplest? And the answer to that, we apparently agree, is $f(n)=n$.

But why? Why do we agree on that? Again it is hard to do anything but wave our hands and say: this is agreement in form of life.

Though you can improve on Wittgenstein a little. There would have to be a formal criterion for simplicity, some computable function of functions which can order them according to a measure of complexity. This reduces the problem to trying to decide whether there is one unique (and thus "objective") measure of simplicity. And though the answer to that is clearly negative, at least you know what the problem is and have stated it explicitly. - So: must the Martians have the same measure for simplicity (up to order-equivalence) that we do? - The question is difficult to answer...

[^2]What you believe by instinct is that objective reality conditions the selection of a simplicity measure sufficiently that they must all for the most part agree. That evolution will eliminate baroque valuations, because of the survival of the fittest.

What you see in biology, however, suggests that the same set of objective conditions can produce a myriad of possible responses how many species are there? how many ways for an individual organism to adjust to its environment? (The "real world"?) — Why should there not be as many ways to attune an intelligence to the world that surrounds it? - Thus you have to suspect that an alien intelligence would have an irreducible strangeness about it that could preclude any more than the most primitive forms of communication. - That they might not, for instance, have an atomic physics based on the Schrödinger equation any more than they would have a music based upon the diatonic scale.

But if they did not this wouldn't mean that there couldn't be a synthesis of the two views of physics, theirs and ours. That there might not be some equivalent to the topological idea of a covering space, a common reduction. And above all of them the limit, the universal covering space.

Again, however, whether this exists is a nontrivial - metaphysical fact about the world. It would be something like Church's thesis, a metaphysical hypothesis which could not be confirmed, but at best not falsified.
"Amongst some races," noted Burton in his translation of the Ananga Ranga, with particular reference to the coolskinned women of the Galla tribe, "the constrictor vaginae muscles are abnormally developed. In Abyssinia, for instance, a woman can so exert them as to cause pain
to a man, and, when sitting upon his thighs, she can induce the orgasm without moving any other part of her person. Such an artist is called by the Arabs, 'Kabbazah', literally meaning 'a holder', and it is not surprising that the slave dealers pay large sums for her. All women have more or less the power, but they wholly neglect it; indeed there are many races in Europe which have never even heard of it."

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Phrase it another way.
There was a sleight-of-hand that used to be employed, e.g. in the Flash Gordon serials, where a bold party of adventurers would land on another planet and it would magically turn out that everyone spoke English. No attempt was ever made to explain this, but really no explanation was necessary, since like many dumb ideas this simply cut to the chase, reductio ad absurdum, what was left when you wiped the lipstick off the pig. - Why pretend that they speak English? because you are going to pretend that communication is possible, and "They speak English" is a convenient shorthand for "We can talk to them." - Superficially more sophisticated variations like E.E. Smith's marvelous mechanical educator, which could engrave linguistic competence directly on the brain, or the universal translator fabled in song and story, ${ }^{5}$ or telepathy, or the current favorite, "they learned by listening to our radio broadcasts" - as we presumably shall be able to learn by listening to theirs - are simply elaborations of the same fallacy.

Because what (for instance) was supposed to make telepathy possible? - The direct exchange of mental images, exact and unambiguous as no verbal representation could be.. - But these "mental images"

[^3]would have to be the same in every mind, human or alien. - And what guarantees that? - Nothing.
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As a general rule, when searching for the clearest statement of a mistake, the first place to look is in Aristotle:

Now spoken sounds are symbols of affection in the soul, and written marks symbols of spoken sounds. And just as written marks are not the same for all men, neither are spoken sounds. But what they are in the first place signs of - affections of the soul - are the same for all; and what these affections are likenesses of - actual things - are also the same. ${ }^{6}$

The picture here is of a fixed order of things mirrored precisely in a fixed order of ideas. Confusion lies only in between. The soul is a kind of reflective instrument - strictly speaking an analyzing mirror, one that reflects essences.

In consequence the natural evolution of languages would be toward the perfect representation of thought. The end result would be - well, Aristotle of course thought it was Greek - but now you would suppose something like the completion of the project of Whitehead and Russell, a Principia into which everything had been translated, one providing the complete analysis of every fact. This would be the universal manual of translation. It would exhibit the real language of thought, the logical form underlying all human languages, indeed of any possible language, and thus would mirror exactly the absolute

[^4]essential structure of thought, provide a map of the mind - of any possible mind.
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What looks strange about that? the teleological picture of evolution, the idea that it must aim toward some unique end. Because this is the exact inversion of the real situation. Evolution isn't like a tree whose branches all converge upon some unique solution. It's the opposite of that, a tree whose possibilities branch out from an initial seed. - Root to branch, and not the other way around.

And the same must hold for what language mirrors, the structure of reality.

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Think of it as an evolutionary tree - the Tree of Life - extending from its beginnings to the present myriad of species and extending into the future. - On one branch, at one stage, we find ourselves able to send and receive radio messages. - With whom are we going to be able to communicate, in the universe of possibility this represents?Basically with creatures at the same stage of evolution, on the same branch of a similar Tree. - And how likely is it, sampling all the possible evolutions as they are instantiated on all existing worlds bear in mind that, countless trillions or no, even the set of all such Trees is a very sparse random sample of the (exponential) space of possibility, and the window of opportunity on the branch is maybe a century out of a billion years - that we will find others within these very narrow bounds? - Not too fucking likely.

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At Santa Cruz we detoured through the campus. "You'd never learn to hustle pool at this school," he said.

He asked how it was going with the Dark Lady.
"First I stared at her," I said. "That pissed her off."
"Ah," he said.
"Then I figured out she was Italian, and tried leaving Petrarchan sonnets in her mailbox. So she started staring at me. That pissed me off."
"Ah," he said.
"Then we tried staring at each another at the same time while simultaneously trying to act cool remote and mysterious. That pissed us both off."
"Ah," he said.
"Now we just ignore one another. That works great."
"Ah," he said. "Another relationship that has a future, so long as it doesn't have a present or a past."

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It seemed ironic that I could not even understand the language of the people I found myself exiled among: their system of communication, their form of life. She embodied that. How often had I wondered whether there was something I could say, some magic line I could utter that would make us known to one another. That would pick the lock to her heart. Once upon a time and a very good time it was there was a moocow coming down along the road. Sing, Muse, of the anger
of the son of Peleus. We wish to propose a structure for the salt of deoxyribose nucleic acid; this structure has novel features which are of considerable biological interest.

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At Monterey we stopped to walk up and down the pier and mail postcards.

I sent one with a picture of the beach to Gonzago, and wrote:
On days like today I while the hours away
Writing love letters
To my hand.
I sent one with a picture of an octopus to Millie. I quoted Wittgenstein's letter to Engelmann of January, 1921: "I am one of those cases which perhaps are not all that rare today: I had a task, did not do it, and now the failure is wrecking my life. I ought to have done something positive with my life, to have become a star in the sky. Instead of which I remained stuck on earth, and now I am gradually fading out. My life really has become meaningless and so it consists only of futile episodes. The people around me do not notice this and would not understand."

I mailed one with a picture of Cannery Row to the Count. "How many Polacks does it take to prove the Banach-Tarski theorem?" I asked.

