<center>{…}</center>

<center>*Fifty philosophers (1973)*</center>

… is the "philosopher" still *possible* today? Is not the extent of what is known too large? Is it not very unlikely that he will be able to reach an *overview*, the less so the more conscientious he is? Or only *too late*, when his best days are over? Or damaged, coarsened, degenerated, so that his *value judgement* no longer counts? — Otherwise he becomes a *dilettante* with a thousand little snail-like feelers, losing that great pathos: respect for himself — and his good, refined conscience too. In short: he no longer leads, he no longer commands. If he wanted to do so, he would have to become a great actor, a kind of philosophical *Cagliostro*.

— Nietzsche, in his notebooks.[1]

I also believe that one is born a *philosopher*, as one is born a *musician* or a *sculptor*, and that this innate gift, which has always taken the pursuit of a certain reality or truth as its theme and pretext, might henceforth rely more on itself and, instead of merely pursuing, might create.

— Paul Valéry, *Leonardo and the Philosophers*.[2]

Your first question at this juncture would probably be, why I didn't simply go back to school. I am ashamed to admit I considered it.

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[1] *Writings From the Late Notebooks* 35[24], pp. 19-20. Edited by Rüdiger Bittner, translated by Kate Sturge. [Cambridge: Cambridge University Press, 2003.]

[2] *Collected Works of Paul Valéry, Volume 8*; translated by Malcolm Cowley and James R. Lawler. [Princeton: Princeton University Press, 1972.]

Of course I was already in such grievous debt that I couldn't afford to go anywhere but where I was. So I sent off almost immediately for a graduate application in philosophy at Colorado, and read through their prospectus: the school, its requirements, the courses offered, the roster of the faculty, their research interests; the setting of the campus, the intellectual community which supported it, the other, easily accessible universities, in e.g. Denver and Fort Collins, which served to fortify the departmental mission — etc., etc. — "There are over fifty philosophers within an hour's drive," it triumphantly concluded.

Wow, I thought.

{...}

Why does it sound so phony to call yourself a "philosopher"? It isn't quite like saying you're in the wisdom business, but it's almost that bad.[3]

Perhaps it's because the ones who really deserve the title are few and far between, and rarely coincide with those who style themselves as such. So it isn't a "career".

I remembered what Pasternak said about Yuri Zhivago: "Though he was greatly drawn to art and history, he scarcely hesitated over the choice of a career. He thought that art was no more a vocation than innate cheerfulness or melancholy was a profession." — Though the translator bungled the nuance here: there is a sharp distinction between career and vocation: you choose the former; the latter chooses you.  (As in the Catholic usage, where it is said one has a *vocation* for the priesthood.) — Art was never a career option for Zhivago, but it

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[3] There is an exchange in Sofia Coppola's *Lost in Translation* [2001]: Scarlett Johansson is talking to Bill Murray in the bar of a Japanese hotel, and says she has just graduated from Yale. — Murray asks what her major was. — Scarlett says philosophy. — Murray pulls one of his patented double-takes and says confidentially "I hear there's a good buck in that racket." [Pure Murray improvisation. The line is not in the (published) shooting script.]

was certainly his vocation. He couldn't claim to be a poet on his tax returns, but that was his calling, the voice of his being. — And he was *called*, he was not a poet by his own decision. He was summoned by Fate. — The wood, the violin, you know the drill —

Similarly there *are* philosophers, but you can't simply *say* you are one, and make it so. — In fact I couldn't imagine having the gall to *call* yourself a philosopher at all. It seemed impossibly pretentious. It was not something you set out to become, it was something that could happen, a title that might eventually be bestowed upon you. — You didn't proclaim yourself to be a Knight of the Table Round. Arthur had to draw Excalibur, and tap you on the shoulders.

And though there might be a few real philosophers, those upon whom history had passed unambiguous judgment, a dozen in the last century perhaps, I was pretty sure most of them were dead. And, with the possible exception of Buffalo Bill,[4] none of them were buried in Colorado.

{…}

Still, it was an interesting idea. — As if philosophers could be found in the Yellow Pages, somewhere between painters and plumbers. — After all, why should they *not* be? that seemed like a philosophical question in itself.

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[4] A pioneer of postmodernism, he created his own legend, and with it that of the Wild West, by commissioning dime novels *about* himself and appearing in theatrical productions *about* his own exploits almost as soon as they had occurred. — After the excesses of his early career a born-again environmentalist opposed to unrestricted hunting, a staunch advocate of Native American rights, a protofeminist (perhaps this was Annie Oakley's influence), and a Freemason. Not to mention the guy we were all trying to look like, in those days. Don't sell the man short. — Admittedly he converted to Catholicism on his deathbed, but it's a common failing, so did Von Neumann. I'll probably unlapse myself.

{…}

In any case I had the overwhelming sense that nobody could teach me anything. This had less to do with natural arrogance (to which I will admit) than with what seemed self-evident: that you could not be a *philosopher* unless this was the way you approached things, starting from first principles and working it all out for yourself. — If "philosophy" meant anything, it meant doing everything the hard way.

{…}

Nonetheless I admit the fantasy of being a professor did appeal to me. I pictured myself in a seminar room in some liberal arts college in the outback of New England, lecturing on Descartes to an audience of sweater-clad coeds who followed my every word with rapt expressions — Indiana Jones, between expeditions. — Of course, Indiana Jones went on a lot of expeditions —

Not that it mattered, because demographics had rendered all that impossible. In fact the fundamental calculation my entire adult life was this: university faculties expanded dramatically in the late Sixties to accommodate the Baby Boom; when the Boomers themselves got out of school, accordingly, the student population shrank at the same time that all the newly hired faculty got tenure; this basically guaranteed that there were going to be no job openings until all those people retired.[5]

Which was pretty much the way it worked out. Sometime in the late Eighties I was talking to a mathematician friend about whether there was any point in going back to school. He expressed naive views about the academic job market, so I pulled out the prospectus of his own department and read it to him. There were 43 people on the

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[5] One peculiar corollary was the lingering academic fashion for Marxism, which clearly resulted from the fact that Sixties leftists were always the last people who had been hired, and then stayed for thirty years.

faculty: 16 had PhDs dating from the Fifties; 25 had PhDs dating from the Sixties; there was one with a PhD from the Seventies, and one from the Eighties, but both were temporary appointments. — Also, of course, even at Colorado everybody had gone to Berkeley (as he had himself, PhD 1969) or Harvard. So forget a degree from a cow college.[6]

Thus I escaped what otherwise would have been my fate, a mortifying series of sexual-harassment lawsuits which would have left me unable to find employment save as a janitor or paper boy, and eventually would have caused me to flee the country to escape my creditors. — No, wait a minute —

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[6] Admittedly it might have made it easier to get a job in computer programming or finance. But, as I always used to say, why *study* to be a moron.

$$\{...\}$$

## *The Philosophers*

And who *were* the philosophers, anyway? Surely they would have to be the deepest[7] thinkers, the authors of the greatest intellectual achievements over the course of, say, the twentieth century.

But when you put the matter that way the answer was obvious: Einstein and Gödel. Those were the intellectual revolutionaries who had remade the modern world; the heirs to Galileo, Newton, Descartes, Leibniz.

Similarly if you asked who had introduced the deepest and most powerful abstractions, obviously those were mathematicians, Eilenberg/MacLane[8] or Alexander Grothendieck.[9] If you asked who were the contemporary leaders of the intellectual community that represented a plurality of the smartest people in the world, they were Feynman and Gell-Mann.

And if you asked what the most significant intellectual accomplishment of the century was, in terms of its "philosophical" repercussions, it was that of Crick and Watson, who in the space of

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[7] Parenthetically the occasional change of sign involved in, e.g., identifying the greatest depth with the greatest height of abstraction, should not really count as mixing metaphors.

