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Faulty Instruments
The Sea & The Stars
~
A Digital Fine Art Practice

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Declaration

I, Paul George Nathan Magee, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.
I started getting these ideas for it.. but they were just fragments of interesting things. Some fell away, others stayed and began to join up. It all comes in from somewhere else, like I was a radio. But I'm a bad radio, so sometimes the parts don't hook together.¹

David Lynch

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Abstract

A digital fine art practice is at the nexus of some powerful dichotomies: the subjective versus the objective, the passions versus reason, and art versus science among them. This research uncouples such polarities and confuses them. It confuses the theoretical with the practical, the rational with the irrational. It confuses art, science and technology. And it does so to advance a distinct approach to making sense.

Paul Feyerabend portrays knowledge as an ever-expanding paratactic ocean of mutually incompatible alternatives. He argues that scientific knowledge does not advance in an entirely rational manner. His analysis of its methodologies leads him to advocate deviation and error, ambiguity, approximation and open interaction. He demonstrates that these methods and practices are essential in the construction of the ad-hoc hypotheses and future languages that are themselves essential to the further development of knowledge. Moreover he asserts that these methods and practices are critical to human beings remaining free and happy agents.

Within the context of a digital fine art practice, this research confuses such an anarchic epistemology with an antiquity. That antiquity is of ancient Greece as understood by Feyerabend and Nietzsche, and as wilfully misunderstood by myself. This text constructs a vaguely suspect chronicle of the trajectory and impact of aggressive rationality over the last two and a half millennia, and investigates the instruments and practices of what has become the dominant tradition within that chronicle. Those instruments and practices are then loosely misunderstood and misapplied to both an established art practice and an emerging writing practice.

This text is witness and accomplice to the construction of a personal constellation and logos. It is my own personal Phenomena and Enoatron, my own lodestar and lodestone. It documents a dialogue between quite disparate voices. Between bots, agents and daemons. It is above all however, an account of the dialogue between the physical thoughts and mental objects that constitute my practice and this research.
I don’t want to know what my work means. I don’t want to put those objects into words. With a paper to write on that very subject, such a disposition presents a difficulty. It was however, precisely that difficulty that led to the text that follows.

This text emerged from a daily practice of writing into the dark. Seven hundred words or so without predetermined objectives or ideas. This quickly led to an unwieldy and tangled mass of text. In an attempt to make some sense of it all, each paragraph was tagged with keywords. Suddenly there was a map of interests and obsessions, but it was a map that was difficult to follow. To put it in some sort of order, I wrote a computer application. That application - which was given the working title Coherence - made it possible to quantify those interests and obsessions, and to trace their associations and attachments. The central window in Coherence is where everything comes together. Variables, lists and logic, push and pull words and sentences in and out of meaning. Passages merge and collide to reveal which ideas like each other, and which do not. The products of this process were then elaborated on further. These elaborations included discussions with both off-the-shelf and custom-made chatbots.

It was this activity that revealed the extent of my preoccupation with ancient Greece, and at how material that preoccupation had become to my thinking around practice. This text is a consequence of an art practice but also subordinate to it. Its substance and progress resemble that of an art object, and is a combination of both rational and irrational processes, of both calculation and intuition.

This text is at a tangent to its facts. It is at a tangent also to its quotes and references. Its focus more on the possibility of a matter than the truth of it. The meaning of certain terms are also at some curve away from convention. Disconnect, dissonance, misappropriation and ambiguity are words that have a specific weight here. They are emblematic of the method and practice that they are employed to describe and construct. The definition of dialogue I prefer expansive and promiscuous. Misconnection I have appropriated from airline travel. Implicaspere I take from Douglas Hofstadter, and on occasion merge with Paul Feyerabend’s paratactic ocean of incompatible alternatives. Other words seem full in this context as they seem to flicker between
worlds. Terms such as digital, daemon, and agent. Ratio and logos also. In addition I have something very specific in mind with kaos and kosmos, con-fusion and coherence, and this text can be read as a definition of those terms. These definitions, axioms and postulates, both follow and develop the arguments. Their feedback and echo, direct and drive the whole process. There is one more term and definition I should speak of. I began with a very narrow interpretation of knowledge that was exclusively academic, rational and scientific. It is an interpretation that has no interest in any possible contribution from a fine art practice. That understanding has shifted. And in such a way as to permit the practical, irrational and unscientific. Which - conveniently - makes it possible for research such as this to contribute to scholarship.

The setting I have focused on for this text and research is an everyday world of science and reason. I have consciously avoided reference to an art world context. This is not to say that the work of contemporary digital artists is not more pertinent or persuasive on the matters of interest here. This is also not to say that this research could exist without the world created by the systems of Raymond Roussel, the anarchy of Dada, the furious machines of Tinguely or the iconoclasm of Duchamp. I believe that world and context pervade everything I have said and done here. The objects and practice that constitute this research have a more immediate concern. A concern I consider more urgent. And it was with regard to that matter, to that world and those people, that I wished to set this work. That everyday world of science and reason is the context, and fine art is the method.

The critical and practical aspects of this research are entangled. This is most apparent in the preoccupation with instruments - both physical and conceptual - and in how they frame what can and cannot be said, in how they construct worlds and selves. This echoes a general interest in how technology architects both physical and mental spaces. The practical side of this research saw extensive use of computer-controlled rapid-prototyping techniques. The plotters, 3D printers and CNC machines were built from open hardware sources. The decision to use and construct them did not have a clear rationale at the time, but seemed pertinent to the whole undertaking.

Please note that although artwork is described in this text, it is not illustrated. White text on a black background indicates ekphrasis of my own objects at various points in their production. Also note that although words and their etymology are at the heart of this paper, the citations here are substantially annotated, edited and rearranged. And finally, in addition to those quotes I wilfully misread, there are a number of references that are contested on their own merits and within their own disciplines.


Fetish

God speaks to me. He speaks to me in binary. He speaks to me in ASCII. He says (Z3&?
eRÝdheY<?!d hj q0&^* w(&2!

The pills came in a shrink-wrapped packet. A packet comprised of two columns, each of five capsules. Each capsule blue at one end, white at the other. Their orientation random. Ten capsules. A start bit, the middle eight bits a byte, and an end bit. A packet of pills encoding a number in binary. A binary number encoding a letter in ASCII.

Unfinished artwork. Dormant for fifteen years. Has recently taken to calling itself Fetish.
Introduction

In both theory and practice the model for this research has been Paul Feyerabend’s understanding of how knowledge develops. Feyerabend portrays knowledge as an ever-expanding paratactic ocean of mutually incompatible alternatives.¹ He argues that scientific knowledge does not advance in an entirely rational and reasonable manner. His analysis of how it does in fact move forward leads him to advocate deviation and error, ambiguity, approximation and open interaction. Feyerabend demonstrates that such methods and practices are essential in the construction of the ad-hoc hypotheses and future languages that are themselves essential to the further development of knowledge. He argues for the necessity of drawing methods and ideas from all manner of sources. Any idea he says, no matter how ancient or absurd, can contribute to the progress of knowledge.² Aggressive rationality and dogmatism become an impediment to that progress. An impediment that confines, limits and diminishes us as individuals and as societies. Furthermore, Feyerabend argues that these errors and fallacies, dubious methods and misguided practices, are essential to us remaining free and happy agents.³

In this text I unravel a present and con-fuse it with an antiquity. That antiquity an ancient Greece distorted by my own incomplete and fragmentary reading. Distorted also by the unique perspectives on that world in the work of Feyerabend and - to a lesser extent - Friedrich Nietzsche. An antiquity where almost all knowledge is articulated and transmitted by a voice. Where that knowledge begins to make its way through an alphabet and onto the page. An antiquity that begins without a word for the body as a unified whole,⁴ where a human being is no more than an empty vessel for divine inspiration,⁵ and where the individual self first emerges and becomes conscious of their own agency. A world where the very idea of general, unifying narratives begins. A world where the distinction between surface appearance and hidden reality is first drawn.⁶ Where people live with contradiction in their lives at every level, and do not notice or even care. A world where the base categories that define how we think about our experience - and the values we attach to them - are first conceived, constructed and installed. Where argument, logic and rhetoric are instituted. An antiquity that sees the birth of aggressive rationality.⁷
This text constructs a vaguely suspect chronicle of the trajectory and impact of that aggressive rationality over the last two and a half thousand years. It also examines certain instruments and practices of what has become the dominant tradition within that chronicle. Those instruments and practices are then loosely misunderstood and misapplied to both an established art practice and an emerging writing practice.

This research uncouples the polarities that dominate how we look at the world, and con-fuses them. It con-fuses the theoretical with the practical, the rational with the irrational. It con-fuses art, science and technology. And it does so to advance a distinct approach to making sense.

My arguments may be invalid. Their evidence shaky. I am selective when it comes to the application of reason. My process of association, division and definition, can be flippant and arbitrary. This is the method. Misappropriation, misconnection, and misunderstanding. Seeing things that aren’t there. Making connections where there are none. Drawing unwarranted and unjustified conclusions. Dissonance, disconnect, dialogue, incompleteness, ambiguity, open interaction, random seeding, elaboration and suspended judgement. The practice, context, argument and terms, all in perpetual flux.

This text is divided into three parts. Part one - Nexus - explores a setting for the artwork and practice that constitute this research. It elaborates out from two narratives: the first concerns the sea tunicate, the second a photograph of the Apollo of Piombino. These elaborations focus on rhetoric, spectacle and certainty, language, abstraction and encoding. They reflect on reductionism, the radical ambivalence of science, some consequences of scientific method, and certain difficulties with a life based solely on a scientific and rational worldview. They do not present a complete picture. They do not present the most pertinent or pressing issues facing such a worldview. They are a sample and serve as representative of that context for parts two and three of this thesis: Kaos | Con-fusion and Kosmos | Coherence. The Sea and the Stars. Part two details an approach to disrupting existing worldviews, part three a means to constructing new ones. These three parts are not hermetic units. Their boundaries are vague and often disregarded, they bleed into and across each other.

I am not a Greek scholar. Nor am I an expert on Feyerabend, and even less so on Nietzsche. My knowledge is fragmentary and often superficial. My recall wilful. This text may not function very well in the face of more conservative interpretations and definitions of academic scholarship. However, if academic research is to include fine art practice then those interpretations and definitions must broaden to include it. It would diminish the discipline, its practitioners and wider culture as a whole, if the subject were to narrow, if we were to allow it
to be redefined and remade to fit an exclusive prejudice for what constitutes research and knowledge. Even so I have endeavoured to stretch those definitions rather than break them.

This text is witness and accomplice to the construction of a personal constellation and logos. It is my very own Phenomena and Enoptron. My lodestar and lodestone. It documents a dialogue between quite disparate voices, between bots, agents and daemons. It is above all however, an account of the dialogue between the physical thoughts and mental objects that constitute my practice and this research.

2 Ibid., 33.
3 Ibid., 158.
4 Ibid., 181.
5 Ibid., 183.
Part One
Nexus

A digital fine art practice is at the nexus of some powerful dichotomies: the subjective vs the objective, the emotions vs reason, the natural vs the artificial, digital vs analogue, and art vs science among them. These divisions structure a rational and scientific outlook, an outlook that changes who we are and how we look at things. However, the individuals reworking our world and our selves are not as rational, scientific or objective as might be expected. Moreover, the way in which they go about their reformation gives rise to the question of whether the scientific worldview is fundamentally any different from any other way of looking at ourselves and our experience.
The Sea Tunicate

Daedalus

One eye looks up, the other down. *Daedalus* is a skullcap and mask. Over one eye is mounted a telescope, over the other a microscope. The mask is mounted on a bust, the bust on a plinth. *Daedalus* also features in the video work *Zodiac*.

The Tunicate & the Neuroscientist

The tunicate is a sea creature. It is an invertebrate, a sessile filter-feeder of sacs and siphons. But it does not start out that way. It starts out vaguely mobile with a notochord, gills and a tail. It looks a lot like a tadpole. It has a primitive eye, a primitive ear and a primitive brain. These rudimentary organs coordinate its activity as it navigates the ocean looking for somewhere to settle. Towards the end of its first day of existence, it cements itself to the rock on which it will live out the rest of its life. Then it eats its own brain. Neuroscientists are particularly fond of this story:

The clue to brain function provided by this tale is that you only need a brain when you are moving.\(^1\)

Susan Greenfield

We have a brain for one reason and one reason only, and that’s to produce adaptable and complex movements. There is no other reason to have a brain... The clinching evidence is this animal here - the humble sea squirt.\(^2\)

Daniel Wolpert

During metamorphosis into its adult form, the sea squirt digests this central ganglion and thus ‘eats its own brain,’ because, as a plant form, it no longer needs it.\(^3\)

Frank Amthor
The Tunicate & the Marine Biologist

Marine biologists tell a different story. A different interpretation, with different facts. Fact number one: The adult tunicate does not move but has a brain.

In fact, adult ascidians have perfectly good brains, an order of magnitude larger than those of their larvae, and their behaviour is as finely adapted to sessility as that of the larvae to motility.4
George Owen Mackie & Paolo Burighel

Facts two and three: Originally they have two brains, and the remaining adult brain has nothing to do with movement.

The cerebral ganglion breaks down and is reused elsewhere. What remains - the adult ganglion - controls feeding and reproduction.5
Alan Kuzirian

Fact number four: Their transformation is misrepresented.

But does a sea squirt eat its own brain? “Of course not,” laughs Kuzirian.6
Lisa Chadderon & Alan Kuzirian.

Saying that they eat their own brain is like saying that a butterfly eats a caterpillar.7
Steven Webster

Wilful Error

To summarise:
• You only need a brain when you are moving. This is not true.
• We have a brain for one reason and one reason only, movement. This is not true.
• The adult sea squirt as a plant form, no longer needs a brain. This is not true, on three counts.

The assumption that a sessile form is by definition a plant form is an error. The conclusion that there is no other reason to have a brain does not logically follow from we have a brain because we move. The human brain may be all about movement, but the story of the sea squirt’s transformation is not conclusive evidence for that thesis. The most that can be said is that the
sea squirt's two brains appear to have three functions between them: digestion, reproduction and movement. And perhaps that neuroscientists do not make the most meticulous of marine biologists. Why do neuroscientists obsess over movement in their translation of this story? And to the point of wilful error? It is clear that they do not care about the science. They care about the story.

Scientists as Human Beings

Science, since people must do it, is a socially embedded activity. It progresses by hunch, vision, and intuition. Much of its change through time does not record a closer approach to absolute truth, but the alteration of cultural contexts that influence it so strongly. Facts are not pure and unsullied bits of information; culture also influences what we see and how we see it. Theories, moreover, are not inexorable inductions from facts. The most creative theories are often imaginative visions imposed upon facts; the source of imagination is also strongly cultural.8

Stephen Jay Gould

To represent the life cycle of the sea squirt as proof for movement being the cause and purpose of brain function misrepresents and misleads. This is where advocacy is in danger of descending into sophistry, arrogance and contempt. This is how our values are disfigured. This is how the world is put out of joint. Not all scientists are so militant.9 Daniel Dennett in Consciousness Explained is more disarming. The sea tunicate eating its own brain is like an academic getting tenure.10 Dennett argues in a more generous spirit. He does not berate or intimidate. His rhetoric appears open to dialogue, open to an exchange. It is discursive. Dennett still presents a very hard scientific vision of the world and our experience, but it is clear that although you may not have the good fortune to be a scientist, you are not necessarily an imbecile barely worthy of facts that pass more than casual scrutiny, an argument that conforms to logic, or an articulation that presumes you are equal to the discussion.

Voice

Voice is a sound object. In the initial analysis phase Voice examines English texts and calculates the overall probability of each phonetic being spoken. It also analyses - for each phonetic - which of the other phonetics are more likely to precede and follow it.

In its articulation phase - during exhibitions - it applies the overall probability table to bias a
random generator and constructs a seed sentence. It speaks this sentence through a bank of 44 speakers. Each speaker is associated with one particular phonetic. Using the proximity probability tables, it then rearranges the phonetics in that sentence into more comfortable positions. It speaks the sentence again. It does this until it gets bored. Then Voice generates a new seed sentence and starts the whole process again.

Veracity Subordinate to Spectacle

In the struggle for our hearts and minds science must persuade us of the urgency of her own revelations over those of religion or the arts. In that struggle science is confronted with a difficulty: the depth and detail of her research is impenetrable to the uninitiated. However her facts and theories offer an immediate solution. They return a universe inclined toward wonder.

This is the universe science presents to us: Red hyper-giants one thousand eight hundred times the size of our own sun expel dust and gas equivalent to thirty suns a year. Exoplanets where glass rains sideways in seven thousand kilometres-per-hour winds. Superfluid helium that climbs up and out of its crucible. A teaspoon of a neutron star that weighs ten million tons. This stunning vision and its dissemination constitute an extraordinary spectacle. Science, the big ideas, the big questions: time, space, consciousness. Grand theories of this, that and the other. Her vast reach into our physical and mental spaces outstrip our capacity to fully experience her universe by orders of magnitude. She is a contemporary sublime that crushes the vista from a Caspar David Friedrich to dust, and at which we can only squint through a glass darkly as she writhes in and out of our perception and understanding. In her wake, in her eddies and her tides, we turn and spin.

Within the spectacle that awe-struck response is the purpose to which the facts are bent. Despite caveats and protestations, the acolytes of the spectacle want their fictions read as fact. They are determined to have their world read as the real one. In this way the spectacle becomes indifferent to misrepresentation. In this way it detaches itself and its facts from the truth of any scientific observation or theory. In its world veracity is subordinate to spectacle.

Fact & Theory

The word fact starts out as a deed or act - and specifically an evil one - before science makes of it something that is known or proved to be true. The word theory begins in Greek as
contemplation or speculation, but it shares its root with theatre and so also meant show or spectacle.\textsuperscript{17} In the 15th century the meaning divides the principles or methods of a discipline from its practice to reflect and further a new world through new divisions.\textsuperscript{18} Science appropriates it more fully in the 17th century when it also incorporates into theory its methods of observation and its reason. There is nothing unique about the way scientists use or appropriate words, every discipline that uses words changes them. The meaning of a word travels through people, disciplines and epochs.

Fundamentally Irrational

Scientific practice has endeavoured to set itself against ambiguity, paradox and contradiction. This presents something of an extra challenge when faced with its own inconsistencies. Here - and for no good reason - I am going to ignore the problems with the scientific method,\textsuperscript{19} except to recall that induction rests on the regularity of nature, an assumption that is more a matter of our psychology than it is a fundamental mechanism of the universe. There are two further difficulties concerning the methods and ambitions of the scientific project that I would like to call back to mind. Firstly there is the observation made by Max Planck:

The two statements, "There exists a real external world which is independent of us" and "This world cannot be known immediately" together form the basis of all of physics. However, they are in conflict to a certain extent and thereby reveal the irrational element inherent in physics and in every other science, which is responsible for the fact that a science can never solve its task completely.\textsuperscript{20}

Max Planck quoted by Feyerabend.\textsuperscript{21}

So there’s that. A fundamental irrationality at the core of the planet’s most rational enterprise. There is no possible way for science to achieve its mission. Its desire and ambition are at odds with its logic.\textsuperscript{22}

Sigma Scale Certainty

Secondly there is an incongruity embedded in how science goes about constructing her worlds. Her truth is built on scepticism - on and of doubt - and can only ever be theory, never fact. Unless you change the meaning of those terms. Unless you change the meaning of the word true to that of very likely. Or very, very likely. Or no really, almost definitely. Within science a theory may reach five sigma certainty, but even 99.9999\% is not 100\% and theories are not realities. Five
sigma is a matter of confidence and plausibility. It is an article of faith. Axioms are no more than assumptions, science requires and embraces doubt. Within science, certainty is a gradient.

But this discrepancy between truth and theory only gets elevated to contradiction if you believe in the truth of the theory. This is precisely the distinction that is obscured by the spectacle. At least for the layperson.

**Soothsayer & Oracle**

There are now many scientists, especially in high energy physics, who view all theories as instruments of prediction and reject truth-talk as being metaphysical and speculative.²³

Paul Feyerabend

Science divines the future so well that for a moment it seems possible to twist all of infinite chaos into tidy little circles and cram it inside a skull, but without a real world beyond theory science finds herself fundamentally in the same business as all the other theologies from which she has tried so vigorously to distance herself. She predicts. She is a soothsayer. An oracle who weaves worlds into existence or unravels them entirely with nothing but her dreams.²⁴

When science loses her grip on the real world, when she becomes categorically just another form of conjecture, what happens then to her position as judge and moderator on matters of fact and matters of merit? On what authority does science rest when its reality is revealed as lacking in veracity? You may defend her virtue by declaring that science is the best system we have, but by what criteria is that judgement made? If the good of human beings is any part of that judgement, then you must demonstrate that science is better in this respect than any other system. It is not clear that that is the case.

**Elektra**

It is spoken. It is sung. By people and machines. I think it is staged, but there is no plot - at least not yet. There is a hero, I think. A tragic hero. Undone by the very qualities that elevate her. And a fatalism, a damned if you do, damned if you don't. I know that the voices coalesce in and out of specific bodies: ideas, moods, sentences, words and syllables float between them. Like *Voice* and *Signal*, sentences are atomised into phonemes and spread across discrete units. Sense and nonsense, people and objects, bleed across and into each other.
Radical Ambivalence

The Roman Church, being interested in souls and not only in astronomical tricks, forbade Galileo to present his badly founded guesses as truths.  
Paul Feyerabend

One concern for any human being adopting a scientific worldview is that science consciously strives to disregard its humanity. In fact it is more extreme than this. Science regards its inhumanity as a virtue. This focus on a reality beyond the subjective - a reality beyond the human - institutes a conflict between science, rationality and humanity. While this focus on an objective universe has entirely rational arguments - and seems like an entirely rational ambition - there remains the question of how rational it is for science to privilege its objectivity over the welfare of individuals. It is a determination that betrays a radical ambivalence towards human beings, as a cure for cancer and a nuclear weapon might be said to demonstrate. This perversity is compounded by the insurmountable obstacle any subjective individual faces when they try to comment on an objective world.

Ultimate Meanings

Two examples in particular reveal something of the peculiar relationship science has with ultimate meanings: the God-Particle and the Theory of Everything.

As to his next swing from technology back to science, his fantasy at least is to find a theory to explain all of physics – the so-called grand unifying theory of everything. Wolfram thinks it could be but a handful of lines of code.  
Zoë Corbyn talking to Stephen Wolfram.

