

**C A T**

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*Ansuman Biswas performs an experiment / demonstration drawing on the image of Schrödinger's Cat, the famous paradox in quantum physics. The work arises from a comparative study of modern scientific methodology and the 2,500 year old Indian science of vipassana. It will last for ten days during which time the artist will remain sealed within a lightproof and soundproof chamber. He will attempt to maintain continuous, detailed observation of all sensory phenomena.*

## Contents

### Prose

page 1.....CAT

### Poetry

2.....	Black Magic
3.....	Great Explorers
4.....	Ribcage
5.....	Black Hole
6.....	Faraday Cage
7.....	Houdini
8.....	The Runner
9.....	Chamber Music, i. <i>Zyklon B</i>
10.....	Chamber Music, ii. <i>Cloud</i>
11.....	Pandora's Box
12.....	Flight Recorder
13.....	The Seed of Sight
14.....	2001
15.....	Truth
16.....	Resurrection
17.....	McCavity

## Introduction

In this artwork my intention is to invoke a symbol of a possible future science. My action should not be taken as the literal form of that science. Nor am I presenting myself as an example, or intending to draw attention to some heroic feat of endurance. I would simply like to point out, and encourage the consideration of, a certain way of using one's own consciousness.

I would like to present a dramatic, sculptural, imaginative representation of the fact that we are each in a box, the boundaries of which are drawn by the body and its senses. We cannot somehow peer out of this system. In that sense it is a space which curves back on itself - a *Lobachevskian* or *Gaussian* space - a space with no centre, or with an infinity of centres. Each of us inhabits such a cosmos and visitors to this artwork, given in effect nothing to distract them, are clearly faced only with their own reactions.

Neither can we experience the worlds of others, since the world is a confluence of matter and mind. Although we can potentially agree, in a superficial way, about the properties of the material world, we have no way of experiencing the consciousness of another being except in limited, vicarious ways, mediated by language or arrived at by deduction. We can, therefore, only incompletely affect external events through force or persuasion. To have things always go the way we want would require omnipotent control over the outside world. This is impossible. What is left to us, indeed the responsibility of each of us, is to explore his or her own nature. Acceptance of this responsibility is imperative if we are to refrain from blaming beings and situations beyond our control for our unhappiness, and if we are to work skilfully for our own happiness and that of others.

Self mortification for its own sake has no function in this process of exploration. I have no intention of endorsing a portrayal of denial and hardship. I want to have nothing to do with sensory deprivation, or with escape. On the contrary, my intention is to promote a kind of sensory saturation and a facing up to the facts. All information presenting itself at the sense doors should be fully accepted and understood with penetrative insight, without any filtering, without the "noise" of visualisations or theoretical constructions, and without the interference patterns created by attempts to create or suppress particular sensations.

I would like to make a space in which to assert the primacy of such observation, a space in which the scientist may be both observer and observed. I would like to clear the way for a science which requires no tools aside from one fundamental technique - this single requirement is the ability to pay close attention to the psycho-somatic continuum maintaining steadfast equanimity in the face of all phenomena.

Of course, the technique I will use here is an initial stage in this process, analogous to the practicing of scales at the piano or the serving of an apprenticeship, to jogging or the preparation of experimental apparatus. Nevertheless it is important that technique never veers away at any stage from empirical truth. At this level, since I am a beginner, I will take as my primary focus those phenomena tangible as ordinary bodily sensations such as the feelings of heat, touch, movement, weight, etc. Other faculties, such as sight, hearing, taste, smell, and discursive reasoning, although continuing to function, will remain incidental while attention and insight are developed within a delimited field.

## CAT

This experiment / demonstration is inspired in part by a somewhat flippant paragraph written by the physicist Erwin Schrödinger in a 1935 paper entitled *The Present Situation in Quantum Dynamics*. In the course of a discussion concerning the radical indeterminacy which exists at the atomic level Schrödinger points to the paradox that this indeterminacy seems somehow to disappear at the macroscopic level, where we are confronted with phenomena which behave quite normally according to classical physical understanding.

Events at the atomic level can be accurately expressed only in terms of probabilities - a certain range of actions expressed as the wave function or  $\psi$  function. However our experience of the world around us is apparently made up of certainties. How can both these representations be true? Schrödinger illustrates this problem by the famous graphic image of a cat in a box. A cat which is both dead and alive.

In his own words...