[8] The inventors of category theory; see Samuel Eilenberg and Saunders MacLane, "General Theory of Natural Equivalences", *Transactions of the American Mathematical Society*, Vol. 58, No. 2 (Sep., 1945), pp. 231- 294.

[9] The greatest mathematician of the postwar era, Saint Paul to the Apostles Eilenberg/ MacLane.

nine hundred words on a single page had explained the secret of life.[10]
— Kant may have written longer sentences.

{…}

Gödel and Einstein were actually pretty tight; in Princeton in the Forties, they used to walk to work together every morning. I have the feeling they had decided (correctly) that they formed an intellectual peer group of two. — Russell tells this amusing anecdote in his *Autobiography*: "While in Princeton [1943-4], I came to know Einstein fairly well. I used to go to his house once a week to discuss with him and Gödel and Pauli. These discussions were in some ways disappointing, for, although all of them were Jews and exiles and, in intention, cosmopolitans, I found they all had a German bias toward metaphysics, and in spite of our utmost endeavours we never arrived at common premises from which to argue. Gödel turned out to be an unadulterated Platonist, and apparently believed that an eternal 'not' was laid up in heaven, where virtuous logicians might hope to meet it hereafter."[11] — This is one seminar I would not have slept through.

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[10] The original version of the basic Google algorithm, so far as I know, appeared in an analysis of the scientific literature a decade or two earlier, when someone (ironically, I don't recall the reference) analyzed citations systematically to try to figure out their pattern of dependence and discovered that the letter to *Nature* in which Crick and Watson described the structure of DNA was the most-cited paper of all time. — The idea here was clearly that the most important ideas would have the most progeny, and that the process of dissemination must leave an unambiguous paper trail. — This assumes that if you publish something that depends upon an idea which appeared earlier in the literature, you'll explicitly acknowledge the fact; and what makes that a reasonable assumption, in the scientific literature, is the existence of a class of referees who will club you over the head if you don't. — Unfortunately no similar mechanism exists to validate page links, and thus the complementary error, that of inserting bogus references to magnify the influence of some individual contribution (and thus build a brand), has become a colossal pain in the ass. (Which now, thanks to declining editorial standards, has spread even to the scientific literature.)

[11] *The Autobiography of Bertrand Russell*. London: George Allen & Unwin, 1975.

{…}

So it wasn't obvious what "philosophers" per se were supposed to do.

If you thought the domain of philosophy should encompass the elucidation of the fundamental dimensions of reason and the structure of the universe, then these were, obviously, the pre-eminent figures.

But the domain of philosophy was no longer considered to include such things, which in itself was strange. Originally, after all, it was supposed to include everything — at least: everything that was really important. From which the rest would follow.

In fact the "profession" per se was now almost defined by a crippling anxiety about its *raison d'être*. The analysts always insisted that they didn't have the right to *alter* anything, that what they did was purely descriptive, linguistic, not a contribution to science or mathematics but some kind of murmured commentary on the progress of those projects. — Hands emphatically off. — In the hands of someone like Austin,[12] "philosophy" was reduced to looking words up in the dictionary.

What had happened to Promethean ambition? the will to intellectual power? the passionate desire to storm the heavens and command the stars? — Where was the vision of Bruno?

> Passing alone to those realms
> The object erst of thine exalted thought,
> I would rise to infinity: then I would compass the skill
> Of industries and arts equal to the objects.
>
> Henceforth I spread confident wings to space;
> I fear no barrier of crystal or of glass;

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[12] Whom I nonetheless admire. He devised and exercised a kind of scientific methodology, which when wielded consistently could yield interesting results. (He was *good* at looking things up in the dictionary.)

I cleave the heavens and soar to the infinite.
And while I rise from my globe to others
And penetrate ever further through the eternal field,
That which others saw from afar, I leave far behind me.[13]

If logic and mathematics and physics and cosmology were out of bounds, then what was the fucking point? — It was as if you defined the aim of mountaineering as the ascent of the highest peaks, and then said, "No, wait a minute. I meant in Wales."

{…}

Aristotle explains, sort of, what a philosopher is at the beginning of the *Metaphysics*: wisdom is the knowledge of principles and causes; "the knowledge of everything belongs to the man[14] who has universal knowledge"; "the man who chooses to know for its own sake will especially choose the most extreme form of knowledge"; and this is supposed to mean, again, primary things and causes.

So — optimistically — one might take the point to be not to know *absolutely* everything, but to know, at least, enough of everything to see how it all fits together. — It did not seem impossible to understand the Nature of Man without knowing the name and description of every human on the planet. — Without having been introduced to any particular individual, nonetheless you could know everything *essential* about him: the principles of anatomy, psychology, anthropology, etc. — And then of course understand how they all fit together.

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[13] Giordano Bruno, *On the infinite universe and worlds* [1584].

[14] Maybe this is the place to note that I, too, usually make the default assumption that "philosophers" are guys, not because I think women are shallower than men — Hegel versus Jane Austen? it is to laugh — but because (perhaps only for historical reasons) the hypertrophy of the male ego seems to be essential for anyone to be enough of an asshole to call himself a "philosopher".

(Still you would have to be master of all these principles. And to understand them you would have to be familiar with many individuals. And, etc.)

And this was the root of the anxiety: the philosopher-wannabe will protest that he can't be expected to be expert in every field. But the expectations were set by Plato and Aristotle, and the first thing you have to understand about Aristotle in particular, is that he really $\partial i\partial$ know everything; at least everything known at the time. So from the outset the idea that the philosopher must be a universalist was built into the job description.

Now: Leibniz is said to have been the last person to know everything. Athanasius Kircher might be another candidate, but in any case you can't seriously make this claim for anyone after the seventeenth century.

The last guy with a universal grasp even of mathematics was David Hilbert. For the International Congress of Mathematicians in 1900, Hilbert made up a list of 23 problems addressed to "the mathematicians of the 20th century"; most of them were eventually solved, but it did take most of the century, and it's amazing how completely he was able to identify the central issues of the entire subject and identify the most difficult questions that needed to be resolved.

Of course for the year 2000 it was felt that something similar should be done, but no one with Hilbert's breadth of understanding existed, or by that time even could. Finally after some discussion seven very fundamental problems were identified under the auspices of a foundation which has offered million-dollar prizes for the solution of each. Rather than one master expository paper, however, seven

different sets of authors wrote separate problem descriptions.[15] — What we can conclude is that if no one has been able to be a "mathematician" since 1900, it's no wonder no one has been able to be a "philosopher" for several centuries before that.

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[15] Cf. the Claymath website. — The one holdover from Hilbert's list is the Riemann hypothesis, generally regarded as the most important open question in mathematics.

{…}

*What a philosopher is*

There is a standard answer, in the age of the research university, which is that it's just another profession: you get a PhD, publish articles in the journals on small, well-defined problems derived either from other articles on small, well-defined problems or on small, well-defined aspects of the large and not at all well-defined problems left over from the earlier history of the subject, and then you are permitted to identify yourself with the title. — Arguably Russell invented this idea, more or less as Truffaut invented the idea that the director was the author of a motion picture, and for similar, essentially political reasons: "scientific method in philosophy" was mainly a matter of exhibiting the professional restraint of the scientist; of *trying*, at least, to practice negative capability.

Against that the romantic will object that the papers are usually worthless — which is true, but unfair, and recalls a famous observation of the science fiction writer Theodore Sturgeon: responding to the criticism that ninety percent of science fiction was shit, Sturgeon said "Ninety percent of *everything* is shit."[16] — The justice of his argument was self-evident, and it has been known among geeks as Sturgeon's Law ever since.[17]

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[16] I had thought the story apocryphal, but Wikipedia cites a review published in 1957 as the original source. — He probably didn't say "shit", but of course he *meant* to.