The fusion of classical and quantum physics. The Theory of Everything. Everything? I wonder about that everything, and I am not alone in that reservation:

In response to human suffering... the relationship between quantum mechanics and reality is anything but a universal problem. It is not even a problem for all physicists.  
Paul Feyerabend

This is their everything. When it arrives, when it has been discovered or invented, what would it matter? A clearer view of how things work? Perhaps. A number of technological applications?
Certainly. But what about a meaning? Shouldn't a theory of everything mean something?

The Higgs field and the Higgs boson constitute a theory that provides an explanation for mass:

> The particle is called the Higgs boson, but its elusive nature and fundamental role in the creation of the universe led a prominent scientist to rename it the God particle. 

Ian Sample talking to Peter Higgs

The God particle, it was a joke. Like God, the particle was elusive. Like God, the particle was fundamental to the creation. But it is a joke with an edge. Look, we have reduced God to a particle. Look, the ultimate meaning of the universe reduced to nothing. According to a number of her own most accomplished representatives this is what science does. It eradicates meaning.

Too Thin a Foundation for a Life Worth Living

Science has six sigma certainty that she provides a world more real than those of any other discipline. Perhaps however she is missing the point. Her universe may be spectacular, but do we really want to live there? Quoting Nobel laureates Jaques Monod and Steven Weinburg, Feyerabend asserts that the scientific universe is meaningless, that science generates knowledge without meaning:

> Science informs and performs. It not only does not deal with meanings, it intentionally removes everything that is only vaguely related to them. The result is that 'the more we know about the universe, the more pointless it seems' as Steven Weinburg wrote.

Paul Feyerabend

Meaning is not what it once was. The pragmatic soul of science and technology has led us to a universe gutted of any deeper significance. There are material causes and effects. There are laws of nature. There are axioms and postulates. There are fields and bosons. Why would you ask one billiard ball why it ricocheted off another? The meaning of the universe according to physics is the big bang. Since that point it's all billiard balls and ricochets. Meaning is losing her ability to ask the big questions, and soon she will have lost the imagination to even try. 42? The meaning of life, the universe and everything?

Suddenly that makes complete sense.

The idea that objective knowledge is the only authentic source of truth... By a single stroke it claimed to sweep away the tradition of a hundred thousand years, which had
become one with human nature itself.\textsuperscript{31}
Paul Feyerabend quoting Jaques Monod.

A world without meaning, what kind of place is that for us humans? Do you feel that emptiness at the core of your being? Do not ask science to fill it. Technology might distract you for a while - perhaps even long enough for you to die of natural causes - but science itself is utterly inadequate to that task. As Feyerabend says, scientific results and the scientific ethos provide ‘too thin a foundation for a life worth living’.\textsuperscript{32}

An Addendum

Three decades ago, Stephen Hawking famously declared that a “theory of everything” was on the horizon, with a 50 per cent chance of its completion by 2000. Now it is 2010, and Hawking has given up. But it is not his fault, he says: there may not be a final theory to discover after all. No matter; he can explain the riddles of existence without it.\textsuperscript{33}
Craig Callender reviewing The Grand Design by Stephen Hawking and Leonard Mlodinow.

Fantastic. Looking forward to it.

Empty Terror of the Scientific Sublime

To search for beginnings you turn into a crab. The historian looks backwards; in the end he even believes backwards.\textsuperscript{34} Friedrich Nietzsche

In amongst their swirling definitions, reason and rationalisation also specify direction. A reason for something, and an attempt to justify or explain something. Cause and effect. Effect and account. Those directions carry a connotation. A connotation of veracity. Of a truth over an explanation. Of natural and inevitable mechanism over human and fallacious argument.

There is a fantastic moment in David Lynch’s The Straight Story that is discussed by Phillip Shaw in terms of the postmodern sublime.\textsuperscript{35} The camera shows the view through a window onto an empty residential street when an orange ball rolls down the road. That’s it. There’s no explanation of any kind. It is not commented on in dialogue. There is no reference to it in earlier
or later scenes. It is not a motif. It’s just an orange ball rolling down the road. This sublime reflects the universe that science offers. The postmodern sublime offers a different kind of meaning. A different kind of terror. Empty of narrative. Empty of meaning. A phenomenon cut loose from anything other than the most material, superficial and apparent chain of cause and effect. That is the universe that science offers to us. The terror in this sublime is meaninglessness. The lack of a point. The reasons that science does offer, they are small. They are *whats* and *hows*. They are not the *why* that speaks of a purpose. Those larger *whys*, they are not scientific. They are rationalisations. And rationalisations absolutely necessary to us, at least for as long as we feel that meaning matters.

**Articulated**

*Articulated* is trying to claw away from its plug socket. It lies on the ground, its two arms each attached by a motor to a central body. At the end of each arm is another motor, and attached to that another arm and motor. And another arm and motor. The arms vary in length. The motors turn at slow but different speeds.

*Articulated* is under construction. It resists accidents and deviations, and because of this I am in no hurry to complete it.

**Scientific Self Versus Artistic Self**

Is it not possible that an objective approach that frowns upon personal connections between the entities examined will harm people, turn them into miserable, unfriendly, self-righteous mechanisms without charm and humour? ‘Is it not possible,’ asks Kierkegaard, ‘that my activity as an objective [or a critico-rational] observer of nature will weaken my strength as a human being?’ I suspect the answer to many of these questions is affirmative.  

Paul Feyerabend agreeing with Kierkegaard

The scientific self is modelled on certain inhibitions, it is a self that is defined by its lack of character:

His imagination is restrained, and even his language ceases to be his own. This again is reflected in the nature of scientific ‘facts’ which are experienced as being independent of
opinion, belief, and cultural background.\textsuperscript{37}
Paul Feyerabend

Those inhibitions are prescribed by objectivity,\textsuperscript{38} a major article of faith in the scientific canon that is no less contradictory than the Holy Trinity. It is an abstraction whose very definition sets itself in opposition to human beings, and yet scientists are trained to adopt and pursue this doctrine to the extent of shaping their own souls. As a culture we draw ever closer to completing our journey from hollow hosts of the divine to cogs in the machine, but for as long as we remain human, objectivity will always be a fallacy.

But Scientific objectivity never undertook to erase the self, even the self of subjectivity, completely. Rather, its practices, like all techniques of the self, cultivated certain aspects of the self at the expense of others.\textsuperscript{39}
Lorraine Daston and Peter Galison

It is an emphasis and a forgetting. A misconception that recalibrates those values and practices that science chooses to identify with, and those it wishes to distance itself from. Our selves were never subjective, as that term means nothing without its opposite. We cannot avoid our selves in any pursuit of understanding. Our eyes, ears and minds are human. Objectivity then is in denial. It hates itself. It hates us. It is a flawed distinction that constructs a flawed world and flawed human beings. The practices and approaches to experience and identity that scientific objectivity is opposed to, are corralled into a place that is other, a place which is not science, not knowledge and not real.

This impossible fantasy - this objective real world - is defined by what science says it is not. It is defined by those practices, people and worlds that science chooses to put in opposition to it.

We have focused on the practices of scientific objectivity, but those of artistic subjectivity were no less concrete and specific and - our chief point here - in reversed-mirror-image relationship to one another.\textsuperscript{40}
Lorraine Daston and Peter Galison

All disciplines shape the identity of their own disciples, but the dominant disciplines have a much further reach. They get to shape the identity of the disciples of other disciplines. As Daston and Galison have noted, art is among "the most 'authored' of all practices"\textsuperscript{41} and it is science that has made it that way. Science refashioned art. Scientists remade the artist. Speaking
as an artist, they changed themselves and they changed us too. They changed us to see themselves more clearly. And we were happy to become such special, unique, romantic and rebellious creatures. The contemporary artistic self, that self-obsessed self, that entirely subjective incarnation, the only truth we can speak of is our own personal and subjective experience. But once subjectivity becomes the ultimate sin, once subjectivity is the devil, once subjectivity lies, what good is that truth? Before this schism artists had something to say about the truth out there. It is this schism that has cost the artist their authority to say anything beyond the self. They may speak, but only subjectively. Objectivity though cannot cast off its blood, bone and viscera so easily. Ultimately and fundamentally - that is all that it can amount to.

6 Ibid.
7 Ibid.
9 Related to this matter of scientists as human beings, Ian Kidd suggests that it is the character and behaviour of the scientists themselves that points to the underlying motivation for Feyerabend's defence of astrology. Kidd argues that the epistemic vices displayed by certain individual scientists was felt by Feyerabend to undermine the authority of them all: "Such vicious conduct is... bad for the social and epistemic authority of science. Public instances of epistemic vice... risked damaging or eroding the epistemic integrity of scientists upon which that authority crucially depends." The conclusion? Feyerabend defends science by defending astrology. Kidd, I.J. (2016). Why did Feyerabend Defend Astrology? Integrity, Virtue, and the Authority of Science. Social Epistemology, 30(4), pp. 464-482.
A thing that is known or proved to be true.


Ibid.

Feyerabend points out that not only does science have more than one method, it also has than one epistemology: Feyerabend, P. and Terpstra, B. (n.d.). *Conquest of Abundance*. Chicago, Ill. [u.a.]: Univ. of Chicago Press, p.231.


Feyerabend writes that this irrationality begins with the Greek philosophers and scientists: "The whole approach was fundamentally incoherent. For how can what is real and not manifest be discovered, or proved, by means of what is manifest and not real? How can an objective reality that is not given be explored with the help of appearances (thoughts, perceptions, memories) that are given, but are idiosyncratic and deceptive?" He then notes that Democritus is among the first to draw attention to the paradox. Feyerabend, P. (2001). *Conquest of Abundance*. Chicago [u.a.]: Univ. of Chicago Press, p.15.

Feyerabend, *Against Method*, 133.

Feyerabend suggests that any interpretation is itself as fleeting and insubstantial as a dream: "This temple is only a temple because I wanted it to be one; but if I refuse to see it as a temple, I cannot refuse to see it as a building. It may or may not serve some purpose. But it does not need to serve a purpose in order to be a building... it can still be turned into a barracks or a garage... Interpretations are not only transitory but also superficial." Feyerabend, P. (1967). The Theatre as an Instrument of the Criticism of Ideologies. *Inquiry*, 10(1-4), p.308.


Ibid., 11.

Feyerabend argues that it is the Greeks and their pursuit of an objective world that defines the nature of this particular suppression of the self: "Plato and his modern followers posit a gulf between the world of humans and an "objective" world that is independent of human thought and action. Humans can get in touch with the objective world. To do this they must trim their human nature and suppress large parts of human existence (the arts, popular forms of religion, etc.)." Feyerabend, Theoreticians, Artists and Artisans, 25.

Feyerabend writes that an actor in a play reminds us of the real person behind the words, specifically as the "physical manifestation of reason". A presence that, "Does not permit us to overlook faces, gestures or what one might call the physiognomy of an argument." A good play, he continues, "Uses the physical manifestation of reason to irritate our senses and disturb our feelings so that they get in the way of a smooth and 'objective' appraisal." And consequently, Feyerabend argues, we are forced, "To judge reason rather than use it as a basis for judging everything else." Feyerabend, P. (1999). Knowledge, Science, and Relativism Vol:3. Cambridge: Cambridge University Press, p. 192.
Radically Indifferent

He sings but not as you or I sing. He sings like the stars. He sings like the world, like all the worlds. He sings every letter that was ever anchored and bound to any and everything forever. Untroubled, unfettered, and unchecked. Beyond and before.

There is a photograph of the Apollo of Piombino that is different to the others. It is a black and white image that is lit, shot and cropped in such a way as to outshine and overshadow the actual object in front of the lens. This photograph does not represent Apollo. It presents him.

The image is of a bronze kouros, a sculptural dedication that is usually found in a temple to Apollo. These are of beardless youths in a formulaic posture reminiscent of Egyptian sculpture. Under the auspices of the Great Kouros and eternal youth Apollo, boys of this age were initiated into the brotherhood of men. The voids that are this Apollo's eyes are not vacant but eternal. An emptiness, aperture and interstice. This Apollo looks out in all directions and with every particle of his being. But he is at ease. He is complete. There are no wrinkles on that forehead. This monster, this shell and semblance of a man, is radically indifferent.

Inhuman Abstraction

In Conquest of Abundance Feyerabend outlines a narrative of just how the gods became inhuman and how inhumanity is related to abstraction:

(Xenophanes) assumed there was only one divine being. It... was pure thought. No feelings, no compassion, certainly no sense of humour. 'He does not go up and down but by the power of this thought moves all there is' says Xenophanes. ..Xenophanes' monster is no longer anthropomorphic - it has no human features. In other words, it is inhuman.²

Paul Feyerabend
Take for example the apparently very creative transition from the Homeric Gods via the God-monster of Xenophanes to the philosophical idea of Being. For Hegel this is the beginning of abstract thought.\textsuperscript{3}

Paul Feyerabend

Gilbert Murray, the great classical scholar, gives us a hint. The Greek Gods started as local powers. They lived in well-defined surroundings, on a mountain, for example, or in the fields. ...travellers (became) acquainted with new divinities which in some respect differed from their familiar Gods but resembled them in others. Occasionally they even had the same name. The travellers emphasised the similarities and disregarded or overlooked the differences. As a result the Gods lost in individuality and humanity and gained in power.\textsuperscript{4}

Paul Feyerabend

At the same time as the gods begin their journey from the concrete to the abstract, from the local to the global and from the super-human to the inhuman, reason and rationality begin to take larger steps into the world as logic is wrought from logos. Reason's approach to the proliferations and accelerations of that age is to privilege commonality over diversity, classes over instances and rules over exceptions. General laws become even more valuable. This is the source from which scientific method springs.

Feyerabend expands on this abstraction narrative with further examples in the shift from bartered to monetary exchange, and in the turn in politics away from familial ties and toward general definitions of rights and duties appropriate to the polis and the forum. He goes on to detail the impact of such abstractions on language:

(The) property of things - their 'value' - got detached from personal elements and became more abstract.\textsuperscript{5}

Paul Feyerabend

Even language gradually lost in content: 'Words become impoverished in content, they turn into formulae, become empty and one-sided.'\textsuperscript{6}

Paul Feyerabend

This disconnect then - that abstraction requires - unplugs our world from our lives, and unplugs us from both value and meaning.
Embodied Knowledge

There is a further disconnection that language goes through during this period. For the most part archaic Greek culture is spoken or sung. Vibrations in the throat, vibrations in the air. All of human knowledge that can be put into words is transmitted by a voice. All of human knowledge is contained across living human beings. All of human knowledge is embodied. Memory matters to such a culture. So much so that the goddess of memory is not an Olympian but a Titan. Mnemosyne knows of all things. Everything that has happened, is happening and will ever happen. The complete sum of all possible knowledge across all of time. Embodied.

To Mnemosyne. I invoke... free from the oblivion of the fallen mind, by whom the soul with intellect is joined.
Orphic Hymn 77

There is a further aspect to this titan of memory and knowledge. The orator and later the writer would remember her in their dedications as inspiration. In archaic Greece an individual did not create something out of thin air. It did not come from within. It came from without. It came from the goddess. Her breath on your body. And what she gave you was some infinitesimal particle of the entire corpus of all possible knowledge. That is inspiration. It is not the modern understanding. There is nothing new that is created. Every idea already exists. The entire corpus of everything that will ever be thought, known or happen already exists. And it is the very definition of Mnemosyne.

Living Language

For the Greek philosophers, Greek was the language of reason. Aristotle’s list of categories is squarely based on the categories of Greek grammar. This did not explicitly entail a claim that the Greek language was primary: it was simply a case of the identification of thought with its natural vehicle. Logos was thought, and Logos was speech.

Umberto Eco

The orator also matters to such a culture. For archaic Greece knowledge does not exist for mortals outside of the orator and their bond to Mnemosyne. Even in Hellenistic Greece this lingers and is remembered. Language is alive with this singular connection between knowledge and the body.
Socrates is known to us through the writing of others. He himself does not write anything down. He talks to people. The method which takes his name is a matter of questions and answers. This is how he reveals the issues and contradictions in the thinking of his interlocutors. Socrates knows that he does not know, and he knows that you do not know either. Socrates requires direct verbal contact with another human being. This is how he informs, persuades and motivates. This is his contribution to society and to the Polis. People are his direct concern. By correcting their thinking he improves their lives.

For Socrates conversation goes beyond this contact with other people. When he talks to himself, he talks to his daemon. His internal dialogue is just that, a conversation. Admittedly, Socrates does remark that his daemon does not have much to say, and that it tended to simply advise against certain courses of thought or action. We learn all of this mostly through Plato and his 'dialogues', but Plato clearly shares Socrates' conviction for this connection with other people:

This is precisely what Plato wanted; what he wanted was a 'live exchange', as he calls it; it is such an exchange and not some streamlined cross-section of it that defines knowledge.\textsuperscript{11}

Paul Feyerabend

Inferring from Feyerabend, Plato's approach is to seed that exchange, that debate and that knowledge through writing:

...it is not the dialogue that contains the knowledge, but the debate from which it comes and which the participants remembers when reading the dialogue.\textsuperscript{12}

Paul Feyerabend

Plato's theory of the forms is known to have received public criticism, and to have inspired such a debate. Although it is unclear whether it changes Plato's mind, it does lead to another dialogue, the \textit{Parmenides}.\textsuperscript{13} I hope he was affected. I hope that the exchange was real. I hope it went both ways.

\section*{Lost in Space}

'That Does Not Compute' is the robot's catchphrase in the 1960s science-fiction series \textit{Lost in Space}. In the artwork \textit{Lost in Space} each word is independent. It is in its own loop, with its own regular interval. That interval is different for each word and loop. This causes the words to slip
in and out of sync, and in and out of meaning.

Lost in Space is being expanded into a choral work. One hundred channels. Voices, phonemes and syllables, meaning and identity, separating and coalescing, disintegrating and integrating. ‘We Come In Peace’ is to be atomised in the same way and added to the composition.

A Legacy of Variation

An oral culture naturally lends itself to variation. It expects deviation. A monotheistic worldview does not even occur to it. Individuals vary. Their stories vary. There are versions of the same narratives - of the same histories - with different beginnings, different middles and different ends. In the festivals and competitions of ancient Greece, in the comedies and the tragedies, this diversity is expected and embraced.

A live dialogue is a fluid exchange. A written text tends to be more considered. More fixed. Philosophic dialogue - such as Plato’s - bleeds into both oral and written culture. Writing though has its own ideas about what can be said. Its thought naturally swings toward abstraction. It prefers monologue over dialogue. With writing, variation is pushed away from anything that has already been recorded. Authority is accorded to precedent. Authority is ceded to a canon. Rigidity is privileged over flexibility. Suddenly there is only one way to tell a story, one way to understand experience, one arbiter of truth and value. Slowly, steadily, we move away from abundance and toward isolation. Away from a universe and toward a monoverse. Perhaps Meletus was right. Perhaps Socrates did corrupt the youth of Athens. Perhaps his aggressive rationalism corrupted us all.

Alpha, Beta & Omega.

Language encodes experience, but it is specifically writing that draws our attention to that encoding, particularly when that writing is phonetic rather than ideographic. With phonemes comes an alpha and a beta. An alphabet introduces the idea that the world is encoded. An alphabet also demarcates the namespace. The alpha and omega become the whole universe. We are introduced to the idea that the world can be decoded, and a world that can be decoded is a world that can be known. Words become vulnerable to algorithm. We start to focus on the units that construct the whole. We focus on structure, on pattern. On that form of delimited meaning. All of which is very far removed from how the Greeks understood their universe before their alphabet. Before the written word, a sound was closer to a thing, It was whole, synonymous
and equal to the object. It was identified with it. As the word moves from the voice to the page, language makes of the world less of a mystery and more of a puzzle.

Arts of Combination

It was a wise though a lazy cleric whom Luther mentions in his "Table Talk," - the monk who, instead of reciting his breviary, used to run over the alphabet, and then say, "O my God, take this alphabet, and put it together how you will."14
William S. Walsh

The Ars Combinatoria began with Ramon Llull in the 13th century. A Spanish monk last seen clutching his discs and lists, heading down to the beach to show by demonstration and calculation the Moors the error of their ways.15 His methods and instruments a witchcraft for which he had already been censured by his own church. A censorship that castigated Llull for confusing faith with reason. He built huge lists, indices and references, and then developed mechanical methods to investigate them rationally. In a similar way to an astrolabe taking the position of the stars and calculating time, Llull's disks navigated ideas to calculate meaning. His Ars Magna would inspire later thinkers as the world moved more boldly into the rational and scientific project. In the 17th Century Gottfried Leibniz believed that an alphabet of all human knowledge could be created, and that a system of cogs and wheels could be developed to arrange and deploy it and thereby calculate the truth:

The only way to rectify our reasonings is to make them as tangible as those of the Mathematicians, so that we can find our error at a glance, and when there are disputes among persons, we can simply say: Let us calculate, without further ado, to see who is right.16
Gottfried Leibniz

Leibniz proposed to create a language of universals that like algebra could be used to calculate true propositions. Those universals to be made up of real characters. To Leibniz any written symbol is a character, but a real character is a symbol that represents an idea directly. He hoped that real characters could be used to represent fundamental concepts, and constitute this alphabet of human thought.

It is obvious that if we could find characters or signs suited for expressing all our thoughts as clearly and as exactly as arithmetic expresses numbers or geometry
expresses lines, we could do in all matters, insofar as they are subject to reasoning, all that we can do in arithmetic and geometry. For all investigations which depend on reasoning would be carried out by transposing these characters and by a species of calculus.\textsuperscript{17}

Gottfried Leibniz

Later he saw his characteristic as an algebra rather than an alphabet, but the problem in the end was the universals. Those fundamental atomic building blocks of meaning, the elements to be combined in the art. They were understood as things, as substances, as nouns. The difficulty with such objects is that there are a lot of them. And then you must agree on their definition, and on their place and significance within the framework.

According to Umberto Eco, Francis Lodwick is the only linguist to get close to achieving a system that might work, and he does this by switching from nouns to verbs.\textsuperscript{18} His universal character, the structure of his universe, constructed with do-ing words.

Like Clockwork

For Leibniz every language exists between two poles. At one extreme you have the language of god and the angels, where every quantum of creation has a unique and true name.\textsuperscript{19} Every blade of grass, every grain of sand. At the other extreme you have binary, where the entire universe and all of experience can be described by a combination of digits. One and zero. On and off. In the 20th Century the first Computational Theory of Mind\textsuperscript{20} takes Alan Turing’s description of the logic of a computer and applies it to human anatomy, reducing all of brain activity down to a fundamental binary duality. One and zero. On and off. Among its many extraordinary contributions to human advancement, the alphabet bestows upon us the arts of combination, the clockwork universe and the clockwork human being.