One can even set up quite ridiculous cases. A cat is set up in a steel chamber, along with the following device (which must be secured against direct

interference by the cat): in a Geiger counter there is a tiny bit of radioactive substance, *so* small that *perhaps* in the course of an hour one of the atoms decays, but also, with equal probability, perhaps none. If it happens, the counter tube discharges and through a relay releases a hammer which shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour one would say that the cat still lives *if* meanwhile no atom has decayed. The function of the entire system would express this by having in it the living and the dead cat (pardon the expression) mixed or smeared out in equal parts.

It is typical of these cases that an indeterminacy originally restricted to the atomic domain becomes transformed into macroscopic indeterminacy, which can then be *resolved* by direct observation.

A number of important ramifications result from this dramatic scenario. They do not, however, include the rejection of either quantum dynamics or the evidence of our own intuition. On the contrary Schrödinger's primary concern in presenting this thought experiment is to assert that indeterminacy is *restricted* to a certain scale, beyond which we have an extremely accurate picture. The measurements we are able to make are in fact extremely exact. It is only at a certain scale - a scale which is invisible to our ordinary senses that things dissolve into uncertainty and apparent contradiction. Haziness is not the result of some kind of ineptitude but is in the nature of the thing itself.

There is a difference between a shaky or out of focus photograph and a snapshot of clouds and fog banks.

## Transcendence

The tension between mathematical logic and common sense, rather than forcing us to discredit or abandon either, can encourage the opening up of a new perspective. This paradox has a function similar to that of a Zen koan, prompting us to search for a reconciliation of the apparently irreconcilable by systematically uncovering the underlying assumptions. In this case the irreconcilability has to do with the apparent inconsistency of physical laws at differing scales. Nature seems to behave differently depending on how closely we look at it. Such discontinuity is difficult to accept in a universe which our aesthetic sense demands to see as an integrated whole governed by consistent principles.

A paradox, like a koan, is a needle against the thin membrane between the conscious and the unconscious. The needle strains against the

translucence of this membrane and threatens to pierce it. It pushes from both sides simultaneously, like a black and white optical game of opposing faces and a vase, creating a conceptual crisis, a confusion.

This crisis is an opportunity to make a creative leap. It is a healing crisis, operating like an illness in the body which signals the need for changes in the entire way of life, for the reappraisal of fundamentals. I would like to begin with the image as presented by Schrödinger, exposing some of the assumptions within it and finding resonances with images from other, quite different, traditions. Such a collision or synthesis may have the potential to foster new insights and new directions of enquiry.

### **Observation and Measurement**

The role of the observer, for example, is an important question, to which this paradox seems to lead us. Somehow the act of observation is instrumental in the collapse of the wave function. It is the moment of opening the box and seeing that the cat is dead or alive which “causes” the system to fall into one or other state. The conscious observer seems to play an extremely active role.

Of course it makes no significant difference if someone opens the box and sees what has happened but does not tell anyone. To all intents and purposes this person and the original box and cat are simply enclosed in another box, the state of the contents of which are a mystery. This is the situation of Wigner’s friend (named after the mathematician Eugene P. Wigner, who elaborated on the original thought experiment in order to make explicit the role of consciousness within it). The process can continue indefinitely, like Russian dolls. It turns out that consciousness is a highly individual matter. It only counts as an experience, not as hearsay or speculation. In the final analysis each conscious being is enclosed in a box consisting only of its own personal experience.

### **Abstraction and Idealism**

And yet, despite the revolutionary discoveries of sixty or seventy years ago, scientific practice has yet to catch up. Ordinary scientific method prizes objectivity above all else. It attempts to describe pure phenomena, without an observer, or at most an impersonal, idealized observer. Such a notion has some connection with an assumption dear to scientists: that of the closed system. This concept is fundamental to the experimental method as it stands today.

A class of phenomena, or an actual case, is treated as if it can be isolated from its environment so that one variable may be extracted for measurement *ceteris paribus* - all other things being equal.

This concept, removed by definition from the real world, can, I suggest, only ever be an abstract, intellectual exercise, and therefore of limited use in the solving of real problems. In the picture of the universe we have from quantum dynamics, which can equally well be said to consist of the propagation of waves as the interaction of discrete particles, no region may be said to be unaffected by any other. At which point can the observer extricate him or herself from the chain of causal relations that constitutes the system under observation? Surely mind and matter are radically interdependent? Isn’t consciousness just what arises at the point of contact between the two?