[17] Indeed, it has entered the *OED*.

{...}

So really the fact that I had begun to think of this as my vocation was not a sign of mature decision-making or the acquisition of focus — least of all choosing a profession — it was more like accepting that I had been branded with the mark of Cain; that I couldn't help but bullshit myself, that I was hopelessly delusional. — To embrace such a choice was an insane existential gamble, a Pascal wager. — It was stupid. It was nuts. — The Romantic in me might be saying this was a destiny to which I had to commit myself, a call to intellectual adventure, but the ironist and inveterate wiseass recognized that it was more like putting all my chips on double-zero and pretending this wasn't proof of a gambling addiction.

Still — nonetheless — it wasn't as dumb as it seems in retrospect. — In the economic reality of that moment, when you could still be a hippie and survive — when you didn't have to work yourself to death to stay alive — it made more sense. You could take a menial job, make a minimal effort to get by, and reserve the preponderance of your energies for your real work, however you conceived it. Maybe it would all come to nothing, but your time would still be your own, and if you were going to invest it in writing a lot of shit no one would ever understand — well — what matter that. Why not after all.

But all that changed. Drastically. As things turned out the destiny to which I had committed myself was to be written by economic determinism. And it wasn't pretty.

{…}

*Variations on the theme of universality*

Dante called Aristotle "the master of the men who know", a title it would be difficult to bestow on any single individual who followed him.

Indeed to find a modern parallel to his works you would look not to any particular philosophical treatise (though Descartes had similar ambitions for *Le Monde*), but rather to something like the work of the French encyclopedists, or the Vienna Circle's *International Encyclopedia of Unified Science.*

Such projects have a tendency to be abandoned when the authors realize they can never be finished. There are two obvious reasons. One is that the intellectual capacity of a committee is bounded above by the intellectual capacity of the least capable of its members, and any unifying vision is diluted accordingly. The other is that the sum of knowledge, in any field large enough to invite a synthesis, grows more rapidly than it can be written down. Moreover it grows in unanticipated directions, and any table of contents designed before the fact becomes obsolete: not only are new entries required, but new categories which demand a new organizational scheme.

{…}

One unfinished project of Leibniz was a *scientia generalis*, a seventeenth-century anticipation of the *Encyclopedia of Unified Science* which was meant to provide an integrated survey of human knowledge to exhibit the perfection of reason. It was intended as an elaboration of another of Leibniz' unfinished projects, his

mathematical logic aka "characteristic".[18] — The editor of Gödel's philosophical notebooks mentions his interest in this conception: see Eva-Maria Engelen [ed.], *Kurt Gödel — Philosophische Notizbücher.* [Berlin: Walter de Gruyter GmbH, 2019.]

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[18] Arnaud Pelletier, "The *Scientia Generalis* and the *Encyclopaedia*", in Maria Rosa Antognazza, *The Oxford Handbook of Leibniz* [Oxford: Oxford University Press, 2018] quotes a note of 1686: "The *Scientia Generalis* is nothing but the science of what is thinkable in general in so far as it is such. This includes not only what has hitherto been regarded as logic, but also the *ars inveniendi*, along with the method or the means of arrangement, synthesis and analysis, didactics or the science of teaching, the so-called Gnostology, Noology, the art of reminiscence or mnemonics, the art of characters or of symbols, the Art of Combinations, the Art of Subtlety, and philosophical grammar; the Art of Llull, the Cabbala of the wise, and natural magic. Perhaps it also includes Ontology, or the science of something and nothing, of being and not being, of the thing and its mode, and of substance and accident. It does not make much difference how you divide the Sciences, for they are one continuous body, like the ocean." — What Leibniz says about this project displays the naive optimism typical of the age, seen also e.g. in Bacon, about the ease with which the principles required for the advance of science could be identified and systematized; the completion of the project itself, of compiling and organizing all useful knowledge, was envisioned as something that could be completed within a few years.

{…}

The *Eléments de mathématique* of the French collective "Nicolas Bourbaki" — like the *International Encyclopedia of Unified Science* begun in the Thirties, apparently an Age of Encyclopedic Ambition[19] — began as an attempt to write a modern textbook for teaching the calculus and expanded, once the authors decided they needed to provide adequate foundations, into a series of a dozen volumes (each comprised of several often book-length chapters) on an assortment of set-theoretic, algebraic, topological, and geometric prerequisites. It is still technically a work in progress.

In a famous manifesto[20] Bourbaki remarked the prodigious growth of mathematics, asked whether it was a "strongly constructed organism" or "a tower of Babel, in which autonomous disciplines are being more and more widely separated from one another," and argued that, quite the contrary, the rigorous application of axiomatic method enabled the discovery of fundamental *structures* which could be identified in disparate fields; and discusses in detail the example of the *group*, which develops the theory of multiplication[21] in isolation, allowing the application of the results thus obtained to elucidate the structures of

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[19] What one might regard as the *reductio ad absurdum*, Borges' description of *The First Encyclopedia of Tlön,* appeared in his collection *El jardín de senderos que se bifurcan* in 1941.

[20] Nicholas Bourbaki, "The Architecture of Mathematics". *The American Mathematical Monthly*, **57**:4 [1950], 221-232. (This was actually written by Jean Dieudonné, in the role he occasionally assumed of Party Secretary.)

[21] Addition is seen as simply a special case, that of commutative multiplication; i.e. this is the theory of *Abelian* groups.

its various instances.[22] — It is then argued that a unified presentation of mathematics (Bourbaki employs the singular "mathematic" to emphasize the underlying unity of subject matter and method) can be based on a systematic presentation of the properties of these elementary structures — that the fundamental Platonic Forms can be catalogued, as it were — and though it is granted that the growth of the subject will provide new insights and structures, nonetheless that one could expect that stable foundations adequate for the present day were achievable.

This was a theory of the whole shape of mathematics, in other words — another sort of metamathematics[23] — descendant, perhaps, of Aristotle's *Categories* — and it only seemed appropriate (though this was, like the choice of the name "Bourbaki" itself,[24] more than half a

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[22] The strategy of abstraction in modern mathematics — the idea that to solve any specific problem one must identify an abstract structure underlying its logic and then systematically investigate that structure — a sort of applied Platonism, the insight that by identifying the appropriate Idea and taking that as an object of inquiry in itself one may simplify and conquer — was invented by Evariste Galois, in his investigation (circa 1830) of the conditions that must hold for a polynomial equation to be solvable by radicals Since Galois was killed in a duel at the age of twenty, his works took the best part of a generation to be discovered and understood, but once they had been an appreciation of his genius, so to say, blotted out the sun. — Now [1] what he saw was that the theory of groups was the key to his problem; and [2] he was, of course, French. So this is the line of descent of the school of Bourbaki, and what justifies the national pride attached to it.

[23] Following Hilbert and his school, the word usually denotes the (syntactic) theory of mathematics as a formal system. Its use may be extended to include the (semantic) theory of models, due to Tarski. Bourbaki, on the other hand, are followers of Aristotle here. — The sense is more like that of Frampton [below], and indeed he refers [*Circles of Confusion*] to Galois' invention of group theory as that of "the metahistory of mathematics." (Seriously, the dude was was an authentic polymath).

[24] A famously incompetent French general, disgraced during the war of 1870, whose name had figured in many student pranks.

joke) that the men[25] who undertook the project would be members of a secret society — the mathematical Illuminati.[26]

The effort was at least a partial success, in that many volumes were eventually completed and had a great influence on mathematical practice, particularly in the Fifties and Sixties. However the assumption that mathematics would stand still long enough to be epitomized turned out to be incorrect, and the greatest of all of the Bourbakists, Alexander Grothendieck, quit in frustration[27] when he could not persuade the group to revise its approach to accommodate the invention of category theory, which had begun to revolutionize structural thinking in mathematics. — He subsequently embarked upon his own synthetic project, more limited in scope but in some ways even more ambitious,[28] the reformulation of algebraic geometry to extend the use of topological ideas to arithmetic — an exploration of the deep connections between the theories of the continuous and

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[25] Nope, all dudes. Total boys' club; and mostly French, which does something to explain it.