On the way down to Big Sur he floored it, and we talked about the nonintegrability of proper time.
"So," he said. "You can't get there from here."
"No," I said. "It's strange, really, it was a matter of religious faith with me, when I was a child, that you could build a ship that could fly to the stars. But probably you can't."
"Abandoned in a godless world," he said.
He thought about it down a hill and around a curve.
"But you just assume that, right? That you can't exceed the speed of light."
"Yes," I said. "The constancy of the speed of light implies the form of the Lorentz transformations."
"Pardon me if I seem naive," he said. "But isn't this circular?"
"Yes. But most things are, aren't they? It's like the conservation of energy. You can't build a perpetual motion machine because you assume you can't. The point is that this is the keystone of the arch, the assumption that allows you to make sense of everything else. The Lorentz transformations have implications everywhere in physics, and they are confirmed everywhere in physics."
"But," he said, "there is this tachyon business."

> "Bullshit," I said.
"Why?"
"Because in relativity going faster than light is the same as going backward in time. If you can do that you can shoot your grandfather."
"Your grandmother may applaud this."

I laughed. "Maybe, maybe not. But you negate your own existence. Time travel creates logical paradoxes. You become the Cretan liar, saying 'I do not exist.'"
"And if you take the shortcut through the black hole?"
"I don't know. Nobody knows about that. The problem is that the shortcut, if it leads back to this universe at all, might as easily take you backward as forward in time. And then you have the same problem, the causal loop."
"Ah."
"Just imagine," I said, "that this is it, all right? Here we are on the Coast Highway, and when we get to the end of it we're in Pasadena in 1969."
"No," he said.
"We could pick ourselves up hitchhiking, and persuade ourselves not to go to Minnesota."

He sighed mightily, and passed the back of his hand over his brow.
"No," he said firmly. "I like the rocket ship better, thank you very much. So why can't you just go slower than the speed of light?"

I shrugged. "You can. That's the curiosity, you know, that to you it makes no difference. You can climb into your rocket, put the pedal to the metal, accelerate at one gravity all the way, and find yourself in Andromeda in twenty eight years on your clock. Of course this requires so much energy that you have to annihilate a planet, but in principle you can do it. But when you get back, four million years have passed in the rest frame of the Earth. It spoils the space opera."
"Aha," he said. "The girl you left behind you is as old as Australopithecus. I see the problem. - But you can get there from here."
"Yes."
"Ah," he said. "I see. You can't get here from here." He frowned. "This explains much."

I explained to him that my biological clocks were set on something longer than the terrestrial day, that it was impossible for me simply to go to sleep and get up in the morning, that I was always staggering from shift to shift, damaged, unable to regulate my life. That I often called in sick in consequence, and exercised my ingenuity in coming up with new excuses.
"St. Vitus' dance," I said. "St. Elmo's fire. Once I called in drunk at five in the morning and told them I was suffering from cobordism and might require manifold surgery. I referred them to Doctor Milnor at the Institute for Advanced Study."

He was scandalized. "How can you do that, man? I never do that." "You did in high school," I said.
"This isn't high school."
"Of course it is," I said. "Everything is high school."
"But they pay you," he said.
"They pay me exactly what is consonant with my social position," I said. "Which is that of a pariah. Just like high school."

We debated whether a job interview differed significantly from an attempt to get a date for the Prom, with inconclusive results. I thought he seemed naive in this regard. But then again he hadn't always struck out.

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Yet stay, let me not rashly call into doubt
Divine Prediction; what if all foretold
Had been fulfill'd but through mine own default, Whom have I to complain of but myself?

- Well. - Let me get back to you on that one.

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Reflecting on the existential terror that so often seized me walking through the deserted plaza to the Chemistry building at five a.m. Whistling past the graveyard: invariably it was "Boys" or "Help Me Rhonda". - The sense of being cast into the void, that I was stranded on a rock in interstellar space, lost, abandoned, flung into the maw of the Nothing - marooned in the vacuum, teetering on the brink of the Abyss - that every direction was down -

Wittgenstein said that he judged the quality of a man's work by how much it had cost him. - By that measure this work might not be so unimportant after all.

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## Tinker, tailor, soldier, sailor

We passed a lighthouse, out on the rocks amid the surf.
"There is a job," he said. "Lighthouse keeper."
"Einstein always said that was the ideal gig for a theoretician," I agreed.
"But on a mountaintop?"

[^5]"Thief of fire."
"Pirate of Venus."
"Warlord of Mars."
"Surely there's something more appropriate for the aspiring novelist. - Night clerk at the Chelsea Hotel?"
"I fancy myself more as a hack writer of metaphysical treatises," I said, "but that does sound promising. - Waitress at the doughnut shop? That doesn't work, I guess."
"I think you have to be the guy who's hitting on her."
"Unsuccessfully, no doubt. - Hunger artist."
"Circus clown."
"I already work in the circus," I said, "sweeping up after the elephants. - Have I told you about the filthiest toilet I ever saw?"
"No," he said, "nor will you. - Public enemy."
"Private dick."
"Philip Marlowe or Sam Spade?"
"Maybe Sam Spade's bartender, as I think on it."
"Mike Hammer's probably makes more money."
"True," I conceded. - "Pimpmobilist."
"Not pimp per se?"
"The occupation itself isn't all that attractive," I said. "I think you mainly want the coat and the car."
"Good point," he said. "Sculptor of nude models."
"Not painter?"
"Sculpture takes longer. - Wandering minstrel."
"Itinerant theoretician."
"Guitarist in the burlesque backup band."
"Piano player in a whorehouse."
"Catcher in the Rye."
"Singer in the rain."
"Texas Ranger."
"Mexican bandit."
"Butch Cassidy, holding up a train."
"Huckleberry Finn, going down the river."
He liked that one, and thought about it for a minute. "And when the river ends?"
"The river never ends," I said.

Wittgenstein, ensconced above his fjord. Boethius, confined within his cell. Dog, in pursuit of a frisbee. Rat, in the maze of the Cosmic Behaviorist.

Attorney, tending to the bar. Probably a lot of bars, as I thought upon it.

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## Control otructures

I told him I had the feeling about my job that I had learned it, that I had mastered everything about it, that something therefore should come next. That it should be like passing all the tests, once they were done you graduated and went on to something else.
"You still don't get it," he said.
"Get what?"
"What it means to have a job."
"You go to work. You learn how to do something. You do it," I said. "What else is there?"
"You do it again."
"Again?" I asked. Incredulous.
"Again," he said. With dire emphasis.
"Again," I said. With sinking heart as I began to get it.
"Again," he said. "You do it again. And again and again and again and again and again and again and again. You do it again."
"Again," I said.
"Again," he said. "You do it again."

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We came down a hill and rapidly around a blind curve and surprised a red-haired girl crossing the road. He hit the brakes. She escaped.
"You know," he said, "this may not be the finest commentary upon my state of mind, but if we'd hit that chick, my last thought before the crash would have been that she had nice boobs."

## And the poet, drunk, stormed at the universe

We camped out that night at San Simeon, the only tent in a lot full of Winnebagos whose occupants all seemed to be watching television and playing bridge. He tried calling Tootie, but she wasn't home. So we took a bottle of whiskey down to the deserted beach and spent the evening getting very drunk, arguing about the nature of Rock and Roll, pissing into the ocean, and shouting dumb jokes about pussy in the general direction of Singapore.

I sang "Little Surfer Girl" in an inebriated monotone:
I have watched you on the shore
Standing by the ocean's roar
Do you love me, do you
Surfer girl.
"No," he said, "she doesn't. She thinks you're weird."

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The next morning I called Richard from a pay phone. I hadn't spoken to him for three years, and was commencing an elliptical attempt to reintroduce myself when he recognized my voice and made an exclamation.
"Guilty as charged," I said.
"Where are you?" he asked.
"Cruising the Coast Highway," I said. "Probably going to San Diego and then looking for a place to crash when we get back to L.A."
"You can stay at my mother's place," he said. "So what's new?"
"I'm sure I have a question for you, but I'm not sure what it is," I said.
"Really?" he said. "Because I have one for you."
"What?" I asked.