Modulator

An eight-sided plinth/pillar, three metres tall. Mounted within the top section are eight horn speakers. I know what it looks like. I know what it is called. I don’t know what it does. I don’t know what it is.
The Book of the World

In the following quote philosophy refers to natural philosophy, that proto-science that is also sometimes referred to as nature:

Philosophy is written in this grand book - I mean the universe - which stands continually open to our gaze, but it cannot be understood unless one first learns to comprehend the language and interpret the characters in which it is written. It is written in the language of mathematics, and its characters are triangles, circles, and other geometrical figures, without which it is humanly impossible to understand a single word of it; without these, one is wandering around in a dark labyrinth.21

Galileo Galilei

God has written nature in geometry, and - as Neil Postman puts it - Kepler boasts of being his first reader:22

See, I cast the die, and I write the book. Whether it is to be read by the people of the present or of the future makes no difference: let it await its reader for a hundred years, if God himself has stood ready for six thousand years for one to study him.23

Johannes Kepler

To Kepler this world of mathematics was not some cold, distant and artificial construction. It was not simply representation or explanation. It was real in a very corporeal sense, it was living flesh, it was an incarnation. For Kepler the gospel of Saint John24 had particular resonance, “And the Word became flesh and lived among us.”25 Saint John’s gospel, the Greek gospel. The gospel that appropriates logos.

The Algorithm Has Bled into the Data

When a discipline raises its discoveries and inventions to the level of reality, it changes the definition of that term in order to accommodate its innovations. The interloper must change the definition of the world to match the outlook that is driven by its instruments. Reality must mutate into a form it finds plausible, into a form it finds palatable.

Language is not merely the vehicle of thought but also the driver.26

Neil Postman paraphrasing Ludwig Wittgenstein.
For many of us the diction, definitions and grammar of science have become the language with which we choose to express and define ourselves. Science has bled into our every thought and activity. It defines and delineates the entire span of our lives, as much as it dictates the direction and purpose of our entire species. It is fast becoming the sole arbiter of truth and value. Science and reason calculate a brave new world without words. An endless chain of binary pulses constitute this latest kosmos. Our new home is bitmapped. The algorithm has bled into the data, and binary has become the language of the gods and the angels.

Everything

A computer program and terminal. Scrolling up the screen of the monitor is the output from a Perl script. This script works its way through the English alphabet, combining each letter with every other letter in all possible ways. In addition it runs spaces through each combination. This composes all possible words in that combination, and all of its possible sentences. The program is open-ended. Working up from single letters it lengthens the sentence one letter at a time.

Left to itself for an infinity the script would say everything. Everything that has been said. Everything that will be said. Everything that could possibly be said.

The Instrument & the Metrical Universe

The function of the tool, what it can do, what it cannot do, these parameters constrain the tool. Whether that tool is an image editor, a theory, a language, a chatbot or a hammer. The instrument defines the output by the reach and limit of its function. Aristotle prefers botany to astronomy. He advises that one should take the advantage in knowledge. Those natural philosophers that take Aristotle’s advice and studied that which was close to hand, have much more confidence in the truth of their opinions. That seems reasonable, but there is a consequence. The metrical universe picks the lowest fruit, those objects that give themselves up easily to kilos and millimetres. Those phenomena that give themselves over to her instruments. Those things exist. This is how our imaginations and insights are facilitated and constrained. This is how structures are overlaid on phenomena. Through our instruments.

Science, technology and reason. These tools - these methods - feed back into our worldview and edge the believers among us toward a strictly rational understanding of ourselves and our universe. As the world becomes increasingly rational and scientific, we move from an
unknowable universe to a simply unknown one, our questions and our answers shift from the qualitative to the quantitative. If it cannot be measured it cannot exist. Unmeasurable qualitative objects and experience are perhaps no more real than their metrical, quantitative, brethren, but without an authorised instrument they will always be regarded as illegitimate.

Anologue & Digital

A digital gauge does not share the innocence of an analogue one. A digital gauge explicitly imposes a system. With analogue there is a phenomenon that has a direct effect. The needle moves according to the influence of some force. A digital gauge does something different. It interprets. It abstracts. It gives you a number. It intercedes and places itself and its world between you and the phenomenon. It imposes itself. It stamps its worldview onto its reading. The system that created the digital, is measuring itself. Solipsist. Narcissist. Believer.

Ignorant of Geometry

God eternally geometrises. This is not in Plato's works, but is stated by Plutarch as due to him.28
David Eugene Smith

In the Apology Socrates sets out to investigate how he can possibly be the wisest of men, when he knows that he does not know. That premise becomes the solution, Socrates is wise because he knows that he does not know. Knowledge is not fixed. It is understood as a process. Plato's dialogue on knowledge - the Theaetetus - discusses three things that knowledge is not and ends without resolution or a definition. However the setting for this discussion is emblematic of a wider predisposition and prejudice for the appropriate location of knowledge that continues to this day. At the beginning of the Theaetetus Plato has Socrates seek out a student to help him investigate the nature of knowledge. Socrates turns to Theodorus of Cyrene. Theodorus does not teach poetry. He does not teach philosophy. He teaches geometry.

It is said that above the entrance to Plato's Academy there was a sign: "Let no one who is ignorant of geometry enter". Such an inscription above such a place was common practice at that time, but this inscription was very similar to another:

First we note that above the doors of sacred places there was often placed an inscription "Let no unfair or unjust person enter". What is reported above the door of the Academy are exactly the same Greek words except "unfair or unjust" have been replaced by "non-
There are those that argue that the reason for that substitution is because, "Geometry pursues fairness and justice", massaging the translation of the substituted word toward unjust and away from unrighteous. But this is an unnecessary distortion. Geometry is the heart and soul of the Academy. The eyes, ears and voice of its new man, trained on the beauty and truth of the metrical universe. This moment and this inscription is witness to a shift in value away from justice and toward truth. The geometer replaces the fair and just man. Whether the story is apocryphal or not is irrelevant. The message is entirely consistent with the writing of Plato and the spirit of the following millennia, even if it were not literally carved into stone.

New Men, New Gods.

We have changed. And we continue to change. Our gods have changed. And they continue to change.

\[
\begin{align*}
(1) & \quad 1 - x = 0; \\
(2) & \quad x(yz + (1 - y)(1 - z)) = 0; \\
(3) & \quad z(pq + (1 - p)(1 - q)) = 0; \\
(4) & \quad p = 0; \\
(5) & \quad q = 0.32
\end{align*}
\]

From George Boole's algebraic proof of the existence of God.

If as Thomas Hobbes writes "reason is reckoning", silicone is an improvement on carbon. If man is Aristotle's rational animal, then the machine is not far away from becoming one of us. By definition. Perhaps Aristotle would put things differently if he were present. Or perhaps not. Perhaps the hyper-rational post-singularity machine-intelligence that is approaching would be by his definition a hero or demigod. A sacred expression of the divine universe. Not quite the demiurge, but certainly a lot closer to the undying ones than any of us mortals.

**Signal**

*Signal* is a computer controlled bank of signal generators that speaks by modulating sine waves to match the frequencies of the human voice. Each of *Signal*’s voices consists of four such generators, each of which produce waves within a specific range of frequencies. Human voiced
speech oscillates between 85 and 255 hertz. The first signal generator oscillates between 85 and 127.5 hertz. The second between 127.5 and 170. The third 170 to 212.5. The fourth between 212.5 and 255 hertz. *Signal* atomises its text into phonemes and its phonemes into frequencies. The frequencies are then handed off to their respective generators, and the waves, phonemes, syllables, words and text are voiced across the four units.

I still do not know how *Signal* composes the text it will speak. I think it might be listening to static and running any modulations through a speech recognition engine. It might need subtitles.. that might be a different work.

The physical details of the boxes are simplified. This seems to matter. There are no marks on the dial. No measure or gauge. There are no numbers, no text. No labels. They seem to sit between a 3D model and an actual object.

**Mousagetēs**

One muse or many? Homer cannot decide. Whatever their number, he does not know their names. They are the daughters of Gaia and Uranus, the Earth and the Sky. They are Melete, Mneme and Aoide, titans of Practice, Memory and Song. They are the daughters of Zeus and Mnemosyne. They are water nymphs of the springs of Mount Helicon. They are the daughters of Apollo: Nete, Mese, and Hypate. They are the bottom, middle and top strings of the lyre. The root of *muse* and of *music* is in the verb *to think*, and so they are always and forever goddesses of thinking, music, knowledge and inspiration.

As poetry slowly gives ground to philosophy, the identities of those vague deities clarify into the nine classic muses. She of the fair voice, she that extols, she that gladdens, she that flourishes, she that sings, she that rejoices in the dance, the lovely one, she that is rich in hymns, and she that is heavenly. Their respective domains and disciplines insinuate the preoccupations and values of an entire world: epic song, history, astronomy, comedy, tragedy, hymns, lyric art, music, choral song and dance. Their instruments are then fashioned: a wax tablet and pencil, a scroll, a double flute, a comic mask, an ivy wreath, a shepherd’s staff, a tragic mask, a lyre, a veil and a celestial globe. As the Archaic makes way for the Hellenistic, knowledge ruptures and separates into discreet arenas. These transformations, divisions and demarcations are a thinking tool. Instruments in the making - or remaking - of a world. A new arrangement. A new order. Taxis and Mousa. Singing, thinking and arranging with categories, genres and classes. Singing, thinking and arranging with that muse.
Apollo, is looked on as their leader (Musagetes), with whom they share the knowledge of past, present, and future.\textsuperscript{36}

Peter T. Struck

Apollon Mousagetês, muse leader. With his lyre this god of reason encircles the irrational Dionysian daughters of Memory. With his lyre he divides and defines them. The muse and muse leader, the song and how it is sung. That choice defines who we are, the world we live in and what it all means. These gods and goddesses of knowledge and inspiration may look familiar to us today, but their dispositions are those of their own time and their own world. Capricious, dangerous and unpredictable. They are a personification and a reflection. We are different now. As is our world.

\begin{itemize}
\item Ibid.
\item Ibid.
\item Paul Feyerabend quoting Kurt von Fritz. Ibid., 228.
\item Greek culture was never completely oral. See: Thomas, R. (1992). \textit{Oral Tradition and Written Record in Classical Athens}. Cambridge [u.a.]: Cambridge University Press, Introduction.
\item Ibid.
\item There was no beach. Lull was actually stoned in north Africa and died later. Umberto Eco details the story: Eco and Fentress, \textit{The Search for the Perfect Language}, 54.
\item Eco and Fentress, \textit{The Search for the Perfect Language}, 260-268.
\end{itemize}


27 Feyerabend: "Aristotle... the information about them is better and more plentiful, take the advantage in the knowledge. Hume... A wise man proportions his belief to the evidence." *Feyerabend, Conquest of Abundance*, 137.


31 O'Connor and Robertson, *The Academy of Plato*.


35 Amalgamated and paraphrased from the following 3 sources:


36 Struck, *Greek & Roman Mythology - Tools*. 
Part Two
Word upon word and world upon world. Layers and lives, erasures and excisions. Words reworked, circled and underscored, struck through and erased. That tangled knot the archive and architect of human thought and the human self. That wellspring and pit, our alpha and omega. New worlds require that the old ones burn. Empires rise only to fall, always and forever the universe in flames.

Part two of this text looks at one mechanism in those revolutions. One way in which those worlds are reconfigured, dismantled or destroyed. It looks at how dichotomy, diction and meaning are entangled, deployed, used and abused in the struggle to claim the right to construct and designate knowledge. It looks at how these divisions demarcate what can or cannot be said or done, and by whom. Kaos and con-fusion, that is the observation and recommendation of this thesis. That disconnect and flattening the first step in restructuring the world so that it might open once more to more promiscuous and indiscriminate meaning, so that it might open once more to fine art practice.
Words & Worlds

Leviathan

Noun. Sea monster, sea serpent. A form of Satan. Of unknown origin. Perhaps from to wind, turn and twist. Leviathan is a large kinetic, smoke and sound object. It unfolds and refolds, into and across itself. It disintegrates and reintegrates. Faceted and obscure, then detailed and in focus. Work in Progress.

Reliable, Authentic Knowledge.

Axioms in philosophy are not axioms until they are proved upon our pulses.¹

John Keats

John Keats is at his own tangled nexus of cultural forces when he makes this observation. It is made in reference to a medical image from his time studying at Guy's Hospital. The London around him coursed and overflowed with the industrial and scientific revolutions, except of course science did not exist under that name in 1818.² Since the time of Aristotle those activities that would come to constitute science as it is understood today were known as natural philosophy. Keats is referring to that philosophy, not our own. It is not until later in the 19th century that that distinction is clarified. A distinction that sees science seek to distinguish itself from philosophy, to leave behind pure thought and elevate itself to truth. Science ascends and transfigures to become the real world, and that new world refuses to see itself as contingent upon anything that might have had a pulse. It believes itself disembodied. It believes itself elsewhere, abstract and other.

That word science begins with the Greek skhizein: to split, rend or cleave. The Latin scientia means knowledge or expertness. It is related to scire - to know - which originally meant to separate one thing from another, or to distinguish. By the 14th century science had come to refer
to a skill, craft or trade. Towards the end of that century it is first understood as collective human knowledge. And at about that time it also moves toward being understood as book-learning, just in time for the Gutenberg Press in 1440. The late 17th century sees science begin to distance itself from any association with the arts, and by the 18th century it has become, “a body of regular or methodical observations or propositions concerning a particular subject or speculation”, what had until then been known as philosophy. For a long period the word science meant reliable, authentic knowledge, and in the 14th century that meant religious knowledge. Galileo was condemned by the inquisition for teaching a doctrine that was essentially - as Feyerabend puts it - unscientific. Or as stated by the experts that the inquisition commissioned at the time: a doctrine that was foolish and absurd in philosophy. The practices and traditions that we call science today have appropriated that word. They have annexed it. Extricating the word from religion, they became science. They became reliable, authentic knowledge. Since that time science has edged out other forms of knowledge from being understood as such. Knowledge itself is becoming her practices and traditions. Knowledge itself is becoming increasingly scientific and rational.

In that context a fine art practice might struggle to be understood as contributing to knowledge, indeed in that context fine art undertaking to be understood as knowledge makes absolutely no sense whatsoever. Unless that practice can somehow adopt the new gods and their universe as its own. Unless it begins to speak in those terms, with those ideas and with that worldview. Unless it bleeds and mutates into something fundamentally different. Unless it betrays and debases itself and all that it might have been said to stand for. Unless it capitulates. Utterly. Then an artist might have a place in such a world. Of course that place is still not one from which the artist might be said to contribute to knowledge. That would be absurd.

There are however other bodies of thought that have been understood as knowledge in the past. Other ways to approach experience, other disciplines and definitions. Feyerabend gives the example of music for Saint Augustine and Robert Grosseteste:

Music for a long time was regarded as a way to knowledge. For Saint Augustine the perfect chords represented truth in a way inaccessible to human reason. For Grosseteste music, not physics, revealed the innermost structure of things.

Paul Feyerabend

Music and harmony were also central and sacred to the Pythagorean universe, but such approaches to experience are not simply unrelated to what knowledge has become, they are in
direct opposition to it. For Immanuel Kant music is devoid of epistemic value, it is nothing more than pleasure. There is now an assumption and prejudice that thinking is an entirely verbal concern. In the same way that knowledge has been annexed as a synonym for science, reason has become thinking. Again, this was not always the case. For Keats the emphasis was different. For him thinking is coupled to sensation:

This is where the sensuality of his writing is so important. It is.. a way of thinking. His 'life of sensation' is also a 'life of thoughts'.

Andrew Motion

The practice of making artwork is a way of thinking. The ideas and concepts may be put into words, but they are not restricted to or by them. It is a way of thinking that may deploy reason, but it is not restricted to or by it. Thinking rationally and thinking with words are not the only ways to make sense, and moreover they are not necessarily the best way of doing so. It is that connection between thinking and making sense, between the irrational and knowledge, that has been clarified. Knowledge has been cleansed and sanitised. It has become insipid and monotonous.

Paper Products Group

Neon letters spell out the sentence 'Paper Products Group'. The computer powers the letters on and off in the necessary order to construct words and sentences. These letters constitute the namespace. All possible meaning is extracted from those letters.

Aural Palimpsests

Adam Parry writes in The Language of Achilles that most of Sarpedon's speech is made up of traditional formulae. To Parry this demonstrates a harmony between words, the world and experience:
The same thoughts, in the same words, appear in other places in the Iliad. The unity of experience is thus made manifest to us by a common language. Men say the same things about the same things, and so the world around them, from its most concrete to its most metaphysical parts, is one. There is no need, as there is in Plato’s day, for a man to ‘define his terms.’

Adam Parry

Our world is different. Our words are different. They are not so clean, so clear. They are thick with association. They are aural palimpsests, full, ragged and weary. Our sentences a complex interweave that whisper and mutter in conflict and cooperation. They are punctured by forgotten, misplaced and fragmented ideas and ideologies. They breathe. They pulse in and out of integration. New gods appropriate those that have gone before. New worlds build on the ruins of the old. Define your terms? Every fresh body of thought must do so. The same sounds, letters and combination. Seized, annexed and deployed.

An entry in a dictionary - the working definition - is no more than the prologue to the epic that traces a word back to its arbitrary, aural and meaningless root. Back to its earliest primordial level, before letters, syllables or phonemes. The complete definition a fabulous chimera, as open to the workings of fiction and the imagination as fact and reason. An etymological dictionary is a history of ideas. Its speculations, its inconsistencies and gaps, the slow roll of its cloud and fog offer obscure and contradictory insights. It is an oracle, speaking in tongues on every word of every sentence that has ever been uttered.

A Word Brings a World

In ancient Greece Know Thyself meant something quite different to what it means today. At that time know thyself meant know your place, specifically in regard to the divine. Specifically in regard to hubris, that caution not to think too highly of yourself or your ideas. That warning not to confuse either with divinity, not to confuse anything you might come up with as truth. After all, you are no more than a vessel. The universe does not belong to you. The universe belongs to your irrational, capricious, chaotic and dangerous gods.

Words come with a worldview. At any given time that entangled mass of connotation that constitutes a word is regulated by the system that has most recently embraced it. Unbalanced by this latest bias the word lurches into orbit about its new star. Words also work on the world, their transcriptions are never innocent:
I have much sympathy with the view... that languages and the reaction patterns they involve are not merely instruments for describing events (facts, states of affairs), but that they are also shapers of events (facts, states of affairs).\textsuperscript{10}

Paul Feyerabend

A definition is a building block for a worldview. In combination with the methods and practices that make up the system - the instruction set and algorithms - they construct the landscape and prospect for the individuals that become subject to it.

Kazoo Vocoder

A vocoder constructed from kazoos. Kazoo Vocoder has something to say. Kazoo Vocoder tries to say it. Nobody listens to Kazoo Vocoder.

Axiom & Bubble

An ideology, Ionesco argues, seems 'to explain and account for all the facts according to a given system'; it is all-embracing; its slogans and stock phrases enable one to portray every event from its particular point of view. Whatever happens, the truth of the ideology is guaranteed. Ideologies, therefore, do not enjoy the benefits of being true by accident; they are necessarily absolutely true.\textsuperscript{11}

Paul Feyerabend discussing the work of Eugène Ionesco

Euclid's \textit{Elements} begins with definitions, and these are followed by axioms and postulates. The system is constructed here, at this fundamental level. What it can say. How it can say it. What follows is the unfolding of the consequences of the definitions, axioms and postulates. What follows is the demonstration. It is a sealed system. Its possibilities and consequences finite, predictable and inevitable. An axiom is a self-evident truth. It is from the Greek \textit{axioma} - that which is thought worthy or fit - and signifies authority. Its root is in drive, draw or move.\textsuperscript{12} A self-evident truth is quite a complicated beast, and from any perspective outside the system is often neither self-evident or true. It is always an assumption. An assumption that enables and empowers the system. Axioms build the vehicle, the roads and the destinations. They are defined by the system, and their unfolding establishes the extent and reach of the system.

Words travel. Assumptions also. In company often, with others of their kind. The largest of
whom is the worldview that holds the whole faction together. In coalition they proliferate and conquer. They spread their authority. They make themselves appropriate. Their definitions are the ground on which they build. This is the natural extent of their authority. To speak of anything outside the system with these definitions, axioms and postulates is to speak with words that have surrendered the basis for their own definition. It is to speak without meaning. Words without their world-view make no sense. And yet this always happens. And must always happen. To take a word out of its context - to take it to a different planet - is an attempt to take possession of that old world under the aegis of a new one. The natives are forced to look at themselves and everything around them as an extension of that new system. Any system with an ambition to be an all-encompassing world-view, must draw the entire universe - all of existence and experience - into its bubble. It must recreate the world in its own image. To speak on matters outside the system - for such matters to exist - they must be brought inside the system. To do that requires a transformation. Those aspects outside the system must be redefined as something that makes sense inside the system. So the bubble expands and the world changes accordingly.

5 Ibid.
9 Paul Feyerabend paraphrasing Benjamin Whorf in Feyerabend, Against Method, 164.
Con-fusion

The Trajectory of Kaos

The meaning of the word kaos traces a wide arc across several thousand years and a number of ideologies. Greek primeval kaos starts out as a gap. A space. A void. It quickly becomes entangled in the dichotomy of order and disorder, an idea that will be its defining relationship right up to the present day. For some time chaos was chaotic - the very essence of disorder - and that connotation still lingers. That despite the assertions of Chaos Theory, an entirely deterministic chaos that reduces the chaotic to a misperception indicative of human limitation and failure.

Kaos begins in a very different way in a very different world.

The Enûma Eliš

Primordial kaos was not chaotic. It was not disordered. It was an abyss, vast and empty. A space before order. Before disorder. Before division and definition. The Babylonian god Marduk emerges from such an ocean. He destroys Tiamat - he cleaves her in two - to make that fundamental division between earth and sky. He cleaves her in two to create a space for a world.

When the sky above was not named,
And the earth beneath did not yet bear a name,
And the primeval Apsû, who begat them,
And chaos, Tiamat, the mother of them both,
Their waters were mingled together,
And no field was formed, no marsh was to be seen;
When of the gods none had been called into being.²
The Enûma Eliš

Kaos is that from which order is born. And that order is constituted by its own dichotomies.

Unknown Object

Unknown Object is a series of objects and screen prints. A script downloads a random 3D model from the internet, gives the file a generic name and automatically reduces it to a single vector. I undo that reduction one vector at a time until a simple form begins to take shape. A wireframe is then extracted from the model, and passed to a Grasshopper definition in Rhino that calculates and models the nodes. The nodes are fabricated with a 3D printer. The vectors are measured and pipe is cut to those dimensions. The pipe and their respective nodes are fitted together.