[26] Though current membership is always kept secret, members may reveal themselves after they retire from the group, and several dozen have been so identified. It is known, for instance, that the first (unofficial) meeting of the collective took place in December, 1934, and that Henri Cartan, Claude Chevalley, Jean Delsarte, Jean Dieudonné, René de Possel, and André Weil were present.

[27] Circa 1960.

[28] In that it was intended not simply to describe existing mathematics, but dramatically extend it.

the discrete — which was largely successful, though it too grew to encyclopedic proportions and was abandoned before completion.[29]

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[29] The complete exposition was intended to appear in the *Éléments de géométrie algébrique* [1960-1967], written by Grothendieck assisted by Dieudonné; of the projected thirteen chapters only the first four, amounting already to 1500 pages, were published, and already suffered from the difficulty that new developments had rendered portions of the treatment obsolete. Many but not all of the missing pieces were the subjects of the famous *Séminaire de Géométrie Algébrique du Bois Marie* [1960-1969] conducted by Grothendieck and his collaborators, whose proceedings were summarized in seven weighty volumes published in 1971-1973. The principal objective of the program, the completion of the proof of Andre Weil's conjectures on the Riemann hypothesis over finite fields, was achieved by Pierre Deligne in 1973. By that time Grothendieck himself had flamed out and vanished into an eccentric retirement which became the stuff of legend. See Allyn Jackson, *"Comme Appelé du Néant*—As If Summoned from the Void: The Life of Alexandre Grothendieck", *Notices of the AMS*, Vol. 51, Number 4 [October 2004] and Vol. 51, Number 10 [November 2004].

$$\{\dots\}$$

## *Russell*

Russell, as close to a universalist as any "philosopher" has been in the twentieth century, wrote several dozen books on logic, mathematics, physics, psychology, history, economics, social and political philosophy, ethics, epistemology, and the philosophy of science, among other subjects, stood for a seat in the House of Commons, sat in the House of Lords, travelled to Russia in the Twenties to meet the Bolsheviks and wrote a book unmasking them, founded a school as an experiment in the philosophy of education, was imprisoned for protesting the First World War, prosecuted in New York for promoting immorality[30] during the Second, and jailed at the age of 90 for protesting the nuclear arms race on the eve of what might have been the Third. He writes at the end of his *Autobiography*:

> Nearly three-quarters of a century ago, walking alone in the Tiergarten through melting snow under the coldly glittering March sun, I determined to write two series of books: one abstract, growing gradually more concrete; the other concrete, growing gradually more abstract. They were to be crowned by a synthesis, combining pure theory with a practical social philosophy. Except for the final synthesis, which still eludes me, I have written these books. They have been acclaimed and praised, and the thoughts of many men and women have been affected by them. To this extent I have succeeded.

And that, without question, is as close as anyone will ever come again.

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[30] Specifically for advocating cohabitation as a form of trial marriage, a practice universally accepted a generation later.

<center>{…}</center>

There's still the presupposition, nonetheless, that universality is somehow possible. Elsewhere[31] I call this "the Napoleonic fallacy": the idea that the philosopher (or whoever — in another version this is also the myth of the corporate executive) can sit on a white horse up above the smoke and confusion of the battle, look down upon the activities of many thousands, and with a swift commanding glance perceive the situation of his armies and issue orders for the disposition of his troops.

But no sooner is this picture painted than you have to wonder whether such a position, such perception, such a person can really exist.

<center>{…}</center>

When I was a child I wanted to know everything. Later I became more realistic, and decided I wanted to know everything interesting. In terms of what I actually have managed, I would guess I might know ten percent of most of the things I consider really interesting or which my nose tells me are fundamental.

My cocktail party summary of this is better: "If it's not worth money, I probably know something about it."

Does that come close enough to make me a philosopher? It sure as hell doesn't make me Napoleon.

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[31] See "Laugh-a while you can, Monkey Boy [9/11/2000]" [below].

{…}

"We…both espoused the general view," says Mann's narrator, "that philosophy was the queen of the sciences.…she took a place like that of the organ among instruments: she afforded a survey; she combined them intellectually, she ordered and refined the issues of all the fields of research into a universal picture, an overriding and decisive synthesis comprehending the meaning of life, a scrutinizing determination of man's place in the cosmos."[32]

To which compare the complaints (see in particular his Rector's speech) of Heidegger that philosophy had lost its dominant place in the academy; compare to those the even louder complaints of the logical positivists that it had not and that this was the reason for their revolt; etc., etc. — But: who is supposed to be able to play this organ? apparently a polymath and universal genius. And these are in short supply.

{…}

Nietzsche on Goethe:

> What he wanted was totality; he fought the mutual extraneousness of reason, senses, feeling, and will (preached with the most abhorrent scholasticism by Kant, the antipode of Goethe); he disciplined himself to wholeness, he created himself.

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[32] *Doctor Faustus, The Life of the German Composer Adrian Leverkühn As Told By A Friend*; pp. 80-81 in the translation of H.T. Lowe-Porter. [New York: Alfred A. Knopf, 1948.]

<center>{…}</center>

There have been a variety of literary depictions of "the philosopher" in this sense of the possessor of Napoleonic vision. One is Scott Fitzgerald's portrait of Irving Thalberg in *The Last Tycoon*:

> You can take Hollywood for granted like I did, or you can dismiss it with the contempt we reserve for what we don't understand. It can be understood, too, but only dimly and in flashes. Not half a dozen men have ever been able to keep the whole equation of pictures in their heads.

— viz. Fitzgerald's studio mastermind "Monroe Stahr",[33] who accordingly — since the movies, as an enterprise, represent an attempt to grasp the whole of human experience in a panoptic vision — employing a universal narrative template ("the way Hollywood tells it") — possesses, at least at second order, a complete understanding of the human condition. — Wittgenstein tried to keep the whole equation of the philosophy of logic in his head to be able to grasp the preconditions of any possible science; I'm not sure that was much different, or more difficult.

Stahr is introduced by the narrator (who has previously made his acquaintance) as she encounters him by chance on a transcontinental flight, and the metaphor is exploited to explain his unique vision: that he is someone who has, as it were, flown to a great height, from which the whole of human life — "which way we were going, and how we looked doing it, and how much of it mattered … our jerky hopes and graceful rogueries and awkward sorrows" —  had been revealed to him. And "remembering all he had seen from his great height … [he] had settled gradually to earth." — To run a movie studio.

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[33] The character played by Josh Brolin in the Coen brothers' *Hail Caesar!* [2016] is a comic homage. Typical of the Coens, it may be more convincing than the original.

Stahr (as did Thalberg) juggles the production of dozens of movies at once. He has the synoptic vision: he understands the purpose of every picture, the nature of its appeal, what makes it work. He is the master of every detail: of acting, direction, cinematography, production design, editing, promotion, distribution; he serves as psychoanalyst to his stars; his judgment is instantaneous and infallible.

Above all he understands writing. In one memorable scene (played brilliantly by De Niro in the film version of 1976) he walks a new hire, a frustrated novelist (one must suspect this reproduces Fitzgerald's own experience when he went to work in Hollywood)[34] through the elements of telling stories in pictures. — In another he is informed that a husband/wife writing team have just "found out" — i.e., discovered that they are only one of several teams working on the same movie — and are going to quit. Stahr explains to an onlooker that this has offended their sense of "unity", i.e. integrity of authorial vision, and he would regret losing them, but the system takes precedence and must be preserved. — Puzzled, the witness asks what, then, *does* provide "the unity". — "I'm the unity," says Stahr. — And there you go.