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Off the coast at Santa Barbara we saw the Martians' engines standing in the bay: giant harbingers of Invasion, their metal legs running down to the sea floor. - You cannot stand before them. O homo fuge.

## The bus station

"Okay," he said. He looked at his watch. "I make it about noon." Mickey had both hands above his head. "So do I," I said.
"All right," he said. "I'll meet you here in twenty-four hours."
"Agreed," I said. I grabbed my pack out of the back and opened the door.
"Watch out for flying monkeys," he said.
I laughed.

## 4. The Castle of the Wicked Witch

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I forgot it earlier, but at some point somebody was singing this song in a barnyard. Maybe it ought to go here:

Somewhere<br>Under the weather<br>Way down low<br>There's a<br>Cave I can crawl to<br>From which I need not go

Somewhere
Under the weather
Teeth may grind
Eyes close
Under the weather
And leave all that behind.

Someday I'll chug a quart of gin
And wake up with the planets in
Alignment
Each thought back in its proper place
And everything with time and space
To find
Refinement

Somewhere
Under the weather
Mudworms crawl
Things slide
Under the weather
I'll get there after all

Stefano told me later that he went down the coast to San Diego, and visited the Zoo. He said what struck him as he wandered through the captive menagerie, the giant snakes, the feral cats, the hornéd rhinos, the creatures with hooves and tails and trunks and stripes and spots and absurdly elongated necks, the colorful birds with rainbow tails and bills bigger than their bodies - things that writhe, and flutter, and flop, and sweat - the sizes, the shapes, the colors, the sounds, the odors, the overwhelming evidence of the fecundity of Nature - was the sheer randomness of it all: all he could think was that the mother goddess had tried everything, and what was really baffling was how much of it had worked.

He gravitated finally to the orangutangs, and spent the better part of the afternoon watching them. They performed for the public on an elevated stage, like the set of a sitcom. He said it was like a protracted episode of "The Honeymooners". One in particular reminded him of Jackie Gleason.

After that he ate dinner at Denny's, and spent the night in a motel, studying the ads for outcall massage in the tourist guides. "I nearly went for it," he confessed, "but was dissuaded by the realization that I'd have no explanation for the charge to 'Pussy Power' on the Mastercard bill at the end of the month."

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I had once tried to explain it to her:
"The time the two of us hitched to Minnesota to see you, we finished the trip on the bus. We arrived in Northfield at the station and of course neither one of us had ever been there before, it was just a bus stop in the Midwest like any other, we had no idea where we were or
where to go. We got out of the bus and there were a lot of people on it, most of them obviously students. They all got off and started walking one way. So Stefano and I looked at one another, shrugged, and went the other."

She thought that was funny. "So that was your reasoning then? If everyone was going one way, you automatically had to go the other? Even if they knew what they were doing and you didn't?"
"Of course. We lugged all our shit, packs and guitars, a mile in the wrong direction before we gave up. We were all the way out of town and following the railroad tracks to Canada. - But that's what happened, you see. It was like the magnetic poles flipping over. And then he started going the same way as everyone else."
"And you didn't," she said.
"I can't," I said. "But even that isn't the point. The point is that neither one of us could follow the other, either. We had to take our own paths. And they had to diverge."
"Of course they did," she said. "You couldn't both have me."
"Yes, well," I said. "There was also that."

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"Not how one soul comes close to another but how it moves away shows me their kinship," says Nietzsche. - Who is Hope without Crosby? (A question that might occur to Dorothy Lamour.)

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What is "language"?

## What is being "translated"?

Even the simplest case, the symbolic representation of a sequence of events - what I have here at least sporadically been pretending to do - presupposes a semantic mapping: a correspondence between strings of tokens and elements of reality.

For mathematical theories Tarski explained this with the theory of models: to the theory of partial order, for instance - a set of sentences in a formal language, the logical consequences of the axioms of order - one assigned a set, a universe U , and to the fundamental relation symbol $\leq$ a subset of the product $\mathrm{U} \times \mathrm{U}$ - an actual relation - which, to satisfy the axioms, had to be reflexive, symmetric, and transitive; this constituted a model of the theory, and it was obvious in this case, as it was in general, that there were an infinite number of possibilities. Only in very special cases (another meaning of "categorical") did the axioms determine a model uniquely. (Or, at least, up to isomorphism.) - Here the semantic mapping was well-defined, at least, if drastically underdetermined. - But for more general languages? And other ontologies? - How many concepts of "representation" might be possible? In quantum mechanics, for example, the state of a system could be expressed in terms of the eigenstates of any complete set of commuting observables, and the intrinsic geometry of the theory was what was preserved by unitary transformations; "representation" in that case was essentially arbitrary. - And we have not yet begun to obfuscate! other possibilities immediately come to mind ....

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Suppose a sequence of events, and a symbolic representation which may be expressed either in sound or in a corresponding written form. - This could just as easily be music. And what is the semantic mapping there? no one knows, though everyone agrees that there is one, that it somehow mirrors the structure of human experience, and a
great many people, Nietzsche for example, have maintained that what it represents is more significant than anything conveyed by ordinary language. - Even "programmatic" music, which attempts to describe events in the same way that one might tell a story, is nothing like a record written out in words. - Dolphins may not talk, but they certainly sing, and what they are singing must bear some relationship to their environment; still, that relationship need not be any more direct than the relationship of Beethoven's Sixth Symphony to a day in the country.

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I say this, Stefano says that - a correspondence is supposed to exist between the string of symbols I produce and a sequence of events in the history of the physical world. At some level of description far above the lowest and most granular - for degree of verisimilitude invert the ladder - at some stage in the progression from states of quantized fields to particles, atoms, molecules, amino acids, closed cycles of catalytic reactions, cells, organs, organisms - some process had transpired in a mass of billions of neurons, precipitating a chain of events that culminated in the uttering of noises accompanied by gestures and expressions - and then, etc., etc.

And what keeps track of all of this? Where is it all written down? If a tree falls in the forest and a cubic mile of recording equipment is not present to document microscopically every aspect of the process - if the Library of Babel is not at hand to store the volumes comprising the documentation - does it make precisely this crashing sound?

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The vision out of anima mundi, what can be seen in the magic mirror. - Berkeley's God, the universal observer. - The idea of the objective. - "God sees, but we don't know," says Wittgenstein, with reference to the application of the principle of excluded middle to the
reality of thoughts. - There is a connection here with the problem of classical versus intuitionistic logic. - The absolute record of events, set down in the ideal language.

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Johnny Cocktail had explained the magic mirror.
He told me that though this was sometimes called "television", it antedated the invention of the modern electronic opiate and had a different logic.

He explained the magic mirror had appeared in essentially the same form in the Vera Historia of Lucian of Samosata, in a letter purportedly written by Prester John to the Byzantine Emperor in 1165, in the Canterbury Tales [1400], the Faerie Queene [1596], the early scenarios of Fritz Lang, the science fiction serials of the Thirties viz. The Lost City [1934] and The Phantom Empire [1935], and (quoting Lucian almost exactly) in Abbott and Costello Go To Mars [1953].

The mirror of the wicked queen in Snow White was a variation, somewhat more like an oracle - a dangerous one, of course, in which one might only see what one wanted to. Tolkien's palantiri were more like walkie-talkies. "Or lookie-lookies," he suggested.

What appeared in the mirror were not transmissions or communications but visions, things as they would be seen by the Omniscient Chronicler.

Sometimes these also allowed you to see into the past, to access the global memory of the world. Like the Mummy's Pool [1932], in which Karloff could show his reincarnated princess and wouldbe love slave their backstory.
(Thus the Steppenwolf is dismissive of the new phenomenon of radio: in fact nothing is lost, he says, vibrations permeate everything, and when we know how, we will be able to see and hear everything that has ever occurred, should we so desire.)