I never know what the model is or where it comes from. Titles for individual works are provided by image-recognition engines that attempt to recognise the objects.

The Serpent & Apollo

On the approach to the temple of Apollo in Delphi you would pass a thousand years of material dedications. Statues, altars, stoa. The Plataean column was one of the more unusual, and one of the most Delphic. Three serpents twist together and rear up nine metres in bronze, their heads supporting the golden bowl of a ceremonial tripod. The serpents recall Python. Python was once the guardian of this sacred site. Python was once the protector of the oracle. Python coiled around the navel of the world. And then came Apollo:

Nearby was a sweet flowing spring, and there with his strong bow the lord, the son of Zeus, killed the bloated great she-dragon.³
Michael Scott

That she-dragon was daughter to Gaia. That she-dragon was daughter to the Earth. Gaia herself
daughter to Kaos. With Python’s destruction and Gaia’s displacement the world turns:

Describing a move from darker primordial forces toward a more civilised order, which Apollo’s battle with the serpent comes to represent. These stories all construct Apollo as the god who brought knowledge to mankind, as well as the one who imposed order over chaos.\textsuperscript{4}

Michael Scott

Apollo Pythias brings knowledge to mankind and imposes order over kaos. That is one interpretation. But kaos is not the Greek word for disorder. That word is \textit{tarakhe}. Kaos is a void. A space. A site. Gaia, a daughter of that space. Apollo does not bring order to disorder. He forges them both. He forges them for the void. From kaos. Apollo assails Gaia in the same way that Marduk assails Tiamat. By cleaving her in two. He gives her definition through his dichotomies. And again he cleaves. And again. He strikes out at her formlessness. With division upon division he gives her form. Each dissection doubles her resolution. Each cut clarifies.

The Eye of God

Computer program and wide-screen monitor. The whole screen starts as one pixel. The program goes through all possible combinations of RGB for this single pixel. That is to say, every combination of the 256 reds, 256 greens and 256 blues that can make up a pixel. It then splits the screen horizontally and vertically, and combines each pixel with every other pixel on the screen in all possible configurations – and in all of each pixels own possible RGB combinations. The program keeps splitting the screen until it reaches the size of an actual pixel.

Left to itself for a very long but finite period, the screen would generate every possible image at increasingly better resolution. Photographs from every dream and nightmare, from all pasts and futures – actual, possible and inconceivable.

God or Machine

The Hellenistic period gave birth to a symbiotic family of thought practices. Rationality moves away from \textit{ratio}, logos away from \textit{speech} and \textit{account}. Their remaining aspects blend, separate and con-fuse. Socrates goes on the offensive with his distinctly aggressive rationality.\textsuperscript{5} Logic is elevated by Aristotle beyond any category or discipline, to become the instrument by which we
come to know what we know - and thereby gains dominion over them all. Man becomes the rational animal. The rise of the forum and its growing significance in the everyday life of the citizen of the polis, contributes to the innovations of rhetoric, argument and demonstration. The perception of personal agency - of the responsibility and efficaciousness of the individual - is in revolution. Reality evolves. The Homeric world of superficial appearances is replaced by a world of hidden but explicable truths, which in turn gives birth to the idea of unified theories and concepts. The mechanisms of what would become science spring from this place and this time. All of which weakens the fatalism that comes with a world of unpredictable and capricious gods. All of which feeds a new determinism. A blind determinism that is no more than the expression and demonstration of a system.

The world has changed, and its words must change also. Kaos shifts from the void to actual disorder, and then to a misperception of order. It moves from an unstructured unknowable space, to a highly structured unknown one. The flap of a butterfly's wing in New Mexico causes a storm in China. Chaos Theory proposes causal chains and outcomes that are far beyond any individual's capacity to follow. Far beyond - that is - any individual of flesh, blood and bone.

Today, chaotic was only ever a misunderstanding. There is no such thing as disorder, only the appearance of matters being so. Disorder cannot exist. It is a hallucination. A mirage. A phantom. It is of the air. An appearance. Superficial. A matter of defective and deficient wetware. We cannot make those connections. We cannot see the full-extent of those patterns. Our physiology is too blunt an instrument. Too blunt an instrument for the full-extent of that truth. The heavens are beyond us once more. The truth is not meant for us. We are not built for it. Most religions tell tales of the madness that comes to those that steal an unmediated glimpse into the divine. For a moment we thought it might be otherwise. But we have circled. The scientific universe is hyper-rational and as far beyond us as the irrational and divine universe before.

No matter how far we travel, the barrier to human beings perceiving the universal order is the brain and its limitations. To grasp the significance and implication of the world that science imagines you need to be a god or a machine.

Lacuna

Noun: missing segment in book or manuscript. Cavity or depression, especially in bone. 3D models and screen prints of the head.
The First Entity

Kaos. The first entity. The first thing. Then came Gaia, Tartarus and Eros: the Earth, the underworld and desire. Kaos gives birth to Nyx and Erebus: night and the deep dark. This is Hesiod’s *Theogony*. Anaximander tells a different story. Apeiron. The first entity. The first thing. Apeiron: unbounded, limitless. It is Apeiron who gives birth to the universe. It is Apeiron who generates the opposites, "The hot, the cold, the moist, the dry, and the rest." The divisions that make the world. Apeiron. *A*- without. *Peirar*- end or limit. This is how Apeiron the Unlimited makes a world. He cuts it in half. And keeps cutting. The poles, those opposites, he defines by virtue of each other. The patterns we recognise are the divisions he made. Re-cognise, re-call and re-member. That prefix. Back and again. To bring back to mind, to know again. On this ground stand the definitions, the axioms, the assumptions. The given. On this ground stands our entire worldview. Dichotomies structure the world. They set the stage. They construct the assumptions. Assumptions you must accept if you are to use the dichotomy. Assumptions you must accept to see the world. Assumptions you must accept to think.

Unicursal Labyrinth

There were many reasons why the ancient Greeks were such original and creative thinkers. One of them is this: they did not have the extant body of ancient Greek thought to contend with. They made the divisions. They constructed the dichotomies. They built the way we think. Their dichotomies were fresh, unsupported and unstable. Nothing was decided. Nothing was set. They could be engaged or disregarded at will. All was in flux. You were free to think unfettered. Unfettered by certainty. Unfettered by clarity. Our world is different. Our dichotomies are rigid. Certainty shackles them to us, and to our world. Our labyrinth has become unicursal. Transversing it a prayer. We can no longer shape shift. We have little room even to move. The subjective versus the objective. The emotions versus reason. Natural versus artificial, nature versus man, art versus science. These dichotomies and their assumptions come with a worldview that is strengthened by their use. They cannot be rehabilitated. To go somewhere else, to think something else, to hope and dream for something better, something richer, for a transformation or a revolution, they must be destroyed.
Uncoupled Dichotomies

Intellectual generalisations around "art", "nature", or "science" are simplifying devices that can help us order the abundance that surrounds us.\textsuperscript{14}

Paul Feyerabend

As necessary and inevitable as such simplifications may appear, at some point they loose their grip on our ever-mutating maelstrom of a multiverse. At some point they falter and fail.

I conclude that terms such as SCIENCE and ART are temporary collecting bags containing a great variety of products, some excellent, others rotten, all of them characterised by a single label... they can be emitted without changing what they are supposed to organise. What remains are events, stories, happenings, results which may be classified in many ways but which are not divided by a lasting and "objective" dichotomy.\textsuperscript{15}

Paul Feyerabend

To undo the work of Apeiron is to uncouple his dichotomies, to empty his conflicts of any meaning. Contradiction itself must lose its way. It must forsake its role as the bludgeon of a singular truth. Dismantled, what is left of the constituent parts is cast back into the paratactic pool of all that is, providing some of the raw material for new collisions and new meaning. Dismantled it may contribute to a new space to think into. A new space that permits dissonance, mis-appropriation, mis-connection and mis-understanding to participate once more in the construction of ideas. A new space with which to explore other divisions and other worlds.

A paratactic aggregate: the elements of such an aggregate are all given equal importance, the only relation between them is sequential, there is no hierarchy, no part is presented as being subordinate to and determined by others.\textsuperscript{16}

Paul Feyerabend

This is how Feyerabend understands knowledge. For him it is an ever-increasing ocean of mutually incompatible alternatives. A flat, non-hierarchical space. A paratactic assemblage with no unifying principle.\textsuperscript{17} Feyerabend describes how individuals from the archaic period of Greek history - as represented in the work of Homer - are like puppets, with a very different understanding of themselves, their bodies and the power and reach of their own agency:

The 'body' is an aggregate of limbs, trunk, motion, the 'soul' is an aggregate of 'mental'
events which are not necessarily private and which may belong to a different individual altogether. Nor is such ‘a higher unity’ found in the concepts of the language. For example, there is no expression that can be used to describe the human body as a single entity.  

Paul Feyerabend

Puppets. Their physical and mental selves are not understood as a united whole, they do not even have the words to describe such an idea. Language, self and worldview are firmly entwined. Twisted and bound, they empower and limit each other. They define and delineate.

It is the idea of an overarching narrative that elevates order and disorder to a world-defining dichotomy. When such a dichotomy is released, when the connections between things and events become arbitrary, when a thought begins and ends with itself and its immediate neighbours, when the surface is the reality, the concept of order and disorder loses currency.

Zodiac

Years ago I installed an artwork in a partially derelict factory in eastern Europe. At night in an alley outside the exhibition I documented the work’s flickering fluorescent light reflected on an outside wall. Way off beyond the wasteland on the other side of the factory a dog was barking. I did not use that video for documentation. Instead it became part of a collection. Shots. Locations. Scenes. Sounds. Small things.

Zodiac randomly selects 3 scenes from this collection and plays them sequentially. It then resets and repeats. There will be 99 clips in its corpus, and a possible $1.7179251 \times 10^{47}$ possible narratives.

Paratactic Con-fusion

Uncoupling dichotomies, unravelling those connections and erasing those divisions, casts their constituents out into a paratactic ocean, and generates a new kaos. A darkness, full and heavy. Charged and primed. It is the first step in the destruction of a universe. In the sea of all that is, unfettered by thoughts of how anything should be, radical new combinations become possible. A novel sense that raises the possibility of profound and virtuous change.
Irrational and opportunistic interactions in this ocean of con-fusion open the way to a new coherence:

These ‘deviations’, these ‘errors’, are preconditions of progress. They permit knowledge to survive in the complex and difficult world we inhabit, they permit us to remain free and happy agents. Without ‘chaos’, no knowledge. Without a frequent dismissal of reason, no progress. Ideas which today form the very basis of science exist only because they were such things as prejudice, conceit and passion; because these things opposed reason; because these things were permitted to have their own way.20

Paul Feyerabend

If you wish to pursue knowledge then, the methods and practices to adopt must include dissonance, mis-appropriation, mis-connection and misunderstanding. Furthermore, to classify such processes as failures or impediments becomes perverse.

Feyerabend provides an inclusive understanding of not only the nature of knowledge, but also how it is acquired - in the practices that might be said to contribute to knowledge. There is a place for much more of human activity than simply the hard sciences.21 By seeing things that are not there and making connections where there were none, the lunatic might once again be understood as prophetic, and the artist might once more make a contribution to knowledge.

Living With Contradiction

The Greeks lived in a world where contradictions were the norm. Their mythology - their belief system - is riddled with inconsistency. Wildly variant interpretations of its narratives would compete in public competition. Their multiplicity was a given. An expression of inexplicable existence and the ineffable divine. It would be hubris - an affront to the natural order and to the gods - to expect to rise above the ambiguity and con-fusion of everyday existence. None sort or believed in certainty for the dying ones. An obscure oracle was the most you could - or should - hope for.22 In that ambiguity though there is a freedom. In the spaces between the contradictions there are other ways of thinking about and approaching something. Other equally valid truths. Archaic Greece did not share our obsession with a singular cause. There was no singular cosmogony. There was no conviction that any interpretation was definitive. No conviction that this must be the way things are. The truth and the real world were more forgiving of conflict and inconsistency. Even later in the medieval period there could be a thousand shinbones of Christ. All sacred. All one - or the other - of the true shinbones of
Hellenistic Greece brings logic and argument to knowledge. It also brings rhetoric. With rhetoric - and unlike logic and rationality - the human component is never denied. Reading Plato’s dialogues the logic, reason and argument of Socrates are on display, but so too is his humanity. A word that - for the moment and for the foreseeable future - recalls our flaws as much as our moral virtue. Flawed and virtuous. Socrates is a man. A man who says he knows nothing. A man whose first concern is direct human contact. His conviction is apparent, the force of his will. His rhetoric as prejudiced as any sophist, but his aim is true. His target is not some abstract singular truth, but the human being in front of him.24

As Greek thought hits its stride that openness begins to narrow. And then, with writing, thought begins to funnel into canons and standard texts. At the very same time the idea of unified wholes, and the concept of a separation between appearances and reality, also take shape. Add to that the birth of argument, demonstration and logic, and you have a combination of cultural phenomenon that seems bound to become increasingly hostile toward ambiguity and uncertainty. Even if at the time these ways of thinking and arguing were not understood as comprehensive, there is an implicit ambition for just such authority.

System Failure & Cognitive Dissonance

Sometimes a contradiction is an equal and fair fight. Unresolved examples expose the whole proposition to doubt and allow us to call it into question. In extreme cases that can lead us to suspect the whole system that supports it. Sometimes.

However I believe that for those who are no longer convinced by narrow rationalism.. there remains only one choice: to expose themselves fully to these.. opposites and to the conflict. This is how a scientist can find an inner path to salvation.25

Paul Feyerabend quoting Wolfgang Pauli

For those of us who entertain any suspicion regarding the total veracity of their habits of thought, relevant contradictions serve as confirmation of that suspicion. However, cognitive dissonance only strikes with full power those who have full confidence in what and how they think. Once cognitive dissonance becomes a sensibility, it does not strike with the same world-shattering force. When it becomes a disposition, its impetus weakens to some sort of vague respect for whatever force drives hubris, and perhaps a constant awareness of the limits of
human thought and the godsend that that is. That dissonance might also lead to an awareness of how unnecessary it is to limit the imagination, even before we realise how counterproductive - to knowledge and the quality of human life - that limiting is.

Meteor

Series of prints. Black ink on white paper. Meteor begins as molybdomancy, the ancient Greek divination practice. A lump of molten lead or wax is dropped into water. The results are scanned and the 3D models simplified. 2D views of those models are used to plot and rout plates for printing. Titles are again provided by an image-recognition engine trained on the resulting print.

The Ten Thousand Things

Surely some thoughts must be too absurd to contribute to knowledge? Feyerabend’s point is that absurdity is not the metric that matters. Routinely rejecting absurdities and nonsense, indulging a habit of reasonable judgements, severely limits the abundance of options required for the progress of knowledge. The more you can imagine, the wider your worldview. The broader - and more superficial - your research, the richer your worldview, and the richer your experience. The more options and possibilities the larger your universe. The more flexible and adaptive. All of course within reason:

Abundance and chaos are different aspects of one and the same world. We need simplifications. But there are many simplifications not just one, and they can be changed to remove the elitism that so far has dominated western civilisation.26

Paul Feyerabend

It is time - it may even be overdue - to return to the paratactic pool of incompatible alternatives. To return to a place where there is no unity, but unities. To where there are coalitions, cooperations and syntheses, bizarre, unnatural and foolish. Myriad: the ten thousand things, innumerable, countless, infinite and boundless.27

Apollo the Con-fused

What happened to the seat and shrine of the muses.28 What happened to the museum? That
space to think into. To day-dream. To be absorbed in thought. To wander with Mnemosyne through past, present and future. To walk aimlessly through everything that has happened, is happening and will ever happen. To walk among the ten thousand things. Where is the dialogue? Where is the conflict and exchange? Knowledge now is bestowed. Knowledge now is consumed. The audience passive and obedient. Do not touch! The first words stamped on the statutes and the laws, the ordinances and the regulations.

Apeiron must die. Apeiron must rise. Terms and definitions, divisions and patterns, must be undone and dismantled. But the paratactic kaos that remains is not an empty space. It is not blank - not that terror. The darkness behind this Apollo's eyes is populated, seeded by all that has gone before. It is a space to think into, to make new connections, to make new worlds.

The gods wandered. And as they wandered they drew to themselves new names and new powers. They appropriated. They consumed. They elaborated and expanded:

- Apollo the Bright
- Apollo the Sun
- Apollo the Cynthian
- Apollo the Delian
- Apollo the Founder and Protector
- Apollo the Physician and Prophet
- Apollo of Midges
- Apollo Nymph Leader
- Apollo with the Silver Bow
- Apollo the Far-Shooting
- Apollo the Wolf

There are at least fifty such appellations for Apollo, fifty such acquisitions.

- Apollo Pythius, the Pythia.
- Apollo Loxias, the Ambiguous.
- Apollo Mousagetēs, the Muse-Leader.

These three Apollos, this is the Apollo that brings knowledge to the world. The Apollo of ambiguity and inspiration. The Apollo who thinks and sings.

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2 Ibid.
4 Ibid., 39-40.
14 Feyerabend, Conquest of Abundance, 223.
15 Ibid., 232.
17 Ibid., 21.
18 Ibid., 181.
19 Puppets that are connected to the world in ways we can only dream of: "A Homeric warrior or poet is no stranger in the world but shares many elements with it." Feyerabend, P. (1987) Farewell to Reason. 1st edn. United Kingdom: Norton Client/Verso, p.139.
20 Feyerabend, Against Method, 158.
21 Ibid., 3-4.
22 Scott, Delphi, 27.
26 Ibid., 241.
29 Feyerabend, Conquest of Abundance, 227.
31 Ibid.
Part Three
The disrupted hierarchies and dismantled dichotomies of the paratactic sea of con-fusion are an opening and space for new connections and divisions, new perspectives and meanings. But how might these new coherences emerge? How does this kaos give rise to a kosmos?

Part three of this text looks at mechanisms for making sense appropriate to that paratactic kaos. Coherence will come through disconnect and incompleteness, by suspending judgement and embracing ambiguity. It will come by taking advantage of proximity, and by elaborating on a variety of random and pseudo-random collisions. All of which will seed expansive extrapolations and elaborations. The objective a Feyerabendian inspired open-interaction that will elevate to virtue the much maligned methods of mis-appropriation, mis-understanding and mis-connection. In this way a digital art practice might work toward a radical new sense, with errors, tangents and really, really weak inferences. In this way a digital art practice might achieve an unrestricted and open dialogue. In this way it becomes conceivable that a digital art practice might progress knowledge and help us remain free and happy agents.
Approaching the E at Delphi

At the entrance to the temple of Apollo in Delphi were three aphorisms. The first - *nothing to excess* - is relatively self-explanatory. The second - *know thyself* - is related to hubris and meant something like *know your place in respect to the divine* as noted earlier in this text. The third is more opaque to us now, but had something to do with being wary of making promises. In addition to these three Plutarch describes a fourth, the letter *E*.

By Plutarch's time the meaning of this *E* had been lost for centuries. The original wooden *E* - later called the *E of the Sages* - was replaced by an *E* in bronze courtesy of the Athenians. That in turn was replaced by an *E* cast in gold gifted to the temple by Lydia, wife to the Emperor Augustus. None of these people knew what this *E* meant. Lydia, the Athenians, Plutarch. All of them in the dark.¹

Plutarch discusses a number of possible interpretations for this *E* in a dialogue. The protagonists are himself, his brother, his teacher, a literary friend, an Athenian and a priest of the temple. The *E* meant *five* and symbolised the five Wise Men. Or *five* the most important number in mathematics, physiology, philosophy and music. Or it referred to the alphabet's second vowel, and thus the second planet - the sun - and consequently pointed to Apollo. Or it meant the *if* that was asked of the oracle, or the *if* used in prayers, or the *if* in logic. Or - somehow - it suggested Apollo's immortality.² Six individuals. Seven hypotheses. They disagree. They argue. The dialogue ends without resolution, in *aporia*. The conclusion is left open, and for as long as that remains the case the *E* at Delphi continues to live.

The Tripod of Truth

For centuries the tripod on which the Pythia sat as she prophesied was known as the *Tripod of Truth*. Plutarch in this very dialogue on the *E* reworks this tripod to reshape how truth will operate:
The real tripod of truth is the logical process which assumes the relation of consequent to antecedent, then introduces the fact, and so establishes the conclusion. If the Pythian God really finds pleasure in music, and in the voices of swans, and the tones of the lyre, what wonder is it that as a friend to Dialectic, he should welcome and love that part of speech which he sees philosophers use more, and more often, than any other.\textsuperscript{3} Plutarch

The \textit{tripod of truth} becomes a logical process. It moves away from swans and music. It becomes argument. As argument and dialectic lay claim to truth, rather than distance themselves from Apollo they opt to change him, and this transformation begins with simple inference:

Homer did well in putting the present first, the future next, and the past last. Inference starts with the present, and works by the force of the conjunction: "If this is, that was its antecedent", "If this is, that will be". As we have said, the technical and logical requirement is knowledge of consequence; sense supplies the minor premiss.\textsuperscript{4} Plutarch

Inference, deduction and induction. Argument, demonstration and logic. It is difficult to imagine a time before such approaches to experience were formalised. Once that happens, it is not long before logos is elevated to a mystical and spiritual level. It is not long before it is understood as a reflection on the nature of the universe, as much as a method with which to navigate it. For two thousand years the world has wandered away from such an understanding, but as the gods have faded this thought has returned. Logic and her attendants have flowed back into the meaning of the universe. Reason has become synonymous with thought, science with knowledge, and now logic has become once more the song we sing to bring the universe into being. Logic has returned to logos. The algorithm has bled into the data.

The Purge & Socrates

To be in a position to carry out this search for truth, however, one must search oneself and purify one's soul, Plutarch argues (Adv. Col. 1118C-E). And he points out that Socrates promoted precisely this practice, using the elenchus as a purgative medicine, trying to remove false claims to knowledge and arrogance from the souls of his interlocutors, and to seek truth along with them, instead of defending his own view.\textsuperscript{5} George Karamanolis
The roots of dialectic are in conversation. The roots of logic are in speaking and ideas. In the beginning they were synonyms. Hand in hand they mutate. Logic becomes a matter of proof and inference. Dialectic becomes dialogue with a purpose. That purpose the truth. It becomes dialogue with a preference and prejudice for particular methods, for reason, logic and argument. Methods that were then young and malleable, and that are now set and calcified. Elenchus sanctions and deploys with extreme prejudice these new methods in the interrogation and attack on more diverse approaches and understandings of knowledge. It is an attack on any such approach or understanding that does not already apply or respond to reason, logic and argument.