{…}

But the definitive portrait of Napoleonic vision comes from Conan Doyle. — In "The Adventure of the Bruce-Partington Plans" Sherlock Holmes explains that his even more brilliant brother Mycroft, hitherto characterized as a minor bureaucrat without ambition, is not a mere employee of the British government, but in a sense *is* the British government:

> ... his position is unique. ...There has never been anything like it before, nor will be again. He has the tidiest and most orderly

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[34] Dalton Trumbo somewhere expresses his irritation at the commonplace that screenwriting is a trivial exercise, unworthy of the talents of "real" writers; pointing out that it had been his duty to tutor the likes of Scott Fitzgerald and William Faulkner in the rudiments of the craft, and that neither found it easy nor ever really mastered it.

brain, with the greatest capacity for storing facts, of any man living. ... The conclusions of every department are passed to him, and he is the central exchange, the clearing-house, which makes out the balance. All other men are specialists, but his specialty is omniscience. ... suppose that a Minister needs information as to a point which involves the Navy, India, Canada, and the bi-metallic question; he could get his separate advices from various departments upon each, but only Mycroft can focus them all, and say off-hand how each factor would affect the other. ... in that great brain of his everything is pigeon-holed, and can be handed out in an instant. Again and again his word has decided the national policy.... .

— i.e. he synthesizes all inputs, connects the dots, forms the Big Picture, decides what actions must be taken; he is, in short, the Brain of the Empire. — Nice work if you can get it.

{…}

But how is he supposed to be able to do that?

The faculty that he exerts can be understood as a kind of pattern recognition — literally, he connects all the dots, he sees The Big Picture — but the computational complexity of the problems he must solve to do this scale, in general, exponentially — there are already 16 possible subsets of {the Navy, India, Canada, the bi-metallic question} to be considered, each representing one or more more mutual relations to be considered, with countless other "pigeon-holes" to come. It seems obvious that this must lie beyond human capacity.

Thus in contemporary speculative literature Mycroft is always "a computer" — some kind of superhuman artificial intelligence — the "brain machine" of *Gog*,[35] or Godard's Alpha-60, or the eponymous

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[35] Dir. Herbert L. Strock, 1954.

menace of *Colossus: The Forbin Project*,[36] or Skynet in *The Terminator* — and invariably diabolic. — Better, you sense instinctively, to retain the human perspective: to see like Scott Fitzgerald, only dimly and in flashes.

{…}

But is it possible even for "the computer"? Of course not. — It might arouse suspicion that these stories sound like fairy tales; that "the computer" seems like a flying horse, a magic wand, "A looking glasse, right wondrously aguiz'd"[37] — an oracle which can answer any question.

But real computers perform real computations, requiring resources of time, space, and energy — a certain number of steps must be completed, a certain number of processors must be assigned to perform them, a certain amount of storage must be allocated for scratch paper — the Turing machine has a potentially infinite tape, which is never realized in practice — data pipes of a certain capacity (a capacity determined mathematically by information theory) are needed to port intermediate results from one place to another in a certain architecture — and the dimensions of these resources depend on the dimensions of the problem in a way that determines whether or not a solution is really feasible.

Post and Wittgenstein, for instance, found a mechanical decision procedure for the propositional calculus, the evaluation of a truth table. — At first glance the game is over: the player poses a problem, a machine can solve it. — "The computer" is omniscient.

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[36] Dir. Joseph Sargent, 1970. Based on a novel by D.F. Jones. — The first computer used at Bletchley Park (not designed by Turing, but based on his ideas) was indeed called "Colossus". — Von Neumann, perhaps more aptly, called his "Maniac".

[37] Cf. Spenser, *The Fairie Queene*, Book Three, Canto II, #18.

At second glance you realize that isn't quite the way the game is played. The player poses a problem, but requires a solution within a given time. The machine has a finite capacity and fixed speed. And in this instance every time a variable is added to the formula the size of the truth table doubles.[38] 20 variables require a truth table with 1,048, 576 rows, 40 variables 1, 099, 511, 627, 776 — and so on, and so on.

Indeed it is easy to make up relatively simple "decidable" questions for which the requisite calculation is physically impossible: taking the elementary spatiotemporal cell size as a cube of dimensions the Planck length times the Planck time, the number of possibilities that must be evaluated to find the solution to the travelling salesman problem for 140 cities exceeds the number of events contained in the back light cone of any present point-moment (something in excess of $10^{244}$), i.e. the computation won't fit into the visible universe.

So it becomes apparent, as you perform these thought experiments, that even problems which are solvable "in principle" may in practice prove intractable; that this is, in short, another of those cases in which, as the old formula has it, quantitative change becomes qualitative change. — "The computer" is less like a flying horse than an actual airplane, with a cruising speed and a range determined by how much gas you can afford to put in its tank. Only in fantasy will it take you to other planets.

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[38] Actually slightly worse: for n variables, there are n columns and $2^n$ rows.

{…}

Was I kidding about the myth of the Wild West as the birth of postmodernism? — Wyatt Earp ended his career in Hollywood. Surely that says it all.

{…}

*The Fifty*

I pictured them located by pushpins on the map of some guidebook, a placemat perhaps in a roadside restaurant catering to the tourist trade, like the world's longest hot dog or that giant ball made of rubber bands…

"A man is in a condition of genius when he loves and ridicules the same thing at the same time," says Nietzsche.[39] — As if there were any other way to regard philosophy.

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[39] *Writings from the Early Notebooks*. Ed. Raymond Geuss, Alexander Nehamas, transl. Ladislaus Löb. Cambridge: Cambridge University Press, 2009.

{…}

The hesitation you feel at naming yourself a philosopher, at the absurd pretentiousness of it: compare the hesitation you would feel at calling yourself a poet. — For who could have the sheer gall to claim to be divinely inspired? the favorite of the Muse? — That is for Dylan Thomas or Emily Dickinson, not for mere mortals with stains on their undershorts.

Though as I think on it I can't imagine Dylan Thomas without stains on his undershorts. — But still —

{…}

It is difficult to think of a film artist with the breadth of — philosophic? — understanding to aspire to universal vision. The examples of the great literary modernists like Joyce and Proust might have suggested the attempt to paint a complete picture, if not of the world, then at least of the individual consciousness; but attempts to "translate" works like *Ulysses* and *À la recherche du temps perdu* into "movies" have not been successful.[40][41]

*Intolerance*, for instance, propounds a kind of quasiProustian theory of history — the four stories are meant to echo one another, to suggest an inner connection, instantiate the same Platonic Idea — but though unquestionably spectacular comes off as sprawling and incoherent; what derives from Griffith's example is, rather, the genre of the epic, which has different intentions. — Thus though *Lawrence of Arabia*, e.g., has epic scope and grandeur you can hardly say it presents a theory of everything; or really of anything — you witness (in the sense of the cinema) a significant series of events, but though you understand that this was an episode in a great war, the conduct of the war in other theaters is not depicted, its causes are not explained, no theory of the

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[40] That said, Harold Pinter's attempt to distill the essence of Proust into four hundred-fifty-five shots/scenes [*The Proust Screenplay*, London: Eyre Methuen, 1978] *reads* very well. — About this he explains in his introduction that though the film was not made, he had no regrets, and far from considering the effort wasted thought the effort constituted "the best working year of my life." — And what did he accomplish? "If the thing was to be done at all," he says, "one would have to try to distill the whole work, to incorporate the major themes of the book [all six volumes] into an integrated whole." And thus he decided "the architecture of the film should be based on two main and contrasting principles: one, a movement, chiefly narrative, towards disillusion, and the other, more intermittent, towards revelation, rising to where time that was lost is found, and fixed forever in art." — Pinter, in short, the most acute dramatic analyst of the age, here exerted his formidable capacities not to attain a unifying vision of the nature of the world, or consciousness, or the human condition, but of the nature of Proust. Really, that says it all..