I remarked then that simultaneity would be more of a problem than seeing into the past light cone. And said that really you'd never bother turning it on the contemporary Earth, if you had it. It would be like the time machine: you'd look at the dinosaurs, the Cambrian explosion, at the origins of life, and then go back to the origin of the universe. The feeling that it would have to work this way.

That television as we have it thus is a sort of ironic realization of this magic mirror: we get to see dumbed-down narrative representations of the past; the Hollywood versions. You may get to see dinosaurs, but they're chasing Raquel Welch.

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Picture the Cartesian Ego as inhabiting the cave of the skull, tuning in the external world on a screen, as Carnap described it in his Logische Aufbau. - All right, then. - Suppose the Martians are watching another channel?

Plato had presented it as a simple morality-play: the light of truth without, the shadows cast upon the wall within. But what if what lay without was just another cave, illuminated from another cave above it? If these were only derivative shadows? How intricate could be the system of the caves? How long and varied the path that led the light of truth through one cave after another until it appeared projected on the wall? And what devious relationship would the shadows cast in one cave in the labyrinth have to the shadows cast in another?

So there is the problem of translation: simply wondering whether what we see on our television sets (a reflection of reality, the shadow-play only) can make sense to a different audience.

Not so much the system of control, of repression (though that makes a good story, see Prometheus Unbound) ${ }^{7}$ but the necessity of simplifying, indeed oversimplifying, simply to adjust reality to the needs of our limited capacities for apprehension.

The sensory apparatus as a sort of television set tuned to the external world, which brings us pictures of reality; the pictures are constructs, programmed by our sensory apparatus. What the rules of the programming are. To what extent they're dictated, as it were, by the Nielsens. To what extent we don't get fresh programming but reruns. Interrupted frequently by commercial breaks.

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"Brought to you by the Demiurge."

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He enters the campus from the south, and proceeds directly to the library, where he takes the elevator to a middle floor and finds a quiet corner where he can read the afternoon away. As evening approaches he descends and takes the Olive Walk east toward the Student Houses. Throop Hall, the site of many midnight climbs, is gone, victim of the earthquake of 1971; he pauses in the garden which has replaced it, and heaves a sigh of reminiscence. (And wonders, once again, what has become of Higgins, his companion in those escapades.) Pausing just before he reaches Fleming he ducks into the last building on the right, Firestone, and - figuring this minimizes his visibility -

[^6]ascends a few flights of stairs rather than taking the elevator; on the top floor he waits a moment to make sure the halls are empty and then picks the lock on the door of a utility closet; the ladder within leads to the roof. He re-emerges into waning sunlight, takes another ladder, and arrives finally atop the elevator room. Here upon the summit of the building, ten or fifteen feet square, he finds, as he expected, a mattress; to his amusement a litter of roaches surrounds it. "Plus ça change," he mutters. He seats himself crosslegged, addresses the west, and lights a Camel to await the sunset.

When dusk falls he descends again and enters the Fleming House courtyard. It is the dinner hour, and no one is about; he hears noise emanating from the dining hall. Selecting an entrance, he ducks into a hallway, goes down a flight of stairs, and finds himself in the recreation rooms beneath the residence halls. The pool tables are still there; selecting a cue, he spends half an hour shooting billiards; wondering idly whether the cooks are still Filipinos, and whether they are all still three-cushion virtuosos. - A passing student with a load of laundry eyes him curiously. - "Old boy," he says with a disarming smile. "Couldn't resist." - Taking another exit, he descends again, and finds himself confronted with one final door, whose lock gives him only temporary pause. And so he enters the steam tunnels.

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A dusty storeroom in a cul-de-sac. Gloom, obscurity, the sense of the weight of the past; it is the kind of place you'd go to look for lost love, or Orlando's wits. He wanders up and down among the aisles examining the shelves, gradually decoding the system by which they are arranged. At last, in a far corner, on a shelf at knee level, he finds a box with his name on it. He pokes through dead coffee pots, discarded marking pens, unmatched sneakers - snags a couple of books he had forgotten and sticks them in his jacket pockets - until he finds a cigar box buried at the bottom. When he opens it, a strange cinematographic radiation emerges to bathe his features. He plucks an
object from within, closes it again, puts everything back as he found it, and retraces his steps. At the entrance to the storeroom he glances briefly back the way he came, and then proceeds in the other direction, deeper into the labyrinth.

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It is said that the Institute was founded in medieval times by the Knights Templar, the spiritual ancestors of the Bavarian Illuminati; that it has been manifested in a series of incarnations during its history, beginning with the University of Paris in the days of Abelard, and that older campuses are preserved beneath the one we see today, layered one upon the other like the numbered iterations of Troy. - It is also said that the Earth is a flat stone resting on the backs of four elephants, that the Moon is a bright shield upon the arm of the Goddess of Night, and that homunculi are the spawn of the mandrake root. - Geeks love to tell stories. They fabulate incessantly. It is a reaction against the unforgiving discipline of science, a repressed urge to mythologize that erupts uncontrollably at every opportunity.

It is said (in any case) that there is a Master Key, that will unlock any door upon the campus - known or unknown, seen or unseen, above ground or beneath it - forged for Millikan by Edison and his elvensmiths in those times of legend, The Days When Men Were Men And Giants Walked The Earth; and that after its abuse by the military it was purloined from a safe at Los Alamos by Richard Feynman, who showed it at the Shelter Island Conference of 1947; and after that well, never mind, it's probably all just silly bullshit - still - our protagonist does have a key in his hand - it does glow by an inner light - and it does open every door that he encounters.

And so he passes through the Pendulum Pit, the Telescope Tower, the Starship Hanger, the vaults where photographic plates from Wilson and Palomar are stored, the buried repositories of lost and found, the subbasements where dwell the Trolls under Bridge - through
passages undreamt of in the philosophies of geographers and architects - down, down, down - through mazes within mazes, levels under levels, campuses beneath the campus, past fallout shelters, secret laboratories, hidden libraries storing forgotten wisdom, locked rooms in which cars sit with their engines running - through grottos, storm drains, caverns measureless to man - and finds himself at last traversing a narrow corridor leading to the door of a janitor's closet.

He opens that - smiles when he finds a poster of Carl Friedrich Gauss on the inside of the door - closes the door behind him - and opens it again, revealing the Gallery.

The Gallery, he knows, was designed by Bernhard Riemann in the Göttingen era. It is spacious, circular in shape, with a central pillar in the form of a caduceus. Around the perimeter upon the walls hang framed paintings and photographs; most are static views, but on closer inspection others reveal scenes in motion, and the impression grows upon him as he moves slowly clockwise around the perimeter that he is looking not at works of art on display, but out through windows onto some external reality.

So proceeding, he circles the space and returns to his starting point. It does not surprise him that the door is no longer there and the exhibits on the wall have changed, though he takes a moment to verify that walking back around the pillar counter-clockwise returns him to the entrance; resuming his clockwise circumambulation, then - which, given that its sense according to the right-hand rule is negative, he interprets as a descent - he commences a leisurely tour, never seeing the same exhibit twice; viewing scenes through the windows of this panopticon whose origins in time and space he can only guess.
(He reflects wryly that though he keeps going in circles, nonetheless he is getting somewhere. - Surely there is a moral here, he thinks.)