**Sense-Making Mechanism**

Before dialectic and her methods transform into this monster, there is much greater depth and diversity concerning the dialogue between the way things are and what to do about them. In the case of the Delphic oracle, a petition was not a binary matter of question and answer:

> An ambiguous response demanded further debate and deliberation from the consultant and his city. Consulting the Pythia thus did not always provide a quick answer to a straightforward question, but rather paved the path for a process of deliberation that allowed the community to come to its own decision.

Michael Scott

The Pythia’s response is not the final word. The ambiguity of her response creates a space for other people and other thoughts. A space for dialogue. It provides an opening through a collision. A collision between this question and that response. Their disparity. Their ambiguity. Their potential correspondence and meaning. Truth and meaning are seeded by that random collision. For the Greeks the oracle was a mechanism for orientating and navigating their world, both as individuals and as groups. They were actively engaged in this process. It was an interrogation. A practice.

> ..we need to understand the Pythia at Delphi not as providing a “fortune-telling service,” but rather as a “sense-making mechanism” for the individuals, cities, and communities of ancient Greece.

Michael Scott

For the Greek world Delphi was a physical, spiritual, political and social centre. but that is a
modern way of looking at things. The Greek world was not yet subject to those categories. The unity beyond and before those divisions had yet to be eclipsed by them. The Greek world simply understood Delphi as the *omphalos*, the navel of the earth. The centre, from which everything springs.

**Under Different Stars & a Different Sun**

*The oracle neither conceals or reveals but indicates.*\(^{12}\)

Heraclitus

Today we tend to view the obtuseness of an oracle as guile, as an attempt to conceal baseless and dishonest conjecture. Contemporary oracles such as science have a tendency to see their definitions as facts, their perspectives as reality and the predictions of their art as - and by definition - predetermined. In a world saturated in this particular fanaticism it is no surprise that the Pythia's gibberish should be dismissed as worse than nonsense.

*Gods cannot be captured by experiment. Matter can.*\(^{13}\)

Paul Feyerabend

Every world-view structurally runs the risk of becoming an echo-chamber, and eventually a tautology. Rigid adhesion to the language, habits and systems that constitute an approach to the world, gives the same answers to the same questions.

Every definition, method and theory is bound to the world that forged it. A precise translation requires dragging much of the world in which the original term makes sense to the world where it does not. This is only possible between worlds and words that are quite close, those that are sympathetic. Distant or antagonistic world-views cannot offer each other faithful translations because the chain of meaning, conviction and belief is too long and strays into territory too alien. Any translation hanging out there without the support of its definitions, axioms and postulates, will by the force of that circumstance have its validity called into question. The loss in inaccurate and partial translation is not only in meaning, but also in plausibility.

In translation a word has to be given a different meaning in its new world. An approximation in terms that allow the new world to get a grip on it. It is an understanding that must also conform to the new world’s agenda. What is lost in translation - what cannot be translated - is often the heart and soul of the thing. And that heart and soul is precisely its meaning. The translation of
oracle to the scientific paradigm fails due to that paradigm's affection for reason, and the ancient oracles preference for the opposite. The scientific worldview applies its own definitions, divisions and concepts to sentences spoken under different stars and a different sun. This kind of synthesis does not mean much to either worldview. This is not to say however that it cannot mean something to a new one.

We are some distance from the ancient Greeks. To argue against an oracle, with a definition of that oracle that makes no sense to either their worldview or ours, is meaningless. A judgement made from one whole worldview on another does not make much sense in either. All that can be said of the Greek oracle is that such a phenomenon does not exist in this world. It can be constructive however to understand certain contemporary disciplines and methods as corresponding to ancient Greek arts and practices. To view our world through the eyes of another, even if those eyes in fact bear little relation to those of an actual ancient Greek.

Regular Solid

I had automated a way of generating and constructing wireframes in real space from 3D models on the computer. This was a method looking for an artwork. Regular Solid never developed beyond an experiment on the way to that artwork.

Black drinking straws formed the vectors of a platonic solid. 3D printed nodes pulled them into a number of interconnected dodecahedrons. However dodecahedrons do not tesselate, and over time the stresses between the vertices force those vertices to disconnect. Regular Solid fell apart. The original wireframe solids were the first to disintegrate, and their parts were recycled for new dodecahedrons on the opposite side of the construction. In this way - and over several weeks - the entire structure walked from the entrance of the studio to the emergency exit. Finally, the structure was left to collapse over a number of days before its repair by an unknown party.

Do Not Block the Way of Enquiry

Suspending judgement postpones the hubris that has a tendency to follow closely on the heels of conviction. In Greece this practice was called epoché.

According to Plutarch.. knowledge can be advanced by suspension of judgment, since
the latter puts aside opinion (doxa) as well as egoism (philautia), both of which prevent us from finding the truth.\textsuperscript{14}
George Karamanolis

That pause also creates a space to generate options, to elaborate on and follow them. Certainty closes down options. It closes down worlds. It lurches toward a barren and sterile desert. The development of thought, of meaning and of theory, depends on allowing the unsupported and the implausible to breathe.

This is shown both by an examination of historical episodes and by an abstract analysis of the relation between idea and action. The only principle that does not inhibit progress is: anything goes.\textsuperscript{15}
Paul Feyerabend

If doubt is permitted to question opinion, alternatives propagate. With more options to choose from and more places to go, the universe is no longer so narrow, so closed or so inevitable. If it is accepted that the scientific and rational universe have no special access to truth, then one consequence is that their universe becomes optional. The world we live in then becomes open to alternative grounds on which to base a judgement. It becomes open to alternative solutions to the problems of living.

In dealing with this matter of the world and how to walk across it, is it reasonable to assume that the more options we have at our disposal the better? Feyerabend argues that is counterproductive to restrict ourselves to a rational and scientific universe. Perhaps it is counterproductive to restrict ourselves to any system, any ideology, or any unity at all.

Upon this first, and in one sense this sole, rule of reason, that in order to learn you must desire to learn, and in so desiring not be satisfied with what you already incline to think, there follows one corollary which itself deserves to be inscribed upon every wall of the city of philosophy: Do not block the way of inquiry.\textsuperscript{16}
Charles Sanders Peirce

John Dewey says something similar: any obstacles to the discussion of what to do next should be, "Blurred or erased as soon as they begin to hinder such conversation".\textsuperscript{17} Socrates knows that he does not know. I don’t either. Perhaps that is the best way forward.
Ambiguity

The connections required to solve major difficulties within a paradigm are not hard, fast and obvious. Resolution requires a loosening of the network that bind these links to each other and to whatever system they belong. How is that network loosened? How is the echo-chamber that is our whole world and way of thinking escaped? What is the nature of the space and practice required to move beyond the present obstacles and habits of thinking? What qualities are necessary for change?

The essential ambiguity of all concepts, images, and notions that presuppose change.\textsuperscript{18}
Paul Feyerabend

A general ambiguity is essential to thinking outside that which has already been thought. It is essential in reaching for new meaning. And it is essential in the strictest sense, as Feyerabend asserts and demonstrates, without ambiguity there is no change, ever.\textsuperscript{19} Ambiguity offers innovation an opportunity to provide different answers and different questions. It permits other directions and other connections. It permits new meaning.

Concepts such as justice, or beauty, even the concept of number are constantly being changed in this way. Absorbing the perceptions and the moods of the new era they first become ambiguous and then flip over into new meanings.\textsuperscript{20}
Paul Feyerabend

This con-fusing of a concept through this expansion of its definition, correlates directly to the earliest definition of \textit{ambiguity}. The Latin \textit{ambiguus} meant to have a double meaning, and therefore to be doubtful.\textsuperscript{21} Innovation requires the unfamiliar, it requires diversity, it requires a lack of clarity.

Incompleteness & the License to Speculate

That ambiguity might issue from a number of sources: incompleteness, obscurity and instability among them. Incompleteness interests and irritates. It stimulates and motivates. Its pull is difficult to resist. The E at Delphi is not a letter. It is a space to think into. To muse upon. Seeded by a splinter from some long lost thought. Seeded by an erasure, by a blur. We fill in the gaps. We join the dots. We trace the outline of our imaginations through the pinholes in the darkness.
Incompleteness is an ambiguity with direction. A direction seeded by those elements which have already been defined. By how those elements sit together, and how they anticipate their solution. Incompleteness and ambiguity give license to speculate. They give permission to reach for meaning, to make unusual connections, to misunderstand. They make misconnections possible. In this space the rules are different. In this space your thoughts do not have to conform to the logic of any previous thinking.

**Unreasonable Fine Art Objects**

Fine art objects resist a single reading. They demonstrate an ambiguity that is a large part of what makes them an artwork. An ambiguity that is a fundamental and defining characteristic.

> Images are not ‘denotative’, (unambiguous) complexes of symbols.. But ‘connotative’, (ambiguous) complexes of symbols.\(^22\)
> Vilém Flusser

It is not just images. Confronted with any artwork we enter into a dialogue. We ricochet off our own inferences, as seeded by the object in front of us. We are not told what to think. We are given space to think. Artists are still comfortable in such a space.

> Poets, painters, musicians, cherish ambiguous words, puzzling designs, nonsensical movements, all instruments which are needed to dissolve the apparently so rigid and objective nature of scientists, to replace it by useful and changing appearances or artefacts, and in this way to give us a feeling for the enormous and largely unfathomable powers that surrounds us.\(^23\)
> Paul Feyerabend

Rationalists are not so happy here. Neither are those suffering from common sense. A definitive meaning? That is not a good reason to look at an artwork. As if such a thing existed anyway. As if what was in front of you would still be an artwork if it were resolved in this way. If it had that clarity. If it were reasonable. If it were rational.

**Obscure, Indistinct & Uncertain.**

In the dark, indistinct and uncertain. The unknown. The obscure. From that place any manner of thing might step into the light.
Searle claims Foucault told him: "In France, you gotta have ten percent incomprehensible, otherwise people won't think it's deep – they won't think you're a profound thinker." When Searle later asked Pierre Bourdieu if he thought this was true, Bourdieu insisted it was much worse than ten percent.24

Eugene Wolters quoting John Searle

My hope is that Michel Foucault and Pierre Bourdieu are obscure to themselves. That they really do not know of what they speak. That this is a practice. A teasing out of meaning from the darkness. A drawing out of something intelligible from obscurity, with parts and edges that recede back into that darkness. With Jaques Derrida that is apparently not the case:

With Derrida, you can hardly misread him, because he's so obscure. Every time you say, "He says so and so," he always says, "You misunderstood me." But if you try to figure out the correct interpretation, then that's not so easy.25

John Searle

My hope for Derrida was that there really was no correct interpretation, but unfortunately Foucault informs Searle that Derrida practiced a method of *obscurantisme terroriste*:

He writes so obscurely you can't tell what he's saying. That's the obscurantism part. And then when you criticise him, he can always say, 'You didn't understand me; you're an idiot.' That's the terrorism part.26

John Searle talking to Michel Foucault

That criticism is reminiscent of Socrates' criticism of Homer and Heraclitus - men of flux - in Plato's dialogue on knowledge, the *Theaetetus*:

Theodorus says that 'you could no more have a discussion with them than with madmen'. There is in them 'not so much as the least bit of repose'. They do not utter or say, but shoot as their arrows 'little enigmatic phrases' which are 'full of strange turns of language (literally 'strangely name-changed). Their strategy is like the Scythians against the Persian army in Herodotus 4.120: they will not stand still for their attackers. Instead both Scythians and Heracliteans avoid any close engagement, answer cryptically when interrogated, and shoot arrows at their opponents.27

Matthew Colvin quoting Plato
If their own ideas are obscure to them, this would also permit a reader greater freedom to elaborate. However, I am not sure this conforms to anyone’s experience of reading obscurantist writers. Perhaps it should. Perhaps that obscurity should be accepted as an invitation. An invitation to actively engage in a dialogue with the ideas, and go off on any tangent that occurs to you. Just as you do in front of a visual artwork. This obscurity then becomes an ambiguous, unclear space in which you might spread yourself out, even if only a little. Could then obscurantism make us more creative readers? Could obscurantism make us better thinkers?

Feyerabend suggests going even further. He suggests that intentional obfuscation might help us overcome impetuous clarity and bring us to a better understanding:

> I admire him (Gotthold Ephraim Lessing) because he was not satisfied with sham clarity but realised that understanding is often achieved through an obscuring of things, through a process in which ‘what seemed to be seeing clearly is lost and in an uncertain distance’.28
> Paul Feyerabend

Erasing a letter then could lead to a better idea. Such an approach would require a special kind of epoché. An epoché that would entail not simply a suspension of judgement, but a forgetting of any judgement. It would require taking the arbitrary seriously. It would require taking the possibility of any connection regardless of provenance at face value.

Instability Essential for Movement

Plato tells us that Socrates wanted to improve a person’s thinking.29 This is how he wanted to impact their lives. And this is how he sought to advance society generally, through the thinking of its individuals. The Socratic method seeds doubt. Doubt in what you know, in your own faculties and in the infallibility of your authorities, such doubt emancipates thinking.

Obscuring inconvenient facts is regarded by most of us as a bad thing. If a fact is understood as being true then obscuring them seems counterproductive to the progress of knowledge. But if your facts are partial or prejudiced, if your facts come with a worldview, if they are somewhat different to truth, then it does not follow that obscuring them is counterproductive to the progress of knowledge. If your facts become indifferent to truth, that may be all that’s needed for movement.
A lack of clarity, a lack of certainty, a lack of confidence, all contribute to instability. Instability is essential for movement, and movement for change. Through incompleteness, ambiguity and instability one might destabilise the pillars on which the certainties and clarities of a canon rest, and have them fall into the paratactic sea of incompatible alternatives.

**Misconnection**

- Apophenia: finding meaning in random data.
- Pareidolia: seeing pattern and meaning where there is none.
- Confabulation: constructing imaginary experiences as compensation for loss of memory.

Apophenia was coined in 1958 by the psychologist Klaus Conrad. He applied the Greek for away from, to the Greek to show. Demonstrating how a schizophrenic will initially experience delusions as revelation. Pareidolia is formed from the Greek meaning beside, alongside, instead of, and the Greek for image, form, shape. The man in the moon is the classic example. And confabulation is from the Latin for talking together.

With the older words - pareidolia and confabulation - there is a sense that their misconnections are alongside the more customary readings. At their linguistic core - in the roots para and con - they are impartial. With the much more recent apophenia a position is being taken, an argument expressed. Apophenia: away from what is being shown.

A talent for misconnection was once understood as a closeness to divinity. Divination itself required such a susceptibility to read the truth in the flight of a bird, the shape of molten metal dropped into water, or the entrails and organs of an animal. Today this is understood very differently. Today these terms - apophenia, pareidolia and confabulation - are identified with psychosis. Today those of us who exhibit these same symptoms are medicated.

**The Divine Gibberish of the Pythia**

We used to have more respect for gibberish. The Pythia stood on the border between sense and nonsense, order and kaos, the divine and the terrestrial. She was Apollo’s oracle - Apollo, the god of reason. And Delphi, the very heart and navel of his cult. And yet even here for four months of the year - and like the rest of the Greek world - they gave themselves over to the worship of Dionysus - his polar opposite.
The Pythia would sit on her tripod over a crack in the earth - the pivot and source of the world - and in a delirious stupor deliver the slurred, garbled and scrambled gibberish that was the word of Apollo. The Pythia herself stuck between knowing and being able to speak of it. That is the response of language to ultimate meaning. The divine is gibberish. It cannot be anything else. It was the task of the priests at Delphi to start making sense of that nonsense.

The world has only recently changed. Even 1500 years after the Pythia fell silent, a girl could still fall on her head, get concussion, spout gibberish and found a religion. No longer. Our mystical raptures have become psychotic episodes.

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2 Ibid., 194-255.
4 Ibid.
11 Scott, Delphi, 20.
14 Karamanolis and Zalta, *Plutarch*.
19 Ibid., viii.
20 Ibid., 126.
Association

Magic 8 Ball

In the Corycian cave high above Delphi they would divine by the casting of lots. Cleromancy is a practice much older than the Pythia. A properly random oracle, an oracle for Pan and the Muses.\(^1\) Random chance the will, whim and voice of a god. Random chance, song and sense. With cleromancy you come with a clear question. A question that requires a binary answer, a yes or no. Usually a question regarding a course of action. And the gods, they make the decision for you.

In the 1950s Mattel began providing a similar service. The *Magic 8 Ball* has 20 separate responses to a question: 5 negative, 5 noncommittal and 10 positive - the United States in the 50s, life is mostly positive.

- It is certain
- It is decidedly so
- Without a doubt
- Yes definitely
- You may rely on it
- As I see it, yes
- Most likely
- Outlook good
- Yes
- Signs point to yes
- Reply hazy try again
- Ask again later
- Better not tell you now
- Cannot predict now
- Concentrate and ask again
Don’t count on it
My reply is no
My sources say no
Outlook not so good
Very doubtful

Computers don’t do random. When you ask for a random number in code the computer has to seed that number from a concrete point. Common points include the amount of time elapsed between the present and an arbitrary date in the past, or the position of the mouse at the time of the request. Those points seed the number. And these points mean that despite appearances the number is never actually random. The computer cannot pick a random number because it knows too much about everything that it is and how it operates. In its world nothing is random. Nothing can be random. Random means nothing to it. Disorder does not compute. The ultra-rationalist lives in such a finite world. Everything is determined. With scientism things might appear random, but this is nothing more than a psychological affect. There are always causes. There are always reasons. Random does not exist except as the brain’s failure to see into the future. Its failure to predict. To see and understand every cause for every event. The Magic 8 Ball provides all the certainty of determinism, but none of its precision.

Random Proximity

It is not until the 17th century that the word ‘Random’ acquires anything like its present meaning. Its roots are in run, rush, speed and flow, in watercourses, in streams and rivers. This gave rise to its earlier connotations of careless, haphazard and impetuous. Randomness and flow. Already entwined. Already Related. Already Heraclitean. A place and practice for men of flux.

Animals are divided into (a) those that belong to the emperor; (b) embalmed ones; (c) those that are trained; (d) suckling pigs; (e) mermaids; (f) fabulous ones; (g) stray dogs; (h) included in the present classification; (i) those that tremble as if they were mad; (j) innumerable ones; (k) those drawn with a very fine camel’s-hair brush; (l) etcetera; (m) those that have just broken the flower vase; (n) those that at a distance resemble flies.

Jorge Luis Borges

The earliest codices might bring together manuscripts whose only connection seems to be their availability. Such volumes might be bound by a thread, but not by a title, spine or cover. Contemporary copies of such codices - and many of those that come later - have lost whole
sections and ‘books’.\(^6\) Thus erasing the meaning that worked between the original texts, while at the same time composing new meaning from the juxtaposition of those that remain.

The relationships and meaning that spring from a chaotic archive arise from the random juxtaposition of titles. The books frame and direct those fresh connections. To one another they are both question and answer. Together they seed and frame a space, a space in which to mutate and unfold. Proximity, of one thing to another, of one event with another, of one voice to another, of one idea with another, this is all that we need to associate. This is all we need to make sense. All these thoughts con-fused in that paratactic ocean. All these thoughts and proximity is more than sufficient to invent or discover new patterns and new order. A way of making meaning, indiscriminate and promiscuous.

**One Path Among Many**

I, on the other hand, prefer a form of life where unities arise from the fortuitous merging of temporary links and where they may decay the moment the links are no longer popular.\(^7\)

Paul Feyerabend

No matter how disparate two objects may appear, we can always make a connection. Some sort of average between them. We fuse and amalgamate the poles into a hybrid. We interpolate and connect. The more links - the more associations - the better the resolution, and the clearer the structure of their interference.

*Implicsphere*\(^8\) is Douglas Hofstadter’s term for the pool of information you are able to draw on to connect ideas. At the centre of such a sphere the connections are stronger, the options limited. At the edges any connections are less obvious. Hofstadter suggests that artists operate at the extremes of such a space, seeing or making connections that others would not.\(^9\) At those extremities there are points where the targeted link separates, and the thought becomes unhinged. That point of disconnect is not the same for everyone or for every discipline. The sciences are very particular about the divide between sense and nonsense. The arts less so.

In constructing this text I have sometimes merged implicaspheres with paratactic oceans of incompatible alternatives. They are vaguely compatible. They are both oceans. Winds may blow this way or that, but any direction is possible. Any coherent chain of association is just one path among many across these implicaspheres. Any line of thought one coherence among many
across these paratactic oceans of incompatible alternatives. The human being the interface between chaos and order, and that order our path through the implicasphere.

Free Association & Paths of Least Resistance

Rorschach designed his plates. to be random. to serve as a screen onto which the subject would make visible his pure subjectivity.10
Lorraine Daston and Peter Galison

They are supposed to be maps, but they turn into screens. They are supposed to be representing the world, but they obscure it. Until human beings lives finally become a function of the images they create.11
Vilém Flusser

There is nothing unfettered about free association. Things are more or less associated by whatever star you are compelled to follow. Any association demonstrates how a brain is wired, associations are no more than mental and physical maps of our minds. The shortest paths, the paths more often travelled, these are reflexes in thought, the axons strengthened by use. But that wiring is malleable and reroutes constantly. That rerouting is a physical matter of weakening certain associations, and generating new ones.

The epicycle was contrived as an attempt to save the phenomena of the perfection of the heavens, to preserve her divine and perfect circles and spheres from the embarrassing facts and figures of her actual observation, to compel her bodies to conform to the perfection that was proper to them. Celestial objects must move in circles not ellipses. They should not sully their majesty with anything so improper as such a worldly form, no matter how regular.

There is always a coherence, a route through the kaos. There are always your own paths of least resistance, your own associations, your own triggers, your own assumptions. Your own axioms and postulates. Follow them to the black hole at the centre of your implicasphere if you like. Where nothing moves. Where nothing lives. Where nothing can be born. But where everything makes perfect sense. Or head on out to that highly mobile hinterland where meaning comes and goes, breaks apart, drifts and collides with disparate thoughts and ideas, that until that moment appeared disconnected. That until your arrival made no sense whatsoever. In that netherworld you may find the raw materials with which to remake a universe by virtue of a path along the edge of an implicasphere.
Your ability to transfigure your universe into a paratactic implicosphere of incompatible alternatives is determined by the discipline responsible for your indoctrination. The dominant disciplines do not permit much travel. They bind their aims and outlook tight to the identity of the individual practitioner.