[41] I should probably add the note that when Eisenstein met Joyce in Paris the two of them did discuss adapting *Ulysses* and the problem of representing the internal monologue visually, and that Joyce was quite enthusiastic about the idea and despite his near-blindness watched *Potemkin*.

instinctive behavior that drives humanity in the mass to periodically seize upon some excuse to slaughter one another is proposed, etc. — Though it is a war movie, in other words, it presents no *theory* about war. — Indeed it doesn't even present a *theory* about Lawrence, save "great men are enigmas who command our attention, particularly when they are portrayed by handsome and charismatic movie stars."[42] — The classical dramatic unities have long since evaporated, but their residue remains, the grin without the cat, and a story still usually involves only a limited action, bounded in time and space, centered on a focal character.

This wasn't always so. Homer's theme may have been the wrath of Achilles, but he at least pretended to explain what it all meant from the vantage of Olympus — how the siege of Troy reckoned in the calculus of the gods. But his later imitators have rarely been so ambitious; sensing, no doubt, that they will probably just succeed in making themselves look ridiculous. — Even Tolstoy looked a trifle silly, after all, though you have to give him points for trying.

{…}

Among the Original Gangstas of the cinema only Eisenstein had the intellectual depth and philosophic vision to aspire to universality — indeed he wanted to film *Das Kapital*, because he thought he could tell even *that* "story" in pictures[43] — and *October* began as a complete history of the Revolution; though it was whittled down, in stages, by constraints of time, money, and the machete Stalin took to the final cut

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[42] Some contemporary wiseass remarked of Peter O'Toole that if he had been any prettier, he'd have been *Florence* of Arabia.

[43] He also met Joyce in Paris and the two had intense discussions of the possibility of representing inner monologue cinematically [see "A Course in Treatment", in *Film Form*], which both thought might have "a far broader scope than is afforded by literature."

to toss Trotsky down the Memory Hole,[44] to something which, though it contains many striking compositions and memorable illustrations of Eisenstein's theory of montage,[45] for the most part only qualifies as the world's strangest docudrama.[46] Not the *Aeneid* of Revolutionary Russia, as its author originally intended.

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[44] In some versions of the story Stalin was literally present in the editing room to supervise the final cut. — Whether this is true or not, the original plan was to tell the story through the Civil War, from which the leader of the Red Army could no more be excised than the Prince of Denmark from *Hamlet*. — In retrospect Eisenstein was lucky to escape this episode with his life. (His producer was not so fortunate.)

[45] It would be interesting to interpret Eisenstein's theory of montage as a variation on the Leibniz monadology. The correspondence of shot to monad is straightforward, as is the idea of a hierarchy formed by successive stages of synthesis; the difference lies in Eisenstein's unLeibnizian insistence on the interaction between (in film, presumably adjacent) monads at every level, which he saw as dialectical and inherently involving opposition and conflict. See in particular the essays in *Film Form* [New York: Harcourt, Brace, & World, 1949] — "The shot is by no means an element of montage. The shot is a montage cell (or molecule)." — the analysis of *Potemkin* —etc.

[46] One bizarre factoid, for instance, is that more people were killed re-enacting the storming of the Winter Palace than were in the (rather anticlimactic) original event.

<center>{…}</center>

Within the later practice of the art, the *Magellan* project of the avant-garde filmmaker Hollis Frampton — left incomplete and fragmentary after his early death[47] — was intended as a conceptual circumnavigation of the globe, comprising 371 films with a running time of 36 hours, one to be shown on each day of an extended calendar year.

In a grant application of 1978[48] Frampton listed among the purposes of the work the rationalization of the history of film art ("making film over as it should have been", "systematically mapping the terrain of film art"), the examination of the notion of time in film, the function of the word, the problem of sound, manipulation of the image by optical and electronic means, and creating "a model for human consciousness." He suggested the completed work would consist of seven complete films: *Dreams of Magellan*, *The Birth of Magellan*, *The Small Cloud of Magellan*, *Straits of Magellan*, *The Large Cloud of Magellan*, *The Death of Magellan,* and *The Return of Magellan;* that the first and second parts would be products of animation and video synthesis, the third and fourth parts would be exercises in "the canons of filmic montage [Kuleshov/Eisenstein/Vertov]", with *Straits* consisting of 240 one-minute subsections, and that the last part would be generated with the assistance of a digital computer. As his conception evolved he developed elaborate variations on these themes; the best idea of what the finished opus might have looked like is provided by a calendar[49]

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[47] His works have been collected in a two-volume Criterion edition, *A Hollis Frampton Odyssey*, containing 24 films which include the completed portions of *Magellan*. Other drafts and fragments are available for inspection by scholars, but have not been digitized. Cf. https://film-makerscoop.com/catalogue/hollis-frampton-drafts-andamp-fragments-straits-of-magellan.

[48] "Statement of Plans for *Magellan*", in Bruce Jenkins (ed.), *On the camera arts and consecutive matters: The writings of Hollis Frampton,* pp. 226-229. Cambridge: The MIT Press, 2009.

[49] Reproduced in Brian Henderson, "Propositions for the exploration of Frampton's 'Magellan'" in Michael Zryd (ed.), *Hollis Frampton (OCTOBER FILES 27)*. Cambridge: The MIT Press, 2022.

dated December 21, 1978 which specified an exact 365 day screening schedule for a cyclical series of films which for the most part would consist of 720 one-minute shorts, two per day, with more elaborate productions to be exhibited on the equinoxes, solstices, and the author's birthday. (I cannot decide whether this was meant to be a joke.) The beginning and end of the cycle were to be marked by the Birth and Death,

Besides many apparent references to the idea of some kind of astronomical engine like a sundial or astrolabe — Frampton suggests a recursive wheels-within-wheels structure, likens it to a (Borgesian) library — "a kind of encyclopedia or inventory of sights, which proposes to have so many different images that it will function as a kind of voyage through the world … organized in the form of a kind of calendar or logbook" — and alludes to the work as "a mechanical analogue computer or differential analyzer" — there is an obvious parallel with the structure of *Finnegan's Wake*, and in fact two of the completed short films are based on the original ballad from which Joyce took his title.

In any case out of the projected 36 hours of the completed film seven or eight may be extant (of the hundreds of film strips he left as it were on his workbench, it is not certain how many were complete[50] save for editing snips to define beginning and end), which include several studies for *The Birth of Magellan*, drafts and fragments (among them a number of reworkings of the early Lumière actualités, which Frampton regarded as canonical) comprising the *Straits of Magellan*, four long films marking the solstices and equinoxes, a long piece called *Magellan at the Gates of Death*, and assorted other studies.

Regarding the meaning of the work, "it is an essay — in this case, a particularly massive and inclusive one— about what meaning is or may be … in film (that is to say, in the mechanical joining of images

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[50] In an interview of 1976 he said he had completed about 700 short films related to the project.

together in space and time). An essay, if you will, on how the notion of meaning itself is constituted." Elsewhere he characterized it as "an attempt at a modern *mathesis universalis*."

Precisely what role "the computer" was to play in the organization and presentation of the completed opus is not known, but it is obvious in retrospect that Frampton was ahead of his time in his anticipation of digital possibility, and that what he was aiming at was indeed a kind of machine to compute the metahistory of the cinema and thus provide a sort of scale model of the cosmos; though I can't find any explicit mention of the work by Frampton, he must have had something like Kepler's *Mysterium Cosmographicum* in the back of his mind:

# TABVLA III. ORBIVM PLANETARVM DIMENSIO.

## NES, ET DISTANTIAS PER QVINQVE REGVLARIA CORPORA

*Geometrica exhibens*

### ILLVSTRISSIMO PRINCIPI, AC DOMINO DOMINO FRIDERICO,
### DVCI VVIRTENBERGICO, ET TECCIO, COMITI MONTIS
Belgarum, &c, confecrata.