He sees:

- A masked figure seated at a piano. A young woman stands beside him; apparently singing, though there is no sound. - She can only be seen from the rear, but her carriage is familiar. He fancies that her eyes are green.
- A figure reclining upon a divan, regarding the screen of a visiphone mounted on the wall above his feet. Upon it is displayed the visage of an alien being. The two are conversing.
- Night. A raft floating down a broad river. In the distance, scattered lights along the shore. A murmur of distant conversation.
- In a quiet cemetery in the New England countryside, a gravestone inscribed with the legend "This is really good for him."
- Hendrix at Monterey. He watches for a moment, but that is enough; too long and the scene might shift to Janis, and that will make him cry.
- A couple of guys on top of the circumvallating wall that surrounds the roof of the Millikan Library. One is sitting on the ledge, holding a stopwatch; the other is running around it in the rain.
- A boulder in a sylvan setting. - "That day I was walking through the woods along the lake of Silvaplana," says the narrator. "At a powerful pyramidal rock not far from Surlei I stopped." - This repeats forever.
- A tapestry depicting the exploits of the League of the Scarlet Pimpernel.
- A reproduction of a Dürer woodcut, pinned to the wall above a piano.
- The Steppenwolf, at the entrance to the Magic Theater.
- Two guys walk into a bar and then strike out for six hours straight.
- Chaplin and Paulette Goddard, setting out upon The Road.
- A flowing stream. The point of view zooms in and magnifies, slowing motion in the process, scaling until it reveals molecular motion. - It fuzzes out when it achieves atomic scale.
- The night sky. The point of view zooms outward, past planets, stars, nebulae, clusters, galaxies; moving forward to the boundary of the universe, reddening as it goes, finally disappearing in random noise.
- A marble leaking out of a box. It is inside; then it is both inside and outside; then it is outside.
- A black girl in the restroom of a bar, manifestly tipsy. She pulls her shirt up to admire her tits in the mirror. Indeed they are perfect.
- A scholar in a medieval garret, writing by light of a guttering candle. It appears to be cold, he shivers and pauses to wrap his robes more tightly around him and rub his hands together. Despite all that he is laughing.
- An Italian city street, late in the nineteenth century. A horse is being savagely whipped by a coachman. A man with a mustache, disheveled and agitated, runs into the street to throw his arms around its neck.
- The lunar surface, in starkest black and white. Two spacesuited figures bounce sketchily about the landscape. Pull back to reveal that they are marionettes dancing at the ends of strings held by the puppet
masters of Mission Control. - "Better to have sent real robots," he sneers.
- Giant ants running amuck in the storm drains of Los Angeles.
- The planet Jupiter. As he watches it extrudes a pseudopod and scratches an itch upon its back. The Great Red Spot winks at him.
- A Saturnian planet with multiple rings at skewed angles, like a model of a Bohr atom.
- The entrance to a drive-in cinema. A poster advertises He Who Shrank To Fit. It shows terrified citizens fleeing the spectacle of a gigantic poet being transformed into a puny bourgeois in a suit.
- Theseus and the Minotaur emerging from the labyrinth at the end of the working day, conversing as they punch a time clock, file their cards, and bid one another good evening. - Ariadne awaits, dressed for dinner.
- A panorama of the living cell. He watches strands of messenger RNA separate from the double helix and drift toward their ribosomes, amino acids lining up to form polypeptide chains, completed proteins sloughing off and folding into enzymes. - "What the fuck," he says.
- An astronomical mechanism exhibiting the cosmic scheme of the Mysterium Cosmographicum, nested spheres inscribed and circumscribed upon the Platonic solids. A music box, the tones it emits comprise the Music of the Spheres.
- A couple of hitchhikers, guitars slung upon their backs, standing by the side of Route 66 in the middle of the desert. A Zeppelin is landing to pick them up.
- Flash Cadillac and the Continental Kids playing Tulagi's. Gonzago is filling in on bass. The grand finale, the twist contest, is in progress, and they are playing "Shout". A mob of dancers writhes before the stage. A young woman, flushed with exertion, rips her shirt off, with spectacular result. He thinks she must be Italian.
- A dinosaur chases a naked woman through a primeval landscape. Cameras set up upon surrounding boulders capture the action. He thinks she was Miss September, 1967.
- A movie running backwards. In accelerated motion a man masticates in reverse, disgorges bites from his mouth onto a fork, lowers them to a plate where they are reassembled into a steak which is carried back into the kitchen to be uncooked, returned to a freezer, and, following an ellipsis joined together with other cuts of meat into the carcass of a steer, which is unslaughtered, trucked backward to the pasture, and rapidly shrinks to an embryo while sucking shit up its asshole and disgorging grass from its mouth.
- A palindromic book that reads the same backwards and forwards. He isn't quite sure how this works, but the scene fades as he tries to get a closer look at it, and he moves along.
- Two movies side by side, running in opposite directions. In one a lapsed theoretician vacations to find himself, in the other a jaded bourgeois vacations to lose himself. In one a lapsed philosopher drinks to fend off madness, in the other a fledgling computer executive drinks to embrace it. One shows a brilliant young man on the way down, the other a brilliant young man on the way up. - "Either way this can't end well," he thinks.
- Silicon lifeforms in their native habitat. Quartz trees with copper veins and photovoltaic cells for leaves growing in sand. Grazing critters shitting little glass bricks. Little microchips for brains, should they need them.
- Sirens basking on the Venusian rocks with clamshells on their boobs. - Suddenly Mamie Van Doren leaps to her feet and commences a rock and roll number.
- An electric guitar rolling down a hill, bouncing from rock to rock. He knows it must be playing "Gloria". ${ }^{8}$ - Patti Smith stands to one side, holding up a placard declaring that these three chords are the whole of the truth.
- A tachyonic telephone booth. He gets a call from the future. "Give up all hope, ye who enter here," it advises.
- Two gangs pelting one another with water balloons. Anyone who is struck immediately begins to melt.
- The Count on the couch before the television set, pouring a margarita for a female companion. She seems familiar.
- Samson in the temple. Union regulations give him two fifteen minute breaks and half an hour for lunch. He is eating a peanut butter sandwich and reading the Braille edition of The New Yorker. - Do the cartoons translate?
- A transparent spherical spaceship hanging in the cosmic void. Its hull, he knows, is a four-foot shell made from arenak, the marvelous metal five hundred times as strong as steel discovered by the scientists of Osnome.
- Roger Bacon in his chambers at Oxford, conversing with a brazen head.

[^7]- The Frazetta Moon Maid, red cape flowing in the wind, naked on the back of a centaur. - He pauses for a long moment to admire her perfection.
- Bertrand Russell explaining to a television interviewer what happens when an attorney sues himself.
- The filthiest toilet in the world, advertised as a roadside attraction. - Signs proclaim "The Triumph of Entropy!" - "The Heart of Fecal Darkness!" - "Metabolism Unchained!" - Ironically, concessions stands abound.
- The Men of the Mind at their strike meeting. John Galt is delivering a peroration, striking a pose like Lenin. Francisco D'Anconia stands to one side smiling, arms folded before his chest. Dagny Taggart sits in the audience with a hand down the front of her panties.
- John Carter and Dejah Thoris stretched out on the living-room floor of a small house on a summer's evening, smoking dope and playing checkers. - "Ah, Berkeley," he sighs.
- The Aborigine, the Rabbit, and the Anthropologist, seated at a long table littered with the detritus of an endless tea party. The Aborigine wears a top hat. The Anthropologist has fallen asleep. An armchair at one end is reserved for Willard Van Orman Quine.
- The Silver Surfer, riding the shockwave from an exploding star. He is flanked by a couple of surfer chicks in wet suits. Their boards are rocket-propelled, and they are wearing bubble helmets and brandishing blasters.