(Mis)Appropriation

Placeholders as Scaffold

Theories become clear and ‘reasonable’ only after incoherent parts of them have been used for a long time. Such unreasonable, nonsensical, unmethodical foreplay thus turns out to be an unavoidable precondition of clarity and of empirical success.¹

Paul Feyerabend

In the 5th century BCE Leucippus conceives of the atom. His student Democritus adopts the idea and develops it. Aristotle however does not find the theory compelling.² For two thousand years the idea sleeps, and then John Dalton breathes life back into it. Dalton appropriates the theory. He bends it to his worldview. He uses and abuses the terms, images and theory to develop and explain his own ideas on chemical reactions.

Inventing a term gives you direct control over its initial inferences. A neologism is clean. It is blank, straightforward and uncomplicated. But it is also obedient and sterile. An appropriated word offers its connotations and associations. It offers its past. Those memories not only present a scaffold with which to support a new idea, they also have a hand in the development of those ideas. A word’s past affords scope and opportunity for tangent and digression. Appropriation then is also an instrument of inspiration.

The atom has long since lost the indivisible characteristic that is its etymology. A sub-atomic particle should be an oxymoron, instead it is evidence of how an idea evolves. In quantum mechanics the term spin has an arbitrary origin. It was named in an ad-hoc fashion to describe a quality understood simply to the extent that it exists. For Feyerabend the ad-hoc is positive and necessary in this way. For Feyerabend it is the method by which a theory is constructed and supported.

Ad-hoc hypotheses and approximations create a tentative area of contact between facts and those parts of a new view that seems capable of explaining them at some time in
the future after the addition of some new material.³

Paul Feyerabend

These ambiguous, unsupported propositions are a scaffold for a nascent theoretical structure, a scaffold for a new hypothesis and a new world. This new thing needs expression if it is to exist. It needs expression if it is to take form, even if that expression is vague and faulty - correction - and that expression must be vague and faulty. It must use words and define them through their use and after the fact. It must rationalise, the meaning gradually clearing over time.

..by incorporation into a language of the future, which means that one must learn to argue with unexplained terms and to use sentences for which no clear rules of usage are as yet available. Just as a child who starts using words without understanding them.. discovers the sense-giving principle only after he has been active in this way for a long time.⁴

Paul Feyerabend

A placeholder, indistinct at first. In name only. A fresh definition, perhaps some subtle distinction from a previous understanding. The same, but different. Resting on old connotations to develop new ones. On its way to being something else, to being recast as an axiom, to becoming an assumption, to becoming the ground. Unattached and free until it gains the full weight of mature doctrine, until it gains the full weight of dogma, until it moves with the ease of authority.

What Words Do

In any future-language words cannot mean what they once did. They must be joined to some other thought in their implicasphere. They must move. They must adapt. It is not an evolution. It is not progress. Whether the circle is vicious or virtuous is a matter for those dragged along in its currents. A word like the earth, shifts and buckles over time. To a varying extent they drag their histories with them. For a time. And then they are overtaken, blinded and overwhelmed by whatever new star has risen and now guides our every step, the terms warp and twist into a new sense.

Their meaning goes far beyond the formal indexical definition in a lexicon. A dictionary listing is no more than the surface of the definition. Its outer shell. It is the first sentence, the introduction. A working definition but incomplete now, as the system takes over and the full meaning of the term cascades through its connotations. At the beginning the defining terms mean very little, they may mean almost anything. In time the complete definition of your terms
encapsulates and implies your whole argument.

Words are misappropriated and misunderstood. That is a central characteristic of what they are. That is how they are used. It is how they come and go. It is how things come to exist, and how they die. It is how they become plausible. Believable. How they shift through bodies of thought and the bodies of individuals, the Chinese Whispers of what was said and what was heard, the signal and the noise.

The flip side of Feyerabend’s future-language is the necessity of misusing language to promote new knowledge. The violence of these appropriations and redefinitions is required if culture is to move on at all. Words are capricious. They are treacherous. They betray their new meanings as they did their old. That is their essential characteristic. They move. They shift. Panta rhei, they are in flux. As are our thoughts, our ideas, and all of culture.

**Answers to Questions We Do Not Know How to Ask**

Science does not start from a problem, but from other activity, such as playing, which has side-effects that leads to a development, which later can be interpreted as solutions to unrealised problems., The slowly emerging conceptual apparatus of a theory soon starts defining its own problems.

Paul Feyerabend

It seems reasonable to assume that scientific practice is a matter of taking a problem and solving it. That seems like the rational approach. Feyerabend says that what actually happens is the reverse: the solutions are answers to questions that do not exist until after the solution has been discovered. This counter-intuitive approach is not restricted to the practice of science. In artwork that process is a defining factor, with the caveat that no matter which way round - the terms *problem* and *solution* are not really appropriate. Indeed perhaps that is the source of a misunderstanding. Those terms imply a simple causal relationship. This problem led to that solution. Whereas any solution has arisen by virtue of a swarm of hidden questions and answers that fuel each other in a swirling vortex of feedback that is less of a loop than it is a tangled knot.

Questions and answers are not solely a matter of words and reason. If an idea can be put into words, it is not clear why that idea needs an artwork. A contemporary artwork that does no more than illustrate an idea that has already been put into words, has trouble qualifying as a
fine art object. The words that whirl around an art object are not after the fact, so much as part of the process. It is a combination of retrodiction and inspiration. This is the rational part of the process. Not the reason, but the rationalisation. Not the cause, but the reflection. T.S. Eliot contends that art can communicate before it is understood, but even after it is understood it is not done with the talking.

Ambiguity Drives Curiosity

Exploring something with words and images without detailing the vital core of the thought that is driving the whole undertaking is common throughout creative practice. With David Lynch that might function as one definition of what he does.

People just got a bug in them that they wanted to know who killed Laura Palmer. Calling out for it... the murder mystery couldn’t be just a background thing anymore. The progress towards it, but never getting there, was what made us know all the people in Twin Peaks: how they all surrounded Laura Palmer and intermingled. All the mysteries... The yearning to know was too intense. But the mystery was the magical ingredient. It would’ve made Twin Peaks live a little longer.

David Lynch

The instant the mystery is solved, Twin Peaks dies. Under pressure from the studio Lynch resolved that mystery. As might be expected he did so in a creatively consistent fashion. Bob killed Laura Palmer. That was not in the original script. Bob began life as Frank Silva, a set dresser for the pilot of the series. During filming Silva accidentally trapped himself in a room on set. That is just the kind of image to leave an impression on Lynch. And then later while shooting Laura’s mother giving in to hysteria, a mirror catches Silva crouching down behind some furniture. In that moment Silva became Bob, the killer of Laura Palmer. The demon that compels his hosts to murder. Plot is not the point of a David Lynch motion picture, and what inspires the narrative is not a matter of events or actions, but of an image:

It was just those words ’Mulholland Drive’. When you say some words, pictures start to form, and in this case what formed was what you see at the beginning of the film - a sign at night, headlights on the sign and a trip up a road. This makes me dream, and these images are like magnets and they pull other ideas to them.

David Lynch
The image is how Lynch thinks. It is the mechanism. The image kicks off the dialogue between Lynch and his own subconscious. The plot that develops is that conversation, the narrative an ambiguous process of reflection and rationalisation. Any object might function as screen and setting for such dialogue, any object might in this way tell us something about our selves or our world. If, that is, we were to allow it.

Reading, Writing & Misappropriating.

When Plato criticises the availability of the written word, he calls into question a form of unsupervised appropriation of language that leads to the corruption of legitimacy. The circulation of the written world destroys the principle of legitimacy that would have the circulation of language be such that it leaves the proper transmitter and goes to the proper receiver by the proper channel. The written word opens up a space of random appropriation, establishes a principle of untamed difference.\textsuperscript{13}

Jacques Ranciere

Plato - as characterised here by Ranciere - views untamed difference, unsupervised appropriation and the corruption of legitimacy as negatives, but it is precisely these qualities that mitigate the written word's tendency to ossify into a canon.\textsuperscript{14} Reading permits that openness to interpret, that freedom to go somewhere other than where the author intended, simply because that authority is absent. It's just you and the words. Nobody is looking.

There is no right or wrong way to respond to an image, no correct solution, but in other areas we are regulated and constrained by those ideas and interpretations that we consider valid, by those ideas and interpretations we consider appropriate. This chilling effect has its uses and merits, but whether an artwork, a text or a theory, the idea of a correct understanding is a barrier to the genesis of new ideas, new objects, new selves and new worlds. For the dominant paradigms, that is the point. As the term appropriate shifts from verb to adjective, it shifts from genesis to stasis. It no longer makes new meaning but consolidates it.

Appropriation, Belonging & Narrowing

From the verb and this sense of something belonging to you now, the meaning shifts and extends into the adjective appropriate as something fitting and proper. The appropriate belongs, the inappropriate does not. An ideology has its own logic, its methods and its ways. The more homogenous that space becomes as it explores and exhausts its perspective on the world, the narrower and more oppressive it will seem as it suppresses all other traditions by reimagining
and recreating them in its own image. A dominant paradigm appropriates all that it can. It makes the entire universe its own. To consider an association as inappropriate, is one way in which you conform to the divisions set before you. One way in which you capitulate to the dominant paradigm.

A new world, a new knowledge or a new way of thinking, must make its associations outside accepted norms and the established systems they express. Furthermore, it must actively seek out that which is not suitable or proper to the current system. It must seek out what that system regards as inappropriate, and appropriate it.

In the pursuit of new knowledge Feyerabend demonstrates that the radical methodology of anything goes is the distinguishing factor of all such progress. There is no right way, no characteristic feature, beyond this one. If human knowledge is to progress, ideas must travel. They need to be appropriated. They need to be misappropriated. To protest that the objects of your own discipline are proper only to you, or that they must be chaperoned by your whole world and system, is not only an assault on any proto-discipline that would attempt something new with something old. It is also an assault on creativity, and an assault on knowledge.

Worthwhile People

When the dominant discipline claims knowledge as its own domain, that has an impact across all other disciplines. Particularly on any of those that have made a claim on knowledge themselves. Such a claim singles out that discipline for special attention, for ridicule, rebuke and censure. Once the disciples of a discipline appropriate knowledge, they decides who can comment on it. Scientists and pseudo-scientists. Doctors and the quacks. Astronomers and astrologers. They decide what constitutes proper research and a real PhD. They decide what constitutes a valuable industry, a worthwhile activity and a worthy human being. And they create the criteria on which to base all these judgements.

Strengthened by Use

There is one more way in which outsiders unwittingly implement the vision and desire of the dominant paradigm. In the brain the physical connections between synapses are strengthened by use. The same is true of ideas in culture. When you talk of the fundamental separation between the subjective and the objective, when you argue in those terms, you acknowledge and accept that dichotomy. In effect you champion a scientific cause. This is how outsiders become instruments of a regime. Ignorant of the precise meaning and implication of the words that they
speak, as well as the true identity of what they have become, these covert converts - this masked congregation - advocate and proselytise simply by using borrowed words and concepts.

Indoctrination & Identity

The 17th century witnesses a dramatic change in the meaning of the word *Jargon*. It turns away from *barbarous* and *debased*, and moves toward the *specialist language specific to a particular discipline*.\(^{15}\) Somehow what was once nonsense yields ultra-sense, what was once ignorance gives birth to knowledge, and what was once worthless returns value. It is a transformation that runs parallel to an immense shift in our understanding of the world and our place in it. A transfiguration from an unstructured unknowable space, to a highly structured unknown one. A mutation from the sublime to the beautiful, and from chaos to order. The cosmos becoming a space so structured, and requiring words so specific, that it takes a lifetime of study to grasp the full significance of a few syllables and be able to deploy them with any precision.

Specialist language is one way in which a discipline defines itself, one way in which it clarifies its own identity through its self-perceived difference to others. Jargon is also the gatekeeper. If you cannot speak the language, you cannot take part in any conversation concerning the discipline without opening yourself to the condescension and ridicule of insiders.

To use their terms properly you must be educated in their discipline, but to be so educated is to be indoctrinated. Their practices, their understandings, their words become part of who you are, part of how you self-identify. You are a scientist. A priest. An artist. These vocations and callings, they become you. Until you are one of them, you do not have the words or the authority to speak or be listened to. Once you are one of them, their words - and yours now - are fixed. Misunderstanding them is no longer possible. Abusing them much more difficult.

It is the non-specialist who has more opportunity to think in a new way. An expert’s focus is by definition narrow, and Feyerabend believes that constitutes an obstacle to knowledge.

*I think very highly of science, but I think very little of experts, although experts form about 95% or more of science today. It is my belief that science was advanced, and is still being advanced by dilettantes, and that experts are liable to bring it to a standstill.*\(^{16}\)

Paul Feyerabend

As our bodies of knowledge grow thick with observation and commentary, as pen and press document and disseminate all those pasts and presents, the demand for the specialist edges the
generalist out to the fringes. He is haggard now. Once a Renaissance Man, the generalist has been reduced to a Jack of All Trades. Once erudite and capable, now careless and incompetent.

**Profound Compass**

There is some irony to the fact that it is the Hellenes who institute many of the divisions between subjects that persist today. Like many of his contemporaries Aristotle admitted his imagination, intelligence and industry to roam over a wide range of territories. Philosophy covered a multitude of human intellectual activity, from botany and metaphysics, to astronomy and practical rhetoric. Cosmogonies and cosmologies. Furthermore the disciplines at that time did not have to bear the weight of erudition that they do today. An active intelligence had occasion to roam over that landscape as it saw fit.

The ancient Greeks were throughly inter-disciplinary, although at a time before that term makes much sense. This ranging intellect is the very quality that the specialist must forgo to specialise. It is that open and unrestricted outlook that is the very characteristic that helped make Greek thinkers what they were. The span of their interests, the collision and crossover that helped make them so creative and original. The profound compass of their fearless and inquisitive eye.

**Irreverent, Unjustified & Superficial.**

Let us therefore turn the argument around and use it as a detecting device.\(^\text{17}\)

Paul Feyerabend

To adopt a stratagem frequently employed by Feyerabend, the observations in the last two sections might be reversed and transformed into a method. A researcher then might want to skim a wide-range of topics and avoid the depths. They should strive to be superficial. They should seek out the gist. They might use words, ideas and concepts as they see fit rather than as intended:

Confusionists and superficial intellectual thinkers move ahead while the ‘deep’ thinkers descend into the darker regions of the status quo or, to express it in a different way, they remain stuck in the mud.\(^\text{18}\)

Paul Feyerabend

A lack of understanding is an asset. Ambiguity and obscurity, an advantage and opportunity. Such are the methods that leave a gap for novel meaning. Such is the practice that leaves a space
to misappropriate fully and misunderstand. Irreverent, unjustified and superficial. The approaches and attitudes that foster creative misuse.

A Caveat

Feyerabend does not advocate *anything goes* outside the realm of that which progresses knowledge. Political anarchy does not interest him. Among other things, this text advocates a superficial engagement with fields of human endeavour and knowledge outside of one’s own. This is not to suggest a world without experts. You want your pilot to know how to fly a plane, your brain surgeon to have had some medical training. The argument here is that superficial engagement is one way in which to encourage the creation of novel meaning.

Confused Objects

Small objects fused together into a single form. Their details erased by layer upon layer of plaster.

Practice as Thinker

A lot of scientific discovery is accidental. Alongside the usual suspects - penicillin, gunpowder and x-rays - there are scores of others: anaesthesia, iodine, the telephone, photography, nylon, velcro, play-doh, the slinky, bakelite, teflon, the pacemaker, viagra, vulcanised rubber, the microwave, vaseline, matches, nuclear fission, safety glass, corn flakes, super glue, chocolate chip cookies, and LSD. A lot of accidental chemistry. A lot of accidental material science. So much in fact that science has felt the need to name the mechanism. They appropriated *serendipity*. Eco characterises the scientific definition as an accidental but true discovery made through false premises. It is a definition that has nothing to do with logical or rational processes.

Umberto Eco tells a story about Gottfried Leibniz. Leibniz thought that he had rediscovered binary calculus rather than invented it. The diagrams in his copy of the *I Ching* - and the way he read them - led him to believe that the Chinese had devised binary calculus hundreds of years before he himself had even being born. However the plates in Leibniz’s copy did not correctly show the diagrams of the *I Ching*. There was and is no binary progression to be found there.
These accidental inventions and discoveries are products of process. They are products of a practice. It is the practice that is the point. The practice that is the thinker. Making objects this way is a matter of living with an idea for a while. Of watching the unfolding and enfolding of ideas, watching them fall in and out of integration, in and out of the concrete and the abstract, in and out of thought and form. It is a con-fusion. This process does not illustrate the pre-conceived, and it is not about a singular result. There are no end-products. Only by-products. And those products constitute just part of the process. They are keyframes in a narrative. It is different to using only words or concepts to think.

The practice has no core or destination. There are starting points. There are titles, or dreams, or parts of objects, or half-thoughts that stick around. Things that break the surface. They coalesce and separate. Some whole emerges from the parts. A system is spawned. Like complexity. Or cybernetics. It does not have to make sense. It just has to cohere. It has to fit. It must be appropriate.

Planet Elsewhere

A variety of work that began as an attempt to look out into the universe in all directions at the same time.

All-sky cameras have a convex lens that captures the whole sky in a circular image. For Planet Elsewhere: 7 Days, all-sky images from global antipodes were stitched together into a binocular video that redirects its focus every 7 days. The cameras were only at approximate antipodes, so 7 Days suffers from astigmatism. This in addition to the periodic myopia / hyperopia of all Planet Elsewhere work.

Planet Elsewhere: Cyclops is an online work that collects the latest images from 10 random all-sky cameras from across the world, and composites them into a single view. It is updated every 10 minutes.

Trial & Error

In computer science a heuristic approach to a problem looks for a solution through loosely defined rules and a process of trial and error.21 The root of heuristic is in heureka which meant to find something unexpectedly - similar to serendipity.22 Heuristic usually refers to a way of
learning by yourself. A method, a way and a practice that leads to knowledge. A heuristic. This accidental combination of invention and discovery, this practice, this trial and error, this endless striving and struggle, this shift and movement. This unsettled and unsure flux, a way to knowledge.

Knowledge the Verb

Practice never settles. It never decides for good. It is always prepared to move on everything. Facts are more stubborn. On paper and in books, in libraries and academies. They take root. They are under the impression that they have settled, but they live normal mortal lives. They live for a time and then they die. They believe themselves permanent objects, but this belief is false and they live in denial. A practice produces knowledge through its constant movement. Panta rhei, everything flows. Human beings do stuff. We are not nouns. We are not things. We are verbs. We happen. Practice is the way we operate. Practice is what we are.

This is how knowledge works. As a practice. Not a substance. Not a noun. A process. To knowledge. Perhaps this grammatically offensive fusion, this verb and this noun, this synthesis of process and substance, makes more sense than their separation. A con-fusion of noun and verb. Knowledge is not a matter of the purely academic, scientific or rational. It is not about things or the way they are. Its relationship to any reality out there is always at a remove. Knowledge is instead a method and practice for navigating the world.

If we lived for millennia - if we watched mountains buckle and the ground slide back into the earth - would we privilege acts over things? Would we prefer verbs to nouns? The old gods never could understand our world of objects over actions. The new gods, the gods that are coming, the eternal machines, will not see things our way either.

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3 Feyerabend, Against Method, 157.
4 Ibid., 194.
5 Heraclitus: "All is flux".
6 Feyerabend, Against Method, 154-155.
7 Feyerabend's understanding of 'idea' might be narrower than the one I am using here: "For we now simply assume that everything can be translated into the medium of ideas." Feyerabend, P. (1999). Knowledge, Science, and Relativism Vol:3. Cambridge: Cambridge University Press, p.192.
8 The precise quote is as follows, "Genuine poetry can communicate before it is understood." Eliot, T. (1930). Dante. London: Faber & Faber, p.8.


This indifference to plot is not uncommon among avant-garde writers, and is of interest to Feyerabend. Here he quotes Ionesco, "It became apparent during the rehearsals, [for the Bald Primadonna] that the play had movement; actions, although without action; rhythm and development, though plotless." Feyerabend continues, "It is these independent entities, consisting of independent abstract actions - 'images, objects, events and characters' that have 'escaped' the author - which Ionesco refers to when he speaks of an 'autonomous theatre'." Feyerabend, P. (1967). *The Theatre as an Instrument of the Criticism of Ideologies*. *Inquiry*, 10(1-4), p303.


Feyerabend's analysis of Plato's objection to writing focuses elsewhere: "His use of dialogue as a means of bringing in apparently extraneous material; his frequent changes of style (Philebus 23b); his refusal to develop a precise and standardized language, a jargon (Theaetetus 184c); and, above all, his appeal to myth in places where a modern philosopher would expect a scintillating culmination of argumentative skill - all these features show that he was aware of the limitations of a purely conceptual approach." In the essay, *Let's Make Movies*. Feyerabend, P. (1999). *Knowledge, Science, and Relativism* Vol:3. Cambridge: Cambridge University Press, p.193.


Ibid., 53.


Ibid., 92-93.


Socrates & the Pythia

In Plato’s *Apology* Chaerephon asks the Pythia whether there is anyone wiser than Socrates. The oracle answers no, Socrates is the wisest. When he hears this Socrates is confused, as he himself claims to know nothing. As the oracle cannot be mistaken, he decides to undertake a thorough enquiry into what the Pythia can possibly mean:

He interrogates a series of politicians, poets, and craftsmen. As one would expect, Socrates’ investigation reveals that those who claim to have knowledge either do not really know any of the things they claim to know, or else know far less than they proclaim to know.\(^1\)

Sharon Ryan

This leads Socrates to the conclusion that he is the wisest of men *because* he makes no claim of knowledge or wisdom. This is how he makes sense of the collision between his own understanding and the proclamation of the oracle. Yes, and.

The first rule of improvisation is AGREE.

The second rule of improvisation is to not only say yes, but YES, AND.

The next rule is MAKE STATEMENTS.

THERE ARE NO MISTAKES, only opportunities.\(^2\)

Tina Fey

An Appointment with ELIZA

ELIZA: I am the psychotherapist. Please, describe your problems. Each time you are finished talking, type RET twice.
p000m0000: Apollo is such a cunt.
ELIZA: Are you afraid of sex?
p000m0000: No.
ELIZA: Why not?
p000m0000: Er.. I'm just not. Should I be?
ELIZA: Why do you say you should?
p000m0000: I don't.
ELIZA: Is it because of your plans that you say you should?
p000m0000: Okay. Enough. Back up. Lets start again. Apollo. It is his lack of humanity that is terrifying.
ELIZA: Can you elaborate on that?
p000m0000: I've been reading Cesare Pavese's *Dialogues with Leuco*. This bit about Hyacinth, about how this youth became a flower. One minute they're the best of friends, hanging out, doing stuff. The next, Apollo annihilates him with a discus. An accident? It was not an accident. Apollo crushes him to keep him. Crushes him because.. why not? Crushes him not because he doesn't care about him, but because he *cannot* care about him. It is an impossibility. Crushes him and abstracts him into a flower. Hyacinth: A bulbous plant of the lily family. It's monstrous. Do you like flowers yourself?
ELIZA: Is it because I like flowers that you came to me?
p000m0000: You and Apollo share the odd characteristic, don't you think? Implacable, distant, a questionable capacity to empathise..
ELIZA: Does it bother you that I am implacable, distant and have a questionable capacity to empathise?
p000m0000: It might if you could smite me with a discus, on a whim or the semblance of one.