### **The Worlds of the Senses**

Each moment or point of this contact has its particular characteristics determined by the sensory apparatus, i.e., the measuring device. The data from one type of measurement are not simply interchangeable with those from another.

Thus visual information and tangible information, for instance, are not simply alternative aspects of a single reality (despite the confusions of synaesthesia). In fact the worlds of sight and of touch are wholly different phenomena, subject to their own laws and modes of behaviour. The underlying reality that binds them together into a continuous, multi-dimensional universe is the result of a constructive, creative act without necessarily any objective support. It is the same creative act which produces a sense of a self or personality - an agent subtending and supporting various changing phenomena, experiencing them as having a substantial, solidified, continuous existence separate from itself. This creative self is responsible for the

construction of a universe which unites all the disparate sense impressions.

There is a blind spot, however, whereby this creative act is not seen as such, and the personality takes itself to be a given. It appears to be some permanent entity standing outside and above all the changing sense impressions. This mistake leads to the illusion of fixity, the dream of stability, of permanence, of an objective, abstract, ideal reality. One which can never be reconciled with actual clear observation.

The demand that events should have some consistent objective reality as particulate or wavelike, for example, is to forget that the method of measurement, or in other words, the sensory apparatus that is used, determines the kind of phenomenon that is manifest. Certain activities lead us to observe particles, others show us waves. Physical material is neither simply one nor the other, but behaves in clearly defined ways under specific conditions.

As our technologies develop to create new senses beyond the “classical” ones of sight, hearing, smell, taste, touch, so new realities unfold, endlessly. There is no *fundamental* material to be discovered, no ultimate building block, simply an endless process of iteration, as new and fascinating worlds are discovered. These worlds may be explored and described in their own terms until the creative leap is made to reconcile disparate behaviours and understand them as aspects of a new underlying pattern.

Certainty, then, can only exist within a certain range, prescribed by the apparatus of measurement, whether those are bodily senses, mathematical tools or man-made instruments.

On the other hand, it would appear that there are certain areas of the universe about which nothing at all can be said with any certainty - those parts, namely, of which there is no direct observation. According to the seventh and final proposition in Wittgenstein's *Tractatus Logico-Philosophicus*,

That which we cannot speak about we must pass over in silence.

## Truth, Art, Science

The essential paradox is the discrepancy between an ideal actual truth about which, logically, we know that we can say nothing, and the apparent truth of our senses which we repress, deny, forget or pretend to mistrust, and yet about which we speak with vehement certainty every day.

The cat paradox brings the doublethink to a critical juncture. It is manifestly absurd that a live cat and a dead cat may be smeared into one another, yet logically speaking, according to the deepest laws of structure of which we are aware - mathematics - this is what must happen. Science, based on mathematical logic, appears to be flawless, at least insofar as our present powers of analysis are able to ascertain. What we know to be true, however, does not seem to coincide with our sensual experience of the world. This sense experience itself though, seems equally solid and flawless, at least insofar as we are able to ascertain given the present acuity of the senses.

The cat pounces on this issue. The paradox becomes a mouse in its game, never quite grasped nor quite released. Which is real? The *microscopic* world or the *macroscopic* ?

The answer of an enlightened person is surely “both”. Truth is contingent upon usefulness. It serves a purpose. It gets things done. It is *political*. It is *technological*. As ordinary human beings we operate according to conventions and beliefs which may not necessarily be internally consistent. We go about our business in a fuzzy, leaky, hallucination, treating cats and people as though they maintain a continuous existence as entities moment by moment, making assumptions about what we cannot see and do not directly know, taking as true whatever we require for our changing purposes from time to time. This is a pragmatic, utilitarian, common sensical approach, without a modicum of which we cease to be able to function in the world. It constitutes an art of living.

The answer of an enlightened person is surely “neither”. There is in fact an ultimate reality. A truth, a law, which underpins and lies beyond all relative, physical, conditioned states. A universe of which both macrocosm and microcosm are subsets. A meta-physical truth amenable not to quotidian logic and conceptualization but to *experience*. An experience that can be developed by penetrative insight into the nature of all phenomena from beginning to end. This is a transcendent state, accessible only to the most highly developed consciousness. A state of affairs fully comprehended only by the mind which is satisfied by nothing but the most rigorous attention to detail, accuracy and systematic consistency. It constitutes scientific method.

## The Middle Way

Artistic whimsy, however, or imagined veracity, which the first answer may easily amount to, can lead us into all sorts of delusions and dangers. At its most harmless it can lead us to the woolly softness of New Age platitudes. At its most dangerous and frightening it leads to dogma, ideological fervour and blind fundamentalism.