The windows become portals. Some display striking astronomical vistas and appear to lead to other planets, alien worlds with hostile environments. Others lead to what look like other historical epochs and fictional settings, fin-de-siècle Vienna, Paris in the Twenties, the siege of Constantinople, the sinking of Atlantis. Some tempt him, but he continues. At last he espies the entrance into Pellucidar, the world within the Hollow Earth, and he takes it without hesitation. It is a realm of cave girls and prehistoric beasts, illuminated by a central sun which emanates strange penetrating radiations that dissolve all sense of time and place and turn scrawny geeks into flawless physical specimens who can fend off saber-toothed tigers with Bowie knives and swing effortlessly from tree to tree on conveniently positioned vines.

Gigantic dragonflies flit from fern to fern. The skies are filled not with flying monkeys but pterodactyls, though getting pelted with pteranodon dung is no fucking picnic either.

He dons a Hermetic pair of wingéd shoes and wanders for a season about the landscape of this lost world, bearing witness to many marvels. Not least is the remarkable coincidence that everywhere he alights he arrives just in time to rescue a princess from a rampaging dinosaur. Though the tribes and races of this hidden realm are various, everyone speaks the same language, which is Greek. He explores the ruins of ancient cities, overgrown with jungle foliage, crawling with millipedes and iridescent beetles which communicate in high-pitched chitinous whistles. Taking to the inner seas of this inverted orb, he buckles swash with pirates and rides upon the backs of sea serpents.

At last he reaches the axis round which the planet turns, the center of the terrestrial mechanism. Here the Men of the Mind are chained to
the spars of a giant capstan, and by their unrelenting efforts make the world go round. Close by in the shade sit the Men of the Wallet, reclining on lawn chairs, smirking, and sipping lemon daiquiris. Occasionally they direct the buxom cave girls in attendance to taunt the groaning bondslaves by waving money in the air and flashing their tits.

Nearby is the abode of the goddess. Her office hours are not vouchsafed to the ken of mortals, but there is a Visitor's Center with a gift shop, a restaurant, and a theme bar where he has a couple of drinks while he leafs through the tourist brochures. "The narrower rings are filled with unmixed fire, and those next them with night, and in the midst of these rushes their portion of fire,' he reads. 'In the midst of these circles is the divinity that directs the course of all things; for she is the beginner of all painful birth and all begetting, driving the female to the embrace of the male, and the male to that of the female.' - At this he looks askance, but then finds the fine print: 'Unless he's too weird, of course.'"

Around the bar upon the walls hang autographed pictures of celebrities who have passed this way - Daedalus, Parmenides, Augustine, Arne Saknussemm, Rimbaud, Lou Salome, Lord Greystoke, Kurt Gödel, Harry Haller, Adrian Leverkühn, Paul Dirac, Edward E. Smith - and at one end stands a Trophy Case, in which many legendary treasures have been stashed: a magic tripod, a lost manuscript of Pierre Fermat, a specimen of the Philosopher's Stone, an antigravity machine built from an Erector set. He opens it with the Master Key - regards its contents - he knows he is only permitted one item to carry back - and selects a vintage Stratocaster with a psychedelic paint job. - "That's all right baby," he mutters. "I still got my guitar." - He leaves a handsome tip.

None may linger here without danger of being pressed into the service of the Prime Movers of Cosmic Capitalism, and so after pissing surreptitiously into a barrel of daiquiri mix he beats a retreat. He passes on the express elevator that would propel him directly to the surface to erupt from Mount Aetna, since it's just as likely to send him to the Moon to join Empedocles. Instead he dons again his magic tennies, and after miscellaneous additional adventures returns to the entrance by which he came in. Reversing the sense of rotation around the pillar to unwind his path, he retraces his steps.

He pauses again to admire the Frazetta Moon Maid in her static perfection. Then realizes that the scene has begun to move; that it is not a frozen picture, but a portal after all. Precisely as he perceives this she turns upon the centaur's back and looks at him directly. Incredibly, this seems like an invitation.

Torn, he hesitates. But he has promises to keep.
"I'll write a song about you," he says, whether to her or to himself he isn't sure. "If it is good enough, then I'll be back."

And so moves on.

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Time flows differently in the Underground. On his personal clock he isn't sure, months or years may have elapsed, but when he emerges from the storm drains into the city, trophy hanging from his back, it is the morning after Thanksgiving.
"The Pole is a point of relativity," said Grunthe to Salter in Auf Zwei Planeten. "Principles are valid under the assumption that the conditions exist for which they have been established; this is especially relevant to the determination of space and time. At the Pole these conditions do not apply. Or shall we say they are suspended? Here there are no points of the compass. Here there is also no time of the day. Here, therefore, all principles are either valid together or not at all. We have reached the point of complete indifference to definitions, we have arrived at the ideal of impartiality."

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I had a late breakfast on the sidewalk at Burger Continental, for old times' sake. The waitress wondered what I was writing in my notebook. She said it looked like Greek. "Some of it is," I told her.

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"That's it?" Stefano asked.
"That's it," I said. I climbed back into the car.
He shook his head. "Weird."

Richard's mother was named Feliza. She was a slender white-haired woman, slightly stooped, with thick glasses and a German accent. She chainsmoked something vacuous, and looked on wistfully when I lit an unfiltered Camel. "He has spoken of you often," she said. "I must warn you that I'm his attorney," Stefano said. "Yes?" she asked. She muttered to herself in German.

She lived in a small mansion all full of art and books in Mandeville Canyon, with an acre of greenery behind it, and kept cheap wine in brands I had forgotten. So we got drunk with her that night. In Los Angeles in the Forties she had known Fritz Lang and Thomas Mann. What she said about Mann reminded me of what Goethe had said about Beethoven. We talked about lifestyles and the tax revolt and organic horticulture, and then we drank so much we talked about Nixon.
"We first came to this country in 1938," she said. "We arrived in New York City, and the first evening that we were here we went to a nightclub. Richard's father had been in the diplomatic corps, but the family was Jewish, and we had no choice but to leave. There was no war as yet, but we were very frightened. It was very strange to see these people in New York, all drunk and merry, as if Europe lay upon another planet. We ordered champagne, and tried to relax and celebrate our escape, but we were too worried to enjoy ourselves. Then a man at the next table began shouting loudly, he was very drunk. He was denouncing Roosevelt, it seemed at the top of his voice." She paused.
"And?" I asked.
"We were terrified, of course." She looked at me, and then at Stefano. "Everyone could hear him. We had come from Germany. We thought that the police would come and take him away. And that we were in danger too, because we were there listening to him."

Stefano and I looked at one another, astonished, and then burst into helpless laughter. "They'd have hauled him off in junior high school then," he said to her. "They'd have hauled you off in elementary school," I said to him.
"Yes," she said. Deadly serious. "I think they would have."
"To the tradition of political insubordination," he said, raising his glass.
"To the healthy contempt for authority which is the birthright of every American," said I, raising mine.
"Ach," she said, shaking her head. "It was another world then." Distant, lost in the past. She muttered to herself again, and wrinkled up her nose: "Wer hat gefurzt?"

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Eating a perfunctory breakfast in the back yard the following morning. Crosslegged in the grass, looking at the greenery; attaching words to things. - "What makes the mark refer to the sensation?" As if I knew. - The causal chains that underlie the referential apparatus. The semantic mapping. The affectations of the soul, which Aristotle says [De Anima] are "inseparable from the natural material of the living thing." Little elves, who knit the twain together while we sleep. We call those threads dreams.

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Wittgenstein to Russell, $3 / 25 / 16$ : "What I feel is the curse of all those who have got only half a talent; it is like a man who leads you along a dark corridor with a light and just when you are in the middle of it the light goes out and you are left alone."