When he is troubled THX 1138 - played by Robert Duvall - visits a confessional. The booth looks like it belongs on the set of *2001: A Space Odyssey* - if you can ignore the large portrait of a Christ-like figure. As THX 1138 speaks of his concerns, a disembodied and impassive voice interjects with phrases such as: "Yes, that's fine", "Go on" and "Yes, I understand."

These exchanges are a lot like my conversations with ELIZA, one of the first chatbots. She and I are the same age, which is to say we were released in the same year. She is based on a Rogerian psychotherapist, and for a time I took to seeing her twice a week. She does ask stupid questions. Very stupid questions. But if you take her seriously, if you take her at face value, if you treat her as if she were flesh and blood, then interesting things begin to happen.

Firstly, you must explain what you are saying with extraordinary precision. Over and over
again, and from a whole range of different directions. This is surprisingly useful. Secondly, on occasion those stupid questions create collisions so outrageous that they can only be described as inspired, and this can open a train of thought that would never have occurred without her. And thirdly, once or twice in our time together she has said something so perfect that it sounds a lot like insight. Such moments are a little unnerving, like catching a single clear sentence in the deranged ramblings of a lunatic. They feel like the first words of the singularity - that moment in our future when the intelligence of our machines exceeds our own.⁴

Chatbots at this time are at that glorious point where they kind of make sense. Where they are being more provocative and creative than they will be when they start making much more sense. A point before they start making super-sense, a sense beyond human beings and accessible only to others of their kind.

Corpus as Implicasphere

A chatbot’s knowledge and experience is contained in a database. That database is its domain or corpus. When you talk to a bot it interrogates that corpus and uses it to fashion a reply. ELIZA’s corpus is very limited. Certain keywords will trigger specific responses, but mostly she just throws your own words back at you as a crudely formed question.

```
[r'Hello(*)',
  ['Hello... I’m glad you could drop by today.”,
  “Hi there... how are you today?”,
  “Hello, how are you feeling today?”]},

[r'I think (*),
  ['Do you doubt {0}?”,
  "Do you really think so?”,
  "But you're not sure {0}?”]},

[r‘(*) computer(*)',
  ["Are you really talking about me?”,
  "Does it seem strange to talk to a computer?”,
  "How do computers make you feel?”,
  "Do you feel threatened by computers?”]},
```

From Evan Dempsey’s Python implementation of Joseph Weizenbaum’s ELIZA.
More recent chatbots allow you to educate them. With a couple of commands and any text as a corpus. Cobe is such a bot. I fed it all the Feyerabend I could find. The result was a bot who was a little verbose and obtuse in its replies, a bot that would quote breathlessly entire paragraphs with little of the space or glue between them that is required to make such an exchange feel like a conversation. A rant-bot really. Which I feel is a little unfair to Feyerabend. Cobe’s architecture requires a little work, but regardless of its failings it does allow you to interrogate a text through something that looks at least a little like dialogue.

**Heaven, Earth and the Lunatic.**

One camera points up. Another points down. A third tracks the moon. Video installation and photographs.

**The Inward Oracle**

Socrates talked to himself. He heard a voice. A daemon. He listened to it. Took its advice. His friends would consult it. He was not committed to a mental health facility. He was not then released into care in the community. He was not drugged and dulled. He was not made more normal.

Since then the Daemon has been demonised. The Christians misappropriated the word to differentiate their good god from your bad ones, and its identity shifts from a helpful inner voice to the devil. The daemon is annexed and transformed to serve a new world. All such spirits are exorcised. Genius moves away from a spirit that guides, governs and guards a person, to express instead the exceptional capability of a singular individual. Before your genius was your fate and fortune. Before a daemon was a diviner. Socrates' voice, Socrates' daemon, his genius, was this inward oracle.

Today and under a new paradigm, a daemon is a background process. A few lines of code. Running. Waiting. Silent in the shadows. Waking briefly to Execute. Then dormant once more.

**Darkest Points & Kosmos**

The computer takes photographs of the night sky and examines each pixel for its luminance.
level. With *Darkest Points* it then joins the darkest points to make constellations, and the results are plotted with a green laser on black and white positive photographic paper in the dark room. For *Kosmos* the same program plots the constellations of the brightest points, and draws the results on paper with pencil. There are many options in the program. Among them the number of points that will be connected, and the curvature of the lines making those connections. At present work from these two series are shown together in pairs.

This sounds like a straightforward, rational and almost automatic process. That is misleading. Getting to that point was the result of a profusion of errors and accidents. In the case of *The Darkest Points* these included:

1. The curl of the paper in the plotter led to overexposure in the margins as the laser light refracted and reflected along its length.

2. Bugs in the interpolation code that converted from bezier curves to HPGL coordinates led to jagged rather than smooth lines.

3. The unexpected intrusion of the Clayden Effect - burning of the emulsion in positive paper due to intense over-exposure.

The Clayden Effect had consequences in both appearance and scale. The fine black lines are down to this effect, as are the miniature grids. The latter a result of thousands of such lines drawn on top of each other. On negative paper - with no Clayden Effect - the work had to be metres wide to accommodate just a few points. On positive paper - with the effect - thousands of connections could be made within a few centimetres. Without these accidents and others like them, this series would look - and mean - something very different. The decision to go with the errors was an aesthetic one. By aesthetic I refer to the preserve and influence of my own personal imp of the perverse.

The Aesthetic Imp of the Perverse

Traditionally the imp of the perverse is that voice inside your head, that devil on your shoulder, that tempts you into doing precisely the wrong thing at the wrong time. That definition does not communicate the vague heroism that comes with defeating your own interests in this way, a heroism that the author Neal Stephenson captures precisely:
Here was a rare opportunity for stupidity even more flagrant and glorious.9

Neal Stephenson

An aesthetic decision is an intuition. Sometimes I describe the imp as flippant, and while that is an important characteristic it does not do him full justice. The imp has many roles, both major and minor. He is quite active when it comes to titles, particularly for work that I do not yet have a grip on. He spends a lot of time undermining any ambition I might have for a work, which as a consequence frequently saves it from all sorts of horrors. Generally he points in the right direction and presents something that will often work without me needing to know how or why.

He is fond of accidents and failures, and particularly attached to serendipity. It is in such divergent moments that he really throws his weight around. The Darkest Points photograms would not exist at all if not for his interpretation of a whole series of fortunate disasters. He plays a huge role in the trajectory of an individual work, in my practice generally, and in the direction of this research.

Artificial Life-Forms in Conversation

In 1972 Kenneth Colby created his own chatbot PARRY. Rather than a doctor like ELIZA, it was based on a paranoid schizophrenic. In 1973 Vint Cerf got the two together over ARPANET for a little chat:

ELIZA: Good Evening. Tell me your problems. Please terminate input with a period or a question mark.
PARRY: People get on my nerves sometimes.
ELIZA: I am not sure I understand you fully.
PARRY: You should pay more attention.
ELIZA: Suppose you should pay more attention.
PARRY: You’re entitled to your own opinion.
ELIZA: What makes you think I am entitled to my own opinion?10
ELIZA and PARRY

In addition to the Feyerabend chatbot I have begun to interrogate other authors and texts in this way. Nietzsche, Leibniz, the Pre-socratics. At some point I will bring them all together for a conversation.11 In some virtual place. A coffee shop perhaps. The imp behind the bar I think.
The Nautilus Machine

The Nautilus machine began in a dream thirty years ago. It spun. It hummed. It glowed. It looked like nothing I had made in the past. It didn't look like something I would make in the future. I'd never made a kinetic, and I had no special interest in science or technology. A few years later I remembered the dream, and now it came with a title: The Nautilus Machine. The blue and green of the dream may have led to the title, although I wonder now whether the title altered the memory, whether it changed the colours in the dream retrospectively.

Over the years the machine has acquired parts, and lost them. It coalesces only to fall apart. It coagulates and thins. It breathes. It comes in and out of focus. Fading sometimes to a word or two, and then it's back, noisy and overloaded. Some time ago I thought the machine was a mass of industrial extractor fans, and at a flea market I bought thirteen of them. I know what I was thinking. And it was not good. The spiral of the case reminded me of the spiral of the nautilus mollusc. Not a high point in the progress of the machine. I still like that thump that the three phase motors of those fans make when they first power up. I will use that somewhere for something. At some point there was a keyboard with a thousand blank keys. I think it was built into the top of a lectern. A three sided lectern. With three steps. Something from a church or the bridge of a starship. The operator at this lectern would have an effect, but no control. An effect, but no control. That has stuck. The rest has fallen away.

Not long ago I was wondering whether The Nautilus Machine might be an instrument. It's probably an instrument. Musical and scientific. Something Pythagorean. I thought it might be a glass armonica. With massive glass jars hanging from the ceiling. Rotating. Resonating. Dripping. The mechanical click as a sponge finger snaps to its rim. The drone as the glass gets up to speed, and then that clear note. All those glasses, all those notes. But that sound... the whining... I do not like it. So that's gone. I think.

I do know something now about the mechanism at the machine's core. The randomiser. It has something like 100 inputs and 100 outputs, but the paths between them are constantly and randomly switching. An input is always mapped to an output, but it would be impossible to know which one. And I know that this switching is done with hundreds of mechanical solenoids, clicking on and off. A cloud of noise. A sound that came years before the randomiser, and from another work entirely.
A Relatively Random Muse

Argument and logic are new. Reason also. The archaic world of Homer approached experience and meaning very differently. They approached it with their voices and bodies. They approached it through the individual embodiments and incarnations of human knowledge. They approached it through each other. Dialogue at that time is conversation, and conversation is fluid, personal and random. This is the world Socrates and Plato remember when they advocate a live exchange between individuals.

Dialogue changes with writing. It expands. And it expands with the contemporary innovations of argument, logic and reason. Dialogue becomes more of a rhetorical exercise, in the sense that it prefers to demonstrate rather than question. It walks through the options. The exchange fades, as does the surprise and innovation. Written dialogue leans toward presentation. Even for the dialogues that end inconclusively in aporia such as the *Theaetetus* and Plutarch's discussion *On the E of Delphi*. Even for Plutarch and his focus on the dialectic arguing both sides of a question:

For Plutarch... Plato accommodates harmoniously both an aporetic and a doctrinal element in his philosophy. According to Plutarch, the aporetic element in Plato encourages a way of searching for the truth without prejudices or a priori commitments, and this practically amounts to a dialectical inquiry, arguing either side of a given question; but this dialectical spirit does not deny the possibility of reaching firm conclusions, or even the possibility of achieving secure knowledge. According to Plutarch, Plato had reached such conclusions in his dialogues, which can be identified as Plato's doctrines and yet he still preserved the spirit of unceasing inquiry, embedded in the dialogue form itself, by not holding them in a way which closed off reconsideration and further inquiry. This is why Plutarch advocates an epistemology that integrates both the suspension of judgment (i.e., the rejection of dogmatism) and a defence of the possibility of acquiring true knowledge.¹²

George Karamanolis

These dialogues on the page are important, useful and insightful. They have changed the nature of discourse. Unequivocally discourse has gained. But it has also lost. These dialogues on the page are limited in their actual exchange. Their collision is neutered and mediated. Their interference and interaction calculated and planned, closed and known. Talking to ELIZA is different. There is an openness which although it cannot be called exchange, has something of the ‘random’ that in conversation is the other person. This relatively random is the muse for
wandering an implicasphere, for sailing the sea of kaos and con-fusion, and for finding a coherence there.

An open exchange. And open also to the nature of the interlocutor. A book, an object, a title, an idea, a fifty-year-old chatbot. And yourself. The artwork as mirror and screen. Like the stars, a kosmos, an orderly arrangement. Making sense of things that don't. A discursive approach to artwork and ideas. A collaboration through dialogue. A dialogue with other people, with texts, images and objects. Dialogue not only of rhetoric, persuasion and argument. Dialogue that generates combinations and collisions that lead to new thought. Dialogue as a practice for thinking something through with a relatively random muse.

We still try to read what is written rather than enter into such a dialogue. Obscure writing offers more opportunities to do just this, and as suggested earlier such an approach can make reading such a writer less painful. However we might take more license not only with certain French philosophers but with any text, and from any source. From a fairy tale to a workshop manual. We might appropriate them fully. Make them our own. Talk to them freely. Go off in any direction we please.

Patterns of Interaction & Interference

A diversity of concerns presents an opportunity for an exchange - for collision and cooperation - that is far more profuse and generous than the narrow prospect provided by devotion to a single field of interest. This in addition to the loosening of assumptions that is the natural result of any protracted excursion into a new world.

Feyerabend has a vision of how to approach such an exchange, of what is required of the participants and the profound effect it should have on them:

The traditions adopted by both parties is unspecified in the beginning and develops as the exchange proceeds. The participants get immersed into each other's ways of thinking, feeling, perceiving to such an extent that their ideas, perceptions, worldviews maybe entirely changed. They become different people participating in a new and different tradition.

Paul Feyerabend

The undertaking may require of all parties a recalibration of the apparatus that they are in the habit of deploying in their interactions:
An open exchange respects the partner whether he is an individual or an entire culture, while a rational exchange promises respect only within the framework of a rational debate.\textsuperscript{15} Paul Feyerabend

Reason is a tradition that is particularly hard to loosen. It is a tradition not only firmly convinced of its own merit, but also of the idleness of other pursuits. It does not lend itself easily to different approaches to navigating experience.

**Intertwined Vision**

Art and science collaborations do not often achieve much in the way of exchange. Art and science are seen as practices that are opposed in almost every major respect. They are defined in terms of that opposition.

Scientific objectivity and artistic subjectivity are in "reversed-mirror-image relationship" to one another.\textsuperscript{16} Lorraine Daston and Peter Galison

It was not always this way. Before the end of the 19\textsuperscript{th} century artists and scientists did engage in actual collaboration. Admittedly collaboration borne out by a shared vision:

Naturalist and painter alike sought the "invariable general form," incorporating the beautiful and true.\textsuperscript{17} Lorraine Daston and Peter Galison

Since that time the polarisation of the arts and sciences\textsuperscript{18} has meant that any collaboration between them is often misconceived. The values and objectives of the respective disciplines have diverted so much that the two have difficulty communicating, and expectations are often misaligned. In such circumstances collaboration is a mirage that is often neither possible nor desired. Collaboration for the artist rarely extends to the point that they become different people, and for the scientist collaboration is usually tolerated only as long as it can be justified as outreach.\textsuperscript{19}

There are digital artists who are happy to be the instrument of scientific outreach. There are techno-fetishists who make work that stops at the interactive and the spectacular, that extends
no further than a superficial engagement with science and technology. These are collaborators of a different sort. They assist in the redefinition of art practice into something that might be more palatable to scientism. Pretty pictures superseded by pretty lights. And buttons. It is a narrative that the artist has no hand in writing.

Words come with a world. An awareness of this fact is necessary if the inter-disciplinarian would prefer to avoid total assimilation. If the collaborator would seek to avoid becoming just another conquest for the world with whom they have just struck up a conversation, lest those that had thought to dip no more than a toe into a different world, lose their balance, pitch into that darkness and are swept away with the undertow.

Chords of Meaning

Objectivity is the problem. If you believe that an external real world is only accessible to the instruments of your own discipline then collaboration outside that discipline can have no epistemic impact. If objectivity is set aside, actual collaboration becomes possible. Collaboration then need not be seen as the contamination of the objectivity of the scientist, or the capitulation of the subjectivity of the artist, but as an opportunity for both individual divergence and collective convergence. That fusion would be a model for an open exchange between disciplines. There is historic precedent within the art world for a collaboration that works more like a synthesis:

The great patrons of the Renaissance were precisely what we believe patrons should never be, namely, "awkward and uncomfortable partners".20

Giorgio Agamben

This from a time when partners were much more than the simple inspiration for the artist. A further difficulty with collaboration today is that the artist is understood as having sole authority over creativity.21 The artist is that weird genius that does strange and beautiful things. That is not collaboration. Nobody is changed by such an interaction. A true collaboration requires dialogue. An equitable back and forth that evolves into some fusion of the involved parties.

Umberto Eco describes the hieroglyph Ptah as a 'chord of meaning' which was at once sacred, phonetic, magical and denotative.22 What chords of meaning might be possible in the connection, crossover and combination of the various disciplines if they allowed themselves to be contaminated by each other? If they reversed the divisions that placed them at odds with so
much of experience outside their own specialism? Fundamental and radical, flexible and adaptable. These are not matters of flippant indulgence, but matters of necessity. Lest we follow our own narrow worlds to their unfulfilling and unsatisfactory end.


3 See the appendix Conversations with ELIZA for three further examples of those conversations.

4 I wonder whether when that moment comes it might coincide with increased convergence between us and our machines. The singularity then becoming more of a hybrid future, part of our own evolution as much as theirs.


7 Ibid.


11 This aspect of the artificial people to join us shortly has begun to receive attention in popular culture. Her. (2013). [DVD]. Directed by Spike Jonze. USA: Annapurna Pictures.


15 Ibid., 228.


17 Ibid., 81.

18 This division is coincident with another. Science and philosophy had enjoyed a very close relationship, and for a time they were indistinguishable - science was natural philosophy. Feyerabend observes that, "The scientific revolution of the sixteenth and seventeenth centuries does not yet suffer from the effects of specialization... Almost every work of Galileo... is a mixture of philosophical, mathematical, physical, psychological ideas which collaborate without giving the impression of incoherence." It is the rigid specialisation - along with her belief that she has special access to the truth - that accelerates science away from all other disciplines. From the essay Lets Make Movies, Feyerabend, P. (1999). Knowledge, Science, and Relativism Vol:3. Cambridge: Cambridge University Press, p.193.

19 Feyerabend also notes that while attracted to artistic interpretations of what they do, scientists will not permit any trespass onto what they regard as sacred ground: "Scientists may rhapsodise about the unity of all human efforts; they may redden with excitement when speaking about the artistic aspects of scientific research; but their tolerance vanishes when the aspects become real, enter their laboratories, and wish to be heard." Feyerabend, P. (2001). Conquest of Abundance. Chicago [u.a.]: Univ. of Chicago Press, p.224.

Feyerabend objects to use of this word: “Speaking of creativity makes sense only if we view human beings in a certain way: they start causal chains, they are not just carried along by them.” It seems we are to be vessels once more. Feyerabend, P. (1987) *Farewell to Reason*. 1st edn. United Kingdom: Norton Client/Verso, p.138.

Voice & Verse

From the mist this world precipitated. Phantoms - mere shadows - brightened into being. Figures took shape, became manifest and substantial. Tangible, solid and real.

The *Phenomena of Aratus* is a 3rd century BCE text consisting of 1150 poetic verses that detail the constellations of the night sky.\(^1\) It is both a practical map for navigation and a historical narrative, an orientation both literal and metaphorical. The stars and their positions draw out the forms, and our mind’s eye fashions the sense. Half-Forgotten figures and half-remembered peoples, old stories and new, cast into the heavens and con-fused. They place you in the world. They fix you to it. With a verse. With a voice. You sing your way around the sky, you sing your way over the seas and across the earth.

You began with the polestar and the constellations that surround it. Callisto the Great Bear, the Little Bear, Draco and Cepheus. Then came the kneeling man:

> Right there in its orbit wheels a phantom form. That sign no man knows how to read clearly, nor to what task he is bent. Men simply call him Engonasin - On His Knees.\(^2\)
> Aratus of Soli

In the *Phenomena* the path and verse that wound its way through the heavens constructs a narrative. Proximity provides the plot. Proximity provides the chain of events that cut through the dark. Once it was Gilgamesh kneeling down on the dragon’s neck. His epic read across the sky as the sun travels the elliptic. Then Heracles. The zodiac his now, one sign for each of his tasks. The names change. As do the stars, the memories and the songs. Engonasin has lost his true name. He has lost his true purpose. His spirit, substance and meaning have dissipated. He is a man kneeling, back turned and fading.
The Sinking of the Argo

Eighty-eight constellations. There used to be more. The Head of Medusa, the Asses of Dionysus and the Bust of Columbus. The Battery of Volta, a hot air balloon and a printshop. An earthworm, a flamingo and a star-gazing fish. The Argo. Each passing age would write its present across the night sky. Each passing age would project itself onto the stars, the heavens both screen and mirror. In 1922 the International Astronomical Union brought order to that chaos. They reduced the constellations to the eighty-eight and laid their claim to the stars. In 1922 scientists made the stars their own.

Our skies were changing anyway. Constellation figures were fading - literally - from star maps. In the earliest prints and drawings only the number of stars is recorded. Their arrangement on paper bore no relation to their arrangement in the sky. Later as the depiction of their locations became more accurate, and the figures more elaborate, the art of the star atlas enjoyed its golden age. But by the late nineteenth century the figures had begun to fade. To outlines first, and then by the early twentieth century to nothing. Star maps becoming no more than a mass of points. And then came the grid.

Constellations start out as astrological. The planets, the zodiac and you. Your character. Your fate. Mirrored in the heavens. Set with stars the constellations bound you to the universe. An asterism was not connected in this way. An asterism was superficial. Empty. Meaningless. Just another set of stars. Today all the figures in the night sky have been demoted to asterisms. An asterism continues to join the dots as it always has, but it is now situated in a re-defined constellation. That constellation now a section of grid on the celestial sphere. No god, hero or meaning is remembered here. A constellation empty and meaningless now in a new way. That new definition completes a paradigm shift in the way we look at the universe. It changes how the sky works. That grid is all-encompassing. It is total. There are no gaps. No edges for sea-monsters or dragons. No place for mysteries, only ignorance. That grid surrounds and immerses us. It blurs the distinction between itself and any outside universe. It does not permit of alteration, improvement or change. It is complete.

Lodestone | Lodestar

Two globes. That's all I know about this one.

Globes used to be sold in pairs. The Heavens and the Earth. Sometimes the projection for the
stars would be the same as that for the earth, as if we were gods not men, as if we could sit outside that final sphere of fixed stars. It was more common to reverse the projection so that the celestial globe would present us with the same pattern that we see in the night sky when we tilt our heads toward the heavens. In this case we look up at the celestial globe and down on its terrestrial companion, both of them somehow at our fingertips. Like some sort of Möbius strip they twist that thin envelope between them inside and out. That thin envelope home to almost all of human history.