*Penetur Tabula adpag. 24.*

<center>{…}</center>
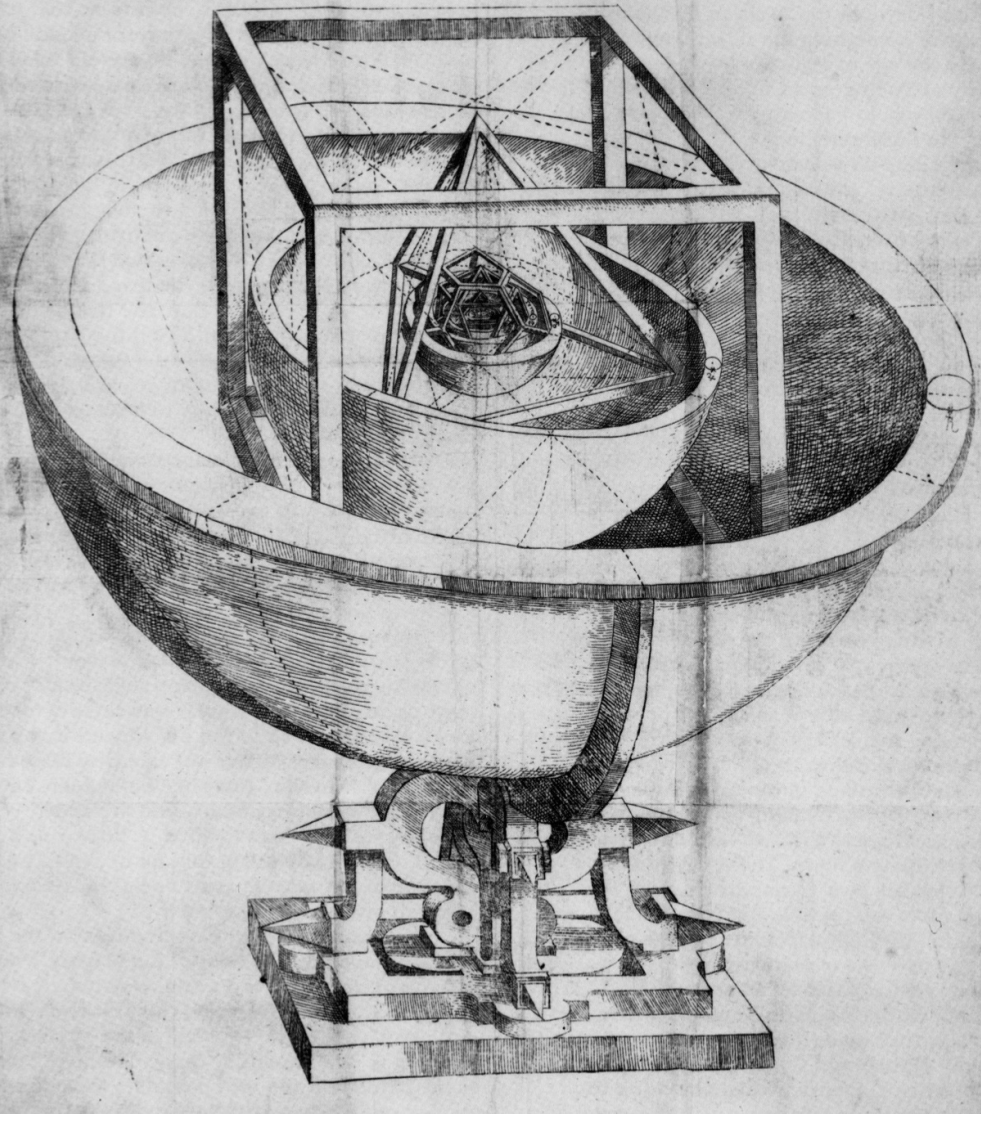
Intellectually Frampton was on a par with Eisenstein, and quite as ambitious in his theoretical aspirations. In a lengthy interview filmed by Adele Friedman in 1978,[51] in response to a question about the relation of film to photography, he remarks:

> My sensation now…right now…is that they are both parts of something for which we don't have a name at the present time — it would be amusing to try to give it a name — which thing, once it is fully constituted, will, I expect, finally constitute a kind of counter-machine for the machine of language… . That is to say, I think that — or I suspect — that the intellect of the West, at least, has been struggling for quite some time to invent a natural counterbalance to language as a way of accounting for the world. — A way of doing it through images.

He amplified this theme in the essay "Film in the House of the Word" [1981],[52] about Eisenstein's negative reaction to the premature marriage of film and sound. With regard to Eisenstein's "logophobia" Frampton says

> It was not simply sound … that threatened to destroy all the "present formal achievements" of montage, but the dubious gift of speech, the Prime Instance of language, the linear decoding of the terrain of thought into a stream of utterance. … [thus meaning:] … the end of the edenic childhood of montage…

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[51] Available in the Criterion edition. — It is remarkable to watch Frampton as he responds to the questions put to him: completely unaffected, he pauses frequently to think, makes no effort to suppress his repeated "uh"s and "ah"s, and (strongly hinting at the cause of his premature demise) lights one cigarette after another.

[52] See pp. 81-86 of *Circles of Confusion: Film, Photography, Video Texts 1968-1980*. [Rochester: Visual Studies Workshop, 1983.]

… the word is anaesthetic, truncating the report of an innocent sensorium ("How many colors are there in a field of grass," Brakhage had asked, "for a crawling baby who has never heard of green?"), depriving thought of that direct Vision of a universe of ideal forms that would pierce, sweep away, the clutter of denatured simulacra created by language —

He points out that Eisenstein is Leninist in his ambition to overthrow the rule of language and replace it with the logic of montage, a universal method of communication based on the — grammatical?[53] — concatenation of images.

Frampton proposes a criterion of universality which might be satisfied by "two hypothetical symbolic structures … a universal natural language; [or] a perfect machine." And, remarking that "the two are mutually congruent," points out that Eisenstein was trained as an engineer, and must have had some intuitive grasp of the possibility of "the construction of a machine, very much like film, more efficient than language, that might, entering into direct competition with language, transcend its speed, abstraction, compactness, democracy, ambiguity, power … ."

So the intent here isn't very different from that of the *logica magna* of Whitehead and Russell. Though the proposed implementation is of course very different.

Eisenstein, i.e., had thought a universal method of communication lay within his grasp. But his Tower of Babel was abandoned, incomplete, because technological progress had confounded the cinemas of the Earth. Frampton was Eisenstein's heir in this project, and it would be difficult to identify anyone else with the depth of insight even to recognize that this was the philosophical problem inherent in film, let alone with the intellectual capacity to attempt to carry it forward. — One must be skeptical, of course, of the possibility of its success —

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[53] Eisenstein does develop ideas similar to recursion, but relates them to dialectic.

transcend language? really? — but the reasons why it seems impossible are still not obvious, and the best way to identify them would be to attempt it. — We learn more from failure than success, after all.

{…}

In another essay[54] Frampton propounds the curious thesis that "no activity can become an art until its proper epoch has ended," and, therefore, given that he was born into the Age of Machines, that "Cinema is the Last Machine. It is probably the last art that will reach the mind through the senses." It follows, then (sort of) that the history of art is a series of footnotes to the history of film; that in a sense film encompasses all the other arts, it is a synthesis, synoptic, it embodies the philosophic vision.