And after that, I guess, you go to law school.

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"Ah," she'd said to me, "but we all wanted to Change the World."
"I never thought that I could change the world," I said. "I just wanted to keep the world from changing me."

## 5. There's no place like bome

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Richard had a pleasant little cottage on the beach, bright yellow paint with white trim. It was menaced on two sides by highrises, the dire shape of things to come, but the light through the west window was good, and I muttered something about a cheerful Pacific illumination ("A weaker character would have quoted Joni Mitchell," Stefano said) as I walked around the living room admiring the books and prints, hands in my pockets, exclaiming occasionally at something I remembered - a book, a print, a New Yorker cover framed above his desk.

I patted the top of the portable typewriter he used to loan me. "Here's an old friend," I said.
"Yes," Richard said. "I still use it. Obviously."
"This is Stefano, did I say that? We were dorks together in the eighth grade. Now we're wage slaves together, six thousand feet beyond Man and Time. - This is Richard," I said to Stefano. "He was my teacher."
"A thankless chore," said Stefano, shaking hands. Richard laughed. We dropped our several asses into couches and had coffee.
"So how are you?" Richard asked. "I like your hat." The hippie headgear with the floppy brim.
"I like my hat too," I said. I put it on the coffee table. "I'm fine, I guess."
"Really?" he said. "Really? Is he all right?" he asked Stefano.
"Sure," Stefano said. "He sleeps with the light off and everything."

Richard laughed. "Good," he said. "Good. - So what are you doing? - What is he doing?" he asked Stefano. "Is he writing?"
"Yes," Stefano said. "But he only feeds his friends the scraps."
"Good," Richard said. He laughed. "Good. What is it about? - What is he writing about?" he asked Stefano. "Is it still about Wittgenstein?"
"No," Stefano said. "We cured him of that. Now he's writing about Martians."
"Martians!" Richard was delighted.
I muttered something about Quine, and problems of translation.
"What?" Richard said. "Like the anthropologist, then? I see, trying to translate an unknown language. But what has this to do with Martians?"
"He thinks we'll pick up their television signals," Stefano said, "and he wants to make sense of their commercials."
"Bromoseltzer," I said. "Tidybowl. Cocoa Puffs. Ultrabrite.""
"The heartbreak of psoriasis," Stefano said.
"What does it all mean?" I asked.

Richard laughed. "So you want to know whether we could talk to the Martians then. But what could we possibly talk about? Mathematics I suppose."
"Real estate," Stefano said.
"It's the universal language," I said.
Richard laughed, and shook his head. "I never know when you're serious."
"Me?" I said. "I'm always serious. For all you know there's some developer scoping the planet out who wants to take the Earth condo and stick us all in the zoo. Just like the prairie dogs in Boulder."
"Orbiting the planet in a Mercedes, even as we speak," Stefano said.
"Sipping champagne, dictating to his secretary."
"Bambi."
"She fondles a fountain pen while he unbuttons her blouse with his eyes."

Richard laughed. "I know him then," he said. "My ex works for him."
"Diane?" I said. "I thought she was an architect now."
"She is. But that's what they do, you know, real estate deals. She's making a fortune."
"She'd never take dictation," I said to Stefano. "Too high-strung." "Ah," Stefano said. A trifle distant.
"So are you writing about this? - Is he writing about this?" he asked Stefano.
"I think he's mostly writing about Bambi," Stefano said.
"You should write something," Richard said. "He should write something," he said to Stefano. "I expected things of him."
"Yes," Stefano said. "I know." He shook his head gravely. "He was my prize pupil too, and what a disappointment."

Richard laughed. "Let's have lunch," he said.

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I had worn my Mickey Mouse tshirt for the occasion. He made some comment on it. I said Mickey was the patron saint of janitors and theoretical physicists. Richard laughed and pointed out he was also the patron saint of Cal Arts, where he was lecturing on aesthetics.

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Stefano told Richard the story about the switch: in Nashville, in 1969, he and Phil had been setting up the light show for a local gig. While they were working on the wiring the rest of the band were getting zonked on a fresh shipment of acid and engaging in stoned conversation. Phil finished fixing something and flipped a switch to test the system, and the ambient lighting turned from red to blue. At exactly that instant everyone changed the subject. Stefano and Phil regarded one another with amazement; after a minute, Phil shrugged and flipped the lights back to red. Instantly the previous conversation resumed where it had left off. They flipped the lights back and forth several more times, to verify the phenomenon. The result was the same.
"Isn't that beautiful?" I asked.
"Yes," said Richard thoughtfully. "God, that explains ... everything."
"I had a question," I said. Feeling I should be straining theatrically for a gesture, like Wittgenstein.
"What?" Richard asked. "Are the Sixties really over? I was going to ask you that."
"Yes, but the seventeenth century isn't."
"What?" he asked again. "What does that mean?" he asked Stefano.
"He means Rene Descartes never cut his hair either," said Stefano. "But that isn't the question."
"What then?" Richard asked.
"Won't somebody tell him what diddy-wah-diddy mean," said Stefano.
"If you don't know by now," Richard exclaimed with mock vehemence, "don't mess with it!"

It could not be November here. We laughed and talked upon the beach, as ruined men do not; no foreman came to stay misapprehension. I bounced about in unboxed sand, and made up nursery rhymes. Ah California.

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"All right," Richard said. "Sure," Stefano said. "Later," I said. We shook hands all around. "Why am I shaking hands with you?' Stefano asked. I grinned at him and waved bye-bye. "If you don't come back, the Count gets your piano," he said. "Shit," I said. "Later," I said to

Richard. I got into the car. Somewhere downwind a girl had put the question.

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We left him there upon the beach. "Gad, but he looks pensive and philosophic," Stefano said. "Ah, those Germans, you know," I said. "It's in their blood." Then we drove twelve hundred miles in twenty hours, stopping only in Las Vegas to allow Stefano the chance to win three dollars at blackjack and me the chance to study the house band at the Sands. They played "Days of Wine and Roses" so smoothly that when I made mention of it afterwards he was astonished. "I thought it was Muzak," he said in wonderment. After that it was night and winter and strange erratic radio reception through Utah: high school basketball from Louisville, some kind of Dial-a-Shrink from San Francisco, the Midnight Cowboy from Cheyenne. The radio was the collective unconscious of America.

We stopped for gas in Green River. Two drunks headed west in a Volkswagen with Denver plates tried to touch us for some speed. "Sorry, man," I said, "I get high on life." And got back in the car and went to sleep.

In 1969 we had gone over Wolf Creek Pass.
It was December. Stefano and I hitched east on Route 66 from L.A. We caught a ride in Arizona from a freak in a decrepit Rambler. He was enormous, two hundred fifty pounds at least, none of it muscle or fat especially, just shapeless bulk. He said to call him Fungus, and said that he played bass. His latest band had crossed Blue Cheer with The Doors, which we said was ... interesting, and he knew some Jim Morrison stories we wouldn't have believed even if we had cared.

An Indian hitch-hiker who drank wine out of a bottle in a paper bag and used "fuck" as others might employ commas directed us north from Gallup to Durango as dusk fell. I had turned inward and was a bit frightened anyway - in those days I had a vivid sense of the abyss - and wasn't reassured when I noticed Fungus turning the engine off to coast and burn the brakes on the mountain downhills. There was a colloquy when we stopped for coffee and he shambled off to take a dump, and it was decided he should heave his bulk into the back and get some rest. My license had expired, so Stefano took the ancient beater over the pass, and both of us were scared. Fungus went to sleep. I doubt he ever needed reds.

The Rambler threw a rod outside Lincoln. We got our guitars out of the back, muttered thanks and good luck, and caught the bus in town to go to Minnesota, shaking our heads and thanking our stars.