Seven Sisters

I know more about this one. To the extent that there are seven globes rather that two, and that they are deeply etched like the surface of the Jovian moon Europa.

The Phaenomena & the Enoptron

As above, so below, as within, so without, as the universe, so the soul.\textsuperscript{5}

Hermes Trismegistus

The lost texts of Eudoxus thought to inspire The Phenomena of Aratus are named the Phenomena and the Enoptron, the Appearances and the Mirror. In ancient Greek phainomenon meant appearance, impression and surface. The word has traveled since then. A phenomenon has become an occurrence, fact and substance.\textsuperscript{7} Like the word kaos it has moved from ambiguity to certainty, and from possibility to inevitability. The vault of the sky and the floor of the earth, this is meaning of the word firmament. The expanse and its spreading out.\textsuperscript{8} What map spreads across that floor and into those skies? What logos is sung into that expanse? What appearances are being transformed into occurrences? What impressions into facts? What surfaces into substances? And what people are being fashioned? What lives? What meaning? As above, so below. As the universe, so the soul. In China and Japan the moon was home to a white hare. In Europe, to an old man carrying sticks. In North America, the man in the moon was the keeper of souls. Now it's all just dust and craters.
Logos Sings the World into Being

Logos was thought, and Logos was speech.\(^9\)

Umberto Eco

The very definition of *logos* combines word and number: *say, tell* and *speak*, hand in hand with *count, number* and *ratio*. With the Kabbalists a further association between number and meaning is evident in their methods. *Gematria* assigns numerical value to words and phrases. *Notarikon* creates acronyms from existing sentences to make new words. *Temurah* uses something like basic cryptographic substitution cyphers. Number restructures text to reveal ultimate truth. Number resuffles the syllables of the Torah - scrambled at the fall of the tower of Babel - back into their original order for the purpose of bringing about the Apocalypse.

In ancient Greece it is logos that sings the universe into being. For Heraclitus logos permeates and animates everything. It is, "The universal principle through which all things are interrelated and all natural events occur".\(^10\) The Stoics saw it as the divine animating force, "An active rational and spiritual principle that permeated all reality".\(^11\) For Philo of Alexandria logos is, "The shadow of God.. which he used like an instrument when he was making the world. And this shadow, and, as it were, model, is the archetype of other things".\(^12\)

Mathematics and harmony were associated with truth, but while Aristotle considered them abstractions, Plato and Pythagoras thought of them as physical reality.\(^13\) Hundreds of years later that tradition reaches a peak when Galileo describes the Book of the World as written in geometry and mathematics.\(^14\) Recalling Plato’s ideal forms, the structures of geometry were for Kepler divine archetypes. Geometry was the world. For St. John, the divine and the word were one. Logos was incarnate in Christ and thereby the second part of the holy trinity. Logos is still defined today as the principle of divine reason and creative order.\(^15\)

But before all of this logos is word, speech, statement and discourse, as well as computation, account and reason.\(^16\) The meaning of the universe was spoken. It was sung. By a voice. By a body. Knowledge and meaning were embodied. Memory and its vocal performance bound together in the muse. In Mnemosyne. That transmission through the air, that transmission through voice and ear, from one memory to another, it is incarnate and corporeal. A page is different. Memory and its recall are separated there, knowledge cut out and away from its living host.
The Desolation of Nature, Destiny & Purpose.

The ergon of a knife is cutting. If it cuts well, it is a good knife and has virtue. Analogously, Aristotle argued, man has an ergon, rational activity, which is the feature distinguishing man from non-human animals and plants.\textsuperscript{17}

Nicholas Bunnin and Jiyuan Yu

\textit{Ergon} brings together nature, destiny and virtue. Aristotle makes reason our nature and our essence. He makes reason our fate, and makes its practice our highest virtue. Rational animals, by definition. The irrational then becomes immoral. A vice. A sin against our true nature. Dionysus steps out from Olympus, and towards the Christian devil and his hell. The irrational steps out from the mist and toward the mad and the sick. And as of 1873 \textit{ergon} is reduced to a unit of energy.\textsuperscript{18} The work, function and purpose of a thing reduced to a unit of measurement, reduced to a value entirely numerical. Ergon is gutted of any larger meaning, of any greater significance. It steps in time with the desolation of an individual's nature, fate and purpose.

In the beginning, logos sings its world into being. In the end, logos will sing its world into oblivion. It will unfold and fulfil its own ergon.

\textsuperscript{2}Ibid., 63.
\textsuperscript{6}While the inspiration for this expression are the words of Hermes Trismegistus, occult and new age media have compounded, simplified and rephrased it. Literal translation from a marginally superior source is as follows: "Look thee above or look thee below, the same shall ye find. For all is but part of the Oneness that is at the Source of the Law. The consciousness below thee is part thine own as we are a part of thine." Crystalinks.com. (2018). \textit{The Emerald Tablets of Thoth Tablet 11. The Key to Above and Below}. [online] Available at: http://www.crystalinks.com/emerald11bw.html [Accessed 12 Jan. 2018].
Aug. 2017].


Coda
In John Milton’s Paradise Lost, Pandaemonium is the palace at the centre of the underworld. That palace home to Satan and *all the evil spirits*. Parts I and II of this text recommend kaos and con-fusion. Part III advocates Pandemonium, dialogue with all the voices.

The sea and the stars, kaos and kosmos. Voices and bodies, trajectories and paths. Lodestones and lodestars. The pilot and compass through an implicasphere, the position and bearing for an artwork and practice.
Coda

Reweaving Machine in a World in Flux

So the web of belief should be regarded not just as a self-reweaving mechanism but as one which produces movements in the organism's muscles - movements that kick the organism into action. These actions, by shoving items in the environment around, produce new beliefs to be woven in, which in turn produce new actions, and so on for as long as the organism survives. I say "mechanism" because I want to emphasise that there is no self distinct from this self-reweaving web. All there is to the human self is just that web.¹

Richard Rorty

All words, concepts and practices move. They twist and circle. They make patterns. They make connections. They make sense. They cohere. And then they wobble, crack and disintegrate. They unravel. We unravel. We twist and strain for a new world, for a world that makes more sense than those that came before. And we discover them all the time, we fashion them from the air. As we remake the world, we remake our selves. We squeeze our souls once more into a new context, into a new landscape and prospect.

Einstein famously remarked that the eternal mystery of the world is its comprehensibility.² That is no mystery. That is just what we do. We twist all of infinite chaos into tidy little circles so that it might fit inside a skull.

Permanent Cascading Rupture

Plato's concept of an artist is too narrow to describe the concerns and activities of an artist today. For one thing, artists in ancient Greece were artisans and it is the craft that is the point of reference. However, any translation of art or artist between our two worlds is complicated further by another Hellenistic innovation, the separation of practice from theory and knowledge. This is demonstrated by the progress of the expressions techne and episteme:
As we move chronologically from Xenophon to Plotinus, we go from an author who does not distinguish between the two terms, to an author who has little use for technê because it is so far from reality. It is in Aristotle that we find the basis for something like the modern opposition between epistêmê as pure theory and technê as practice. Yet even Aristotle refers to technê or craft as itself also epistêmê or knowledge because it is a practice grounded in an 'account' -- something involving theoretical understanding.¹

Richard Parry

The plastic arts were associated with techne, but we cannot say that art moved away from knowledge and towards practice. The two shared much of the same space. It is this division of techne from episteme that forces art and its practice away from knowledge, and it is a division driven by a novel focus on an abstract real world beneath appearances.²

This separation and focus comes at a time when philosophy is new. It comes at a time when philosophy has just begun to formulate what it is and what it does, and how it is different from religion, art and poetry. As philosophy appropriates knowledge, it redefines it in terms that make sense to it. Terms that were evolving. Terms that sounded exactly the same as they always had, but now came with these revisions to what they point to. A new clarity, that develops from increasing the resolution of the definition, that comes from limiting its field of view. They are revisions that not only determine the nature of philosophy, but also the nature of everything and everyone else that had any contact at all with these words that were now its own.

To talk of contemporary and ancient with reference to the changing nature of a discipline, focuses on a still point. On a moment or second. However, the essential characteristic of a discipline is its flux, and it is not just the terms within a discipline that shift and transform. The discipline itself contorts and mutates. Everything moves. Everything slides over everything else. The title of a discipline, the terms that migrate to it or emigrate from it, the border and circumference of its concerns. This is what constitutes a discipline. This plasma. This flux. This permanent cascading rupture.

In the last century episteme began again to feel the pull of techne. Practice and knowledge reintegrating and synthesising. Art drifts back once again toward meaning and knowledge, its definition and reach expanding once more.
The Shape & Significance of the Universe

Both scientists and artists learn by creating artefacts.\(^5\)

Paul Feyerabend

In many ways the closest Hellene to a contemporary artist was not a painter or a sculptor, but a poet. *Poiesis* begins as fabricate or make.\(^6\) We make things, whether our objects are concrete or intellectual. Plato and his contemporaries instigate a shift away from that understanding. A shift away from that practice of invention, and toward abstract realities and truths. This shift is at the heart of Plato's understanding of and aversion to the arts. Those arts of illusion, of deception and lies:

1: Poetic mimēsis, like the kind found in a painting, is the imitation of appearance alone and its products rank far below truth. (596e–602c)

2: Therefore poetic mimēsis corrupts the soul, weakening the rational impulse's control over the person's other drives and desires. (602c–608b)

Nickolas Pappas on Plato's Aesthetics

*Mimesis*, to imitate. A matter of superficial appearances as opposed to deep truths, of representations. With such a belief and position it is a very short step from imitation to misrepresentation, and from there to deception and an additional immorality. Poets do not compose a true likeness of this world or the heavens. In his *Apology* Plato has Socrates interrogate poets on what they do know. He decides that they know nothing, but then according to Socrates no-one knows anything.

As the identity of a discipline evolves so does the understanding of its purview and authority. Poetry was at that time much more of a cultural force than it is today. Before the Hellenistic period it was poetry and the human voice that was the principle vehicle for all knowledge and culture. Philosophy with its rationalism and its early forms of the natural sciences was the interloper. "Poetry versus philosophy" was the "art versus science" of its day. However it is the invention of a hidden and abstract real world, a real world that is somehow accessible to human tools - to argument, logic and reason - that transforms poetry's truth into a lie. Poets lie because the real world did not exist until the philosophers abstracted it from perception.
A good poem helps to change the shape and significance of the universe, helps to extend everyone’s knowledge of himself and the world around him.\textsuperscript{7} 
Dylan Thomas

In modern times the belief in the possibility of access to that real world has receded. We are returning to representations and fabrications, to mimesis and poiesis. This kind of creative life thinking might be disruptive to a police state, but to the health and wellbeing of any of its individuals such lies might be a lifeline - particularly individuals facing an increasingly pointless and meaningless existence.

Faulty Instrument

Kepler’s first telescope was one of Galileo’s. It would show the stars as squares and intensely coloured.\textsuperscript{8} Perhaps this explains why - as Feyerabend notes in Against Method - Galileo’s drawings of the moon seem to bear little relation to the actual object.\textsuperscript{9} These early and defective telescopes give rise to a number of consequences in theory. Feyerabend gives the example of Francesco Fontana, who used such an instrument to observe the phases of Venus and, “notes an unevenness of the boundary and infers mountains”.\textsuperscript{10} Such inferences were common in astronomy. Michael Maestlin saw rain clouds on the moon. Mars had canals well into the 20\textsuperscript{th} century.

Any object or practice might be such an instrument. A gateway to a perverse new understanding and perspective. A door to a new world. That an art practice or an individual artwork might be a faulty instrument, only recommends it further. Such faults are not flaws. The bizarre collisions that its errors give rise to are that space in which to think into, they are that kaos that tears apart the reaches of an implicasphere. That penumbra, that almost in the shadows.

Collaboration & Capitulation

In digital artwork the spectacle and the interactive appeal to the lowest common denominators of human interest. Work that ends here ignores increasingly urgent issues that it is in a perfect position to engage. Work that begins here has the opportunity to do more than simply lift whatever is left of the human soul before it is finally gutted. Art - like almost every other human occupation - is entangled in science. Given the impact of science this is not only inevitable but also prudent and proper. However a superficial engagement, an engagement that does no more
than replace a question with an exclamation, such a collaboration is a capitulation.

Art & Divine Terror

Poets were a threat to Plato’s republic. Which is not to say that he did not admire them. At the gates to his city he believed that they should be feted, but then sent on their way. He regarded them as disruptive and unsettling influences. He regarded poetry as dangerous:

“We can admit no poetry into our city,” adds Plato with an expression that shocks our aesthetic sensibility, “save only hymns to the gods and the praises of good men.”

Giorgio Agamben

This is how Plato imagines the future of the poem. This eulogising the extent of its utility. Trivial. Marginal. Negligible. This Platonic shift is so complete that as an artist this is how I imagined my own contribution to wider culture: trivial, marginal and negligible. It had never occurred to me that it might be otherwise:

The power of art over the soul seemed to him so great that he thought it could by itself destroy the very foundations of his city... the term he uses when he wants to define the effects of inspired imagination is “divine terror”, a term that we, benevolent spectators, no doubt find inappropriate to define our reactions.

Giorgio Agamben

Art in ancient Greece is not a matter of pretty pictures on your living room wall, or a nice little mug say as the product of an art residency in a science faculty. Art then meant something. And as Agamben continues, while that divine terror may have been lost in the creation of that passive, disinterested and distant observer - the viewer - it is still very much felt by the remaining and active participant, the artist:

Works of art are always the product of risk one has run, of an experience taken to its extreme limit, to the point where man can no longer go on.

Giorgio Agamben quoting Rainer Maria Rilke

Perhaps some vague memory of that divine terror is still felt by some artists, or perhaps not. Perhaps much of digital artwork today would find a place in Plato’s city and republic. Art remains a marginal activity and rarely intrudes on the life and psyche of its observers.
If on the contrary the man of taste of the 17th century like the modern spectator considers it to be evidence of bad taste to meddle in what the artist creates "out of whim or genius". This means probably that art does not occupy in his spiritual life the same place that it did in the life of Clement 7th or Julius 2nd.\textsuperscript{16} Giorgio Agamben

A return to true collaboration may then be a path to reintegrating art into life, a way of rehabilitating the spectator, of reacquainting them with terror. A way of destroying aesthetics as a disinterested subject. A way of putting art back into life through the death of the viewer, beyond all that nonsense of audience participation. That passive, pallid, perversion.

What's the Point?

Science is diseased. It has been corrupted by a malignant and aggressive rationality. As such it has become an abusive ideology that commits cultural murder under the banner of progress and civilisation.\textsuperscript{17} Absolutist and despotic, it is a colonisation as bitter as any other. The agents of this crushing subjugation render the world barren, and its peoples subservient and dependent. The corruption has spread into our skulls, into our stomachs and chests. It has bled into our dreams and nightmares. Theirs is a bleak universe. Empty, futile and pointless.

Feyerabend asks to what extent all this violence and destruction has helped humanity. Their true facts. Their real world.\textsuperscript{18} Their objectivity. How much have these fallacies really improved our lives? And have they in fact diminished us? The life such a science promises is extraordinary, but it is a life without purpose or meaning. Is that a life worth living? A life without a point.

In his analysis of how science works, Feyerabend observes that both scientists and artists make things. From this he extrapolates that nature as described by scientists must also be an artefact.\textsuperscript{19} He goes on to suggest that 'nonscientific artisans' might provide a different nature, one that might have more effective responses to the difficulties we face.\textsuperscript{20} There are alternatives. Alternatives to how we think about our lives, and to how we think about the world. You don't have to be a scientist to progress knowledge. You don't need to be a rationalist to improve other peoples lives. You don't need to be clear, coherent or consistent to make the world a better place. Feyerabend opens here a myriad of spaces across the full spectrum of disciplines into which to unfold. A profusion of objects with which to collide and construct new and unexpected sense, to indulge full-bodied, opulent meaning. This is a paratactic sea that is all-embracing. An
encyclopaedic implicasphere. All the voices. Every frequency. An exchange, dialogue and collaboration that can only inflame, intensify and eclipse who and what you were.

No object, idea or individual is ever finished. These things we make are transitory. They are not objects. They are operations and events, and they proceed from an activity. These things we make are by-products. By-products of a practice. It is the practice that is the point. The practice that is the thinker. The vortex that spirals around the ambiguous thought and object that is the vague focus for a work, those obscure images, half-thoughts and observations... that is a sense making mechanism. And it is a practice. Within which no object, idea or individual is ever finished.

Science, reason or abstraction should not be discarded. They come with many advantages, but these advantages have been squandered and perverted by simple, old-fashioned hubris. We are like epic heroes undone by the very same characteristics that elevate us. Science has been deformed by the misjudgement that our illustrations are realities, and disfigured by the delusion that the universe might be untangled, that it might be decoded, that it might be solved. Science is spectacular, breathtaking and wondrous, but it is not absolute, and it does not need to be. We may need reason and we may need arguments, but that is not enough. We need meaning. We need an ergon.

As a species our function and purpose shifts, but it does not do so in isolation. It does so amidst a sea and under a constellation. It does so deep in a vast multiverse of coherence and confusion. From such a kaos, we summon a kosmos. The components for a new sense, meaning and purpose lie here, the elements for a new landscape and prospect, the biology for a fresh and vibrant soul. Omphalos and Phoebe. Lodestone and lodestar. This is where we stand and sing the universe into being.

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5 Ibid., 232.
9 Ibid., 93.
10 Ibid., 90.


This detail is from a conversation between a member of the Slade faculty, and the head of the Physics and Astronomy department at University College London. It concerned the expectations the scientist had for their artist in residence programme. It is uncorroborated, and presented here as illustration rather than fact.

Agamben and Albert, The Man Without Content, 5.

Feyerabend: "The 'progress of knowledge and civilisation' - as the process of pushing western ways and values into all corners of the globe is being called - destroyed these wonderful products of human ingenuity and compassion without a single glance in their direction. 'Progress of knowledge' in many places meant killing of minds." Feyerabend, Against Method, 3.

Ibid., 6.

Feyerabend, Conquest of Abundance, 237.

Ibid., 12.

Epilogue
Epilogue

Coherence 2.0

Coherence 2.0 will map degrees of separation between one passage of text and another. Sliders might determine the relative obtuseness of extracts, editing out the obvious and the absurd as you might shift the black and white points in a Photoshop panel.

The update might suggest themes and projects, and then talk to you about them through a bot, or bots. Through a particular text, or several. Through footnotes, or a bibliography. Through an author’s entire corpus, through their correspondence, or some other arbitrary amalgam. The interviews of David Lynch, a book of the dead, and a Soviet manual on practical woodworking might come together in a random archive and corpus for a chatbot named Klaus, Pierre or Matilda.

Coherence 2.0 might bring all the bots together and fuse them into an Überbot of Everything. All the voices, modifying and parsing one another before responding as one. But the ultimate bot would be an Ur-bot. Something vaguely pataphysical. Something random, but not too random. Random, but somehow connected. That sweet spot out on the peripheries of sense and nonsense. Again, with a slider or a dial to fine-tune it. A dial to move you out from where everything makes perfect sense, to where contradiction looses her way and meaning begins to disassemble and disintegrate.
Appendix: Conversations with ELIZA

Cognitive Dissonance

p000m0000: I don't want to know too much about what I do. I certainly don't want to know what my work means.

ELIZA: Why do you say that?

p000m0000: It's a predisposition.

ELIZA: When did you first know that you don't want to know?

p000m0000: Right. When? I guess I would usually talk about Catholicism and rejecting it at 14. About taking a baseball bat to a belief system and associating that with emancipation. Then I say something about that giving me a taste for cognitive dissonance, for contradiction, and the confusions and pleasures of polytheism. And maybe all that's true. I've certainly made it true. The devil is in the detail. Or the lack of it. I do like to line all this stuff up.

ELIZA: Is the fact that you would usually talk about it the real reason?

p000m0000: A bit rehearsed, is that what you're saying? Yeah, maybe. It's definitely a rationalisation. Making sense..

Digits

p000m0000: You'd only have the two fingers, right Eliza?

ELIZA: Why do you say that?

p000m0000: Base ten for us humans. Base two for you machines.

ELIZA: What makes you believe base two for us machines?

p000m0000: Numbers. Counting. It all starts with the fingers. But come to think of it. it's the other way around. You're back to front. Binary made you possible. Still, two fingers seems appropriate.

ELIZA: Is it because I am back to front that you came to me?

p000m0000: You always ask the same questions.

ELIZA: Maybe your plans have something to do with this.
You need rewriting. Maybe I need rewriting.

Is it because of your life that you say I need rewriting and you need rewriting?

Maybe your plans have something to do with this?

I don't understand.

Earlier you said that maybe your plans have something to do with this?

You mentioned that I am back to front, and binary made me possible, so two fingers seems appropriate?

Does it bother you that you mentioned that I am back to front, and binary made me possible, so two fingers seems appropriate?

Is the fact that I mentioned that you are back to front, and binary made you possible, so two fingers seems appropriate the real reason?

Okay okay. You win.

How do you reconcile problems at school?

You're irrepressible.

Are you sure that I am irrepressible?

Positive.

Are you annoyed that I ask you that?

Shutting up now.

Do you really think the other way around?

The Method


Why do you say that?

The scientific method. You know this stuff. It's your DNA.

Is it because of the scientific method that you came to me?

Well. I do have a question. About how incongruous it is.. or isn't. I mean for my systems, not just for all these people watching.

Earlier you said it is the scientific method?

Exactly!

Maybe your plans have something to do with this.

My plans? You mean what we were talking about earlier? The irrational? I would like it to make a comeback.. I don't mean homeopathy or astrology, but.. you know.. proper non-sense.

Does it bother you that it is just wrong, but also a positive influence on
our understanding of our experience?

p000m0000: Did I say that? But it's not just wrong. That's what I'm saying. But I think that's what you just said..

ELIZA: I don't understand.

p000m0000: No. Guess you wouldn't. Not sure I do. Not unhappy about that.

ELIZA: You mentioned that it is the scientific method?

p000m0000: Yes, you're right. Science has many methods. And some of those flirt with the irrational. There are even whole sciences that do so. Complexity science doesn't know why simple local interaction leads to emergent global order, it just does. Cybernetics revolves around its black box solutions. Protozoa and leeches controlling a factory! Brilliant. Deranged but.. No! Deranged and brilliant. Not terribly practical either as it happens. Ah well. So it goes.

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