{…}

In another interview[55] Frampton says about *Magellan* "it's a kind of encyclopedia or inventory of sights, which proposes to have so many different images that it will function as a kind of voyage through the world … organized, along with many other things, in the form of a calendar, a logbook, or whathaveyou…so that if one were to undertake to see the final film in a certain form, there would be a little bit to see every day… . Now, this will probably never transpire — although, of course, I will do it eventually… ." — He goes on to suggest that the viewer's experience in this way would reproduce, in a sense, the experience of the filmmaker, for whom contact with film as maker, manipulator, and viewer is a quotidian affair that goes on from day to day. — He does not seem to notice that he is reinventing the wheel here, since serial radio and television had long since accustomed audiences to follow narratives so diffuse as to transcend the narrative

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[54] "For a Metahistory of Film", in *Circles of Confusion.*

[55] Again, excerpted in *A Hollis Frampton Odyssey.*

form, over spans of years, decades, or even generations — but his is, admittedly, a more novel idea, and one which it is now easy to envision implementing as a kind of computer desktop accessory: a calendar, say, which opens itself automatically on awakening and plays a short film which would not raise soap-operatic questions like "Who's been fucking whom?" but rather epistemological questions like "What the fuck was *that*?"

{…}

Frampton's most famous film, *Zorn's Lemma* [1970] — named after an equivalent of the Axiom of Choice[56] — is divided into three sections. In the first beneath a black screen a female voice (Joyce Wieland) recites a series of couplets used to teach the alphabet in an old Puritan primer, beginning with "In Adam's Fall/ We sinned all" and ending with "Zaccheus did climb the tree/His Lord to see."[57] In the second a series of one-second shots illustrating the letters of the alphabet is gradually — very gradually — replaced by a series of one-second shots of natural scenes and quotidian activities (fire, waves, dribbling a basketball, peeling a tangerine, painting a wall, …). In the third, a couple and their dog walk away from the camera into a snowy landscape while voices (in synch with a metronome) recite a passage from Robert Grossteste, the medieval philosopher who made the first attempt in Western intellectual history to formulate a mathematics of infinity and founded his cosmology on a metaphysics of light. — And the film does, indeed, end with a fade to white and an empty screen. — No words, no things; just light and shadow. A metaphysics of film.

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[56] Russell stated this as the principle that, if you have an infinite set of pairs of shoes, a set exists which selects either the left or the right from each one of them. — Gödel showed this was independent of the other axioms of set theory.

[57] Curiously enough these are the 24 letters of the *Latin* alphabet, which identifies I/J and U/V; Frampton adopts the same convention in the second section.

<p style="text-align:center">{…}</p>

Anticipating the Wachowskis,[58] Frampton explains the Grossteste reference:

> The key line in the text is a sentence that says, "In the beginning of time, light drew out matter along with itself into a mass as great as the fabric of the world." Which I take to be a fairly apt description of film, the total historical function of film, not as an art medium, but as this great kind of time capsule. It was thinking about this, which led me later to posit the universe as a vast film archive (which contains nothing in itself) with — presumably somewhere in the middle, in the undiscoverable center of this whole matrix of film-thoughts — an unlocatable viewing room in which, throughout eternity, sits the Great Presence screening the infinite footage.[59]

It comes as no surprise that Frampton is constantly quoting Borges. — Later in the same interview he provides another perspective on his quixotic struggle to overcome the tyranny of the Word:

> Aristotle talks somewhere[60] about six kinds of intelligence. We've whittled it down to one. That which enables us to talk (writing is a kind of talking). To articulate. That leaves five kinds of intelligence as recognized by Aristotle shivering in the cold. One of the kinds he talked about was *techne*, which is the kind that allows people to make things, presumably good things. We get technical from that, but we now say "that's merely technical."

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58 Who, however, saw the necessity of parallel processing. The image of the [serial] screening room suggests that Frampton hadn't absorbed the moral of *The 1000 Eyes of Dr. Mabuse*.

59 Interview by Peter Gidal [London, May 24, 1972] in Zryd, *op. cit*.

60 Actually I have no idea where. But Aristotle admittedly does talk *a lot*, so maybe. — On the other hand, so does Frampton, and when I am familiar with his sources he is often just Making Shit Up. So maybe not.

But Aristotle didn't limit this intelligence to that which pertains to craft. He meant it as the whole faculty of mind that makes it possible for a Brancusi to be able to march up to a billet of bronze and get the Bird in Space out of it. Whereas, if I were to march up to the same billet of bronze, whatever my powers are, I would get a pile of filings out of it. Yet all Brancusi had to say about sculpture—to my knowledge—was ten sentences, none of which an art reviewer would recognize as rational.

And good for Brancusi.

{…}

*Leonardo*

For whatever reason — perhaps some version of the anxiety of influence[61] — Frampton makes no mention of the most obvious exemplar of the program of comprehending the world through images alone, outside the trap of language. But surely Leonardo was the true epitome of the philosopher: his curiosity was universal, his energies prodigious, the breadth of his talents all-encompassing, the scope of his investigations all-inclusive.

Here was someone who really did try to grasp the whole of Nature within the compass of his imagination — but not in the manner of Plato, not from a great height of abstraction, but by immersing himself in the particular.[62] — Not by theorizing but *observing*.

If the phenomenal world was a mere play of shadows on the wall of a cave, Leonardo had his face right up against it; tracing their outlines and making notes on how the composition of the stone diffused their images.

{…}

There is a problem here of modes of representation, what the modern engineer would call the issue of digital versus analog. — Compare Leonardo's method with Austin's: in one notebook in which he is

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[61] There are curious parallels. Frampton's inclusion of autopsy footage in *Death of Magellan*, for instance, echoes not only Brakhage but Leonardo's fascination with dissection.

[62] Here any reader of Leonardo's notebooks inserts a few random items to illustrate his astonishment: "Salt may be made from human excrement" (with description of the process); the observation that vitrified brass makes a fine red; notes on alloying metal for guns; designs for palaces, temples, mausoleums, studies of domes and arches; a series of entries "On Fissures In Walls", containing one "On cracks in walls, which are wide at the bottom and narrow at the top and of their causes."

investigating the flow of water he records sixty-seven different words describing its movement. — So far not very different. — But this is just a sideshow, a mere marginal footnote; what Leonardo does, mainly, is to observe and record by sketching. — Record what it *looks like,* how it behaves. — Because here as always a picture is worth a thousand words.

Leonardo was trained as an artist and an artisan; he scorned the "educated" men of his era, who had learned the use of words and nothing else. — Words were an untrustworthy shorthand for the direct knowledge of things.

{…}

Though of course he suffered from the curse of the dilettante, — "Truly wondrous and divine was Leonardo, the son of Piero da Vinci," said Vasari, "and he would have made great progress in his early studies of literature if he had not been so unpredictable and unstable. For he set about learning many things and, once begun, he would then abandon them."

This manifested itself in a spectacular eclecticism: Walter Isaacson reproduces a page from one of Leonardo's notebooks from 1495 containing "a sketch for *The Last Supper*, geometric studies for squaring a circle, octagonal church designs, and a passage in his mirror-script writing."[63]

Even Leonardo, even in the fifteenth century, was overwhelmed by the magnitude of the task. Even he couldn't know and do everything.

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63 *Leonardo Da Vinci*. [New York: Simon and Schuster, 2017.]

{…}

Some of Eisenstein's working notebooks have been published, incidentally, and they are reminiscent of Leonardo's: he too thought by sketching.

{…}

*Phaedrus*

> For the immortals, when they are at the end of their course, go forth and stand upon the outside of heaven, and the revolution of the spheres carries them round, and they behold the things beyond. But of the heaven which is above the heavens, what earthly poet did or ever will sing worthily?

Whether impossible or not, the Napoleonic vision is what you strive to attain — the comprehensive synthesis, the perspective of a god. And there are those fleeting moments of *claritas*, when you glimpse the landscape as a whole … they never last, but they're what make the project irresistible; they're why you can't stop trying.

Any more, I want to say, than the true Mad Scientist can stop trying to rule the world.