It was another day and a half to Northfield, and then we were walking across the campus in the dark to the Student Union. She was there upon the steps, waiting for us: radiant, as if her face were shining in the dark.

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Nietzsche in The Birth of Tragedy: "Philosophical men even have a presentment that the reality in which we live and have our being is also mere appearance, and that another, quite different reality lies beneath it. Schopenhauer actually indicates as the criterion of philosophical ability the occasional ability to view men and things as mere phantasms or dream images."

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I awoke in bleak gray daylight in Glenwood Springs. He was wired for sound. "Wait till I tell her," he was saying. "Yeah," I said. "No shit?" I said. "You bet," I said. I couldn't think of anything I could tell
my hand it hadn't heard already. I stared out the window at the cold and unresponsive in-itself, solution to the problem of the Many and the One. The winter meant death, and then resurrection. Dialectical regeneration. But of what? They never told you that. Another fucking thing I didn't understand. He left me on my doorstep at eleven.

Scènes de la vie de Bohème:
The kitchen window had been broken, apparently by the chair that lay outside beneath it in the snow. A sheet of newspaper had been taped over the hole; it fluttered in the wind. The back door hung ajar. On the threshold I discovered what appeared to be a coyote turd, a curious texture, mustard and motor oil.

At least it wasn't a bear.
Within the floor was ankle-deep in shit: glasses, plates, and bottles, none wholly intact, beer cans, cigarette butts, a variety of paper, plastic, and cardboard bags and containers attesting to the appalling diversity of fast food available in the neighborhood; books, magazines, newspapers, and fragments of those pieces of our furniture that had been used to register some critical opinion.

Moved by a spirit of enterprise, someone had made a path through into the living room, no doubt with the snow shovel that was leaning against the wall by the bathroom door. - There was a fresh hole in the wall the size of a fist; I thought I knew whose. - Three empty bottles of Gordon's, still fragrant with argument, lay fallen on the kitchen table, next to the partially masticated remains of the latest pizza: the literary lion's kill. - The counter was sticky with spilled tonic. There was fresh vomit in the sink.

This went far beyond the usual argument with Johnny C. about Emily Dickinson. A question hung like an unidentified odor in the air. I wasn't quite sure what.

On closer inspection, there was quite a lot of vomit in the sink. Was this the primordial soup? I watched, fascinated, for the appearance of life.

Disturbed somehow by observation, a perfectly preserved slice of pepperoni bobbed up. - The beating of a white dove's wings - the spirit moving on the face of the waters - order out of chaos, the word made flesh, the reduction of the wave packet - I made the sign of the Cross over it.

The plants were still alive, but looked hung over.
There was a note on the piano, next to my lost copy of Kurd Lasswitz - hadn't I left it at Stefano's? I couldn't remember - and an unopened bottle of Jose Cuervo. Therein the Count apologized for the mess, and announced that he would be in Chicago for a couple of weeks, peddling computers among the rude nomadic tribes who foraged in that region and continuing a series of experiments on the effects of alcohol upon primates.

He counseled amor fati. "The preacher likes the cold," he said. "He knows you're gonna stay."

I was baffled, of course. The Count never apologized. I wondered what mess he was talking about. I was suddenly afraid to go into the bathroom. I had an irrational fear the toilet had exploded.

The television had been left on, tuned to a vacant channel: snow. I watched it for a moment. One pixel in ten, perhaps a hundred, I knew, would be lit by a microwave photon left over from the Creation. I wondered how to tell which.

But no luck with that today. I turned the television off, tossed the law school application into a wastebasket, pissed on it, and went to bed.

No doubt the Schoolmen had made a mighty argument in favor of marriage. I resolved to study it.

I hung around the house for a few days, Corbett Agonistes, watching television and drinking tequila. Once in a while I called out for a pizza. I didn't go to work at all. It seemed as though my existence was a sequence, and I had somehow reached a point at which I didn't know how to continue it. As if I had lost agreement with this form of life.

Millie came around looking for me. "Did you find yourself?" she asked. I laughed. We sat on the couch and drank margaritas from the pitcher while we watched California on television. I pointed out the beach at Venice: "I was just there," I said. "I came by a couple of days ago to see if you were back," she said. "Dog had a girl with him, so I left." "A girl?" I said. "That's weird." Her skin seemed very cool. "What did your postcard mean?' she asked. "It was so depressing." I explained that, quite the contrary, it was very encouraging. "That is so perverse," she said. "Why do you have to do everything backwards?" I told her Plato said knowledge was reminiscence, and that meant creation was remembering backwards in time. And when Walter Benjamin looked at Paul Klee's Angelus Novus he saw the Angel of History facing the catastrophe of the past while a storm from heaven seized his wings and dragged him inexorably into the future. And "Enough," she said. "Let's see if all that brooding did any good."

I got a postcard from Richard. It showed the pier at Santa Monica. "In your own country you are in a distant land," he suggested.

I looked it up and found the altitude of Elko was 5066 feet.
I wrote a letter to Wonder Woman. "I am starting a Wonder Woman fan club," I said. "Already I have me, Évariste Galois, Friedrich Nietzsche, Wolfgang Pauli, and my wicked Uncle Stefano. Friedrich says 'Wonder Woman' is English feminine for 'Übermensch'. I don't know why Stefano wants to join, he's supposed to be married." I told her that I wanted to be Flash Gordon or Mose Allison when I grew up. "I am strong but have no force or power," I said.

I felt as if everything still lay before me, in a future that had passed.
Finally I gave up and went back to work. The Dark Lady was not impressed. "I thought you quit," she said. "So did I," I admitted.

Then I went by his apartment again, to tell him that I'd found seven-and-a-half foot baskets at the elementary school down the block from my house, and now we could dunk with our elbows, like David Thompson. But his wife had moved out into a motel, and he was living the blues.
\{Addendum
The Moon Maid, as interpreted by Frank Frazetta



[^0]:    ${ }^{1}$ Dr. Johnson said "In lapidary inscriptions a man is not upon oath." A similar principle applies.

[^1]:    ${ }^{2}$ See, for instance, the Cold War scifi melodrama Red Planet Mars [Harry Horner, 1952], which begins with such an exchange.
    ${ }^{3}$ The definitive collection is now, of course, on the internet, the Online Encyclopedia of Integer Sequences or $O E I S$, and can be found at <oeis.org>. It holds in excess of 300,000 entries, and offers the fascinating option of listening to the sequences as music.

[^2]:    ${ }^{4}$ In the language of computer science, to employ denotational rather than operational semantics.

[^3]:    ${ }^{5}$ Later Douglas Adams, who understood that this idea really was a joke, reduced it to sticking a magical fish in your ear. - See also the derisive remarks of Kingsley Amis in his critical survey of science fiction, New Maps of Hell.

[^4]:    ${ }^{6}$ De interpretatione, 1. Translated by J.J.Ackrill. [Oxford: Clarendon Press, 1963.] - Other translators render "affections of the soul" as something like "mental experiences", but it is better, I think, to underscore the fact that the idea antedates modern concepts of "mind", "body", and "experience".

[^5]:    "Fire lookout never sounded that appealing. You need machinery to keep you company. Telescope operator, maybe."
    "Mountain man."
    "Plains Indian."
    "Head in the stars, lord of all you see."
    "Ear to the ground, slave to all you hear."
    "Rising star."
    "Fallen angel."
    "Bearer of water."

[^6]:    ${ }^{7}$ Not sure why this came to mind, but later the most obvious reference would have been The Matrix.

[^7]:    ${ }^{8}$ Anachronism. This is a joke of Dave Berry's.