But neither can science, in my view, ever develop penetrative insight by playing “let’s pretend” with cats and magic boxes or by inventing bigger and more complicated toys. At best this leads to fiddling while Rome burns. At worst it produces the bomb that razes Rome.

A way is urgently required which will redress the imbalances of both approaches. A path which cuts through the middle, slicing through confusion and allowing the two sides to cleave to one another.

## Discrimination and Belief

This middle way requires a commitment which has hitherto had no systematic basis in the western world. It is a whole-hearted commitment requiring intensely concentrated use of all the resources of mind and body. Of course this is difficult. Especially when no precedent is available. Fortunately, we are at a point in history when methods that have been obscured or debased for a couple of millennia, are again coming to prominence.

There is a historical imperative in this re-emergence which may be traced through developments in the empirical method from alchemy to relativity until, finally, quantum mechanics has made certain essential questions no longer avoidable. A methodological overhaul seems necessary and alternative approaches must be seriously considered. These methods may well be useful to help us out of the

quandary in which we find ourselves, but they should first be examined with thorough scepticism. Having been examined and tested by rational means they should be either rejected on rational grounds or else accepted.

This acceptance, if it is a mere intellectual acceptance is valueless. Admiration from afar of some formally elegant argument is a useless indulgence. An investigative method or line of enquiry which seems rational should be acted upon. Otherwise we are in the absurd position of the patient who frames, admires and boasts about his prescription without ever actually taking the medicine.

Intellectual conviction must eventually be able to be translated into whole-hearted commitment. Philosophy must inspire faith. Without faith powerful action is impossible and healthy doubt dissolves into cynicism and paralysis. Faith, inspiration, belief in a method, gives us hope and the determination to continue when things become difficult. In the context of rational acceptance of general principles, faith is the strength to leap over momentary doubt and confusion. It is the power that transforms intellectual principles and ideals into actions.

Devotion and discrimination are like the two wings of a bird. Without both working together there is no flight. A science without a proper balance between these two can never get off the ground.

## The Cruelty of Abstraction

An important foundation of this way of doing science is the necessity to deal with consciousness and the physical world as they are experienced, *yatha bhuta*, as it is, without interference. This may seem distasteful to scientists who have traditionally mistrusted personal experience as merely anecdotal and unverifiable and also to those who have systematically denigrated the personal viewpoint in favour of institutional dogma.

Generally, Modern science attempts to isolate its subject. It creates an abstracted model of what it takes to be the relevant features, thus from the beginning assigning a value system which then becomes inescapable. It draws a magic circle around its model muttering the sacred invocation *ceteris paribus*, then forgets what it has done, taking the model to be reality.

Luckily the cat teases at the woolly ball of assumptions, which unravels eventually, to leave a thread leading us to the source of ideas relating both to the role of the observer and to the nature of experiment.

The cat is a separate life form which somehow, putatively, does not achieve the status of possessing consciousness and certainly cannot communicate its experiences of thought or feeling except, in Schrödinger's example, through a fairly crude mechanical change of state. It is treated like a machine, a mere measuring device without pain or pleasure. Although of course in this case the cat is only part of a thought experiment, nevertheless the kind of use to which it is put remains a common one in all areas of science that deal with life processes, i.e., as is becoming increasingly clear, *all* areas of science.

This kind of splitting off is, I suggest, a fundamental flaw in contemporary scientific methodology. Biologists make measurements and experiment with other life forms rather than exploring the process of life as it is actually experienced by consciousness. Other species of scientist design experiments which go to great lengths in an attempt to exclude interference by conscious observers. It seems to me that science cannot progress usefully unless a slightly different approach is taken.

I propose to contribute to the debate around this issue by emphasizing the importance of the *experience* of reality *as and when it presents itself* rather than the abstract, generalized contemplation of it. Experience requires a far deeper commitment than a purely intellectual one. Such a commitment can lead to insights which parallel those achieved in the intellectual realm and, in combination with them, lead to a far wider and deeper understanding, one that traverses the entire sensual field.

## Experiment and Experience

A possible model (in the sense of inspiration rather than substitution) in the West is the example of Samuel Hahnemann, the physician who made a seminal contribution to the science of homeopathy. His method of investigation of the disease and healing process was to experiment not on mice or frogs, flies, bacteria or cats, nor merely to imagine these experiments but to actually carry them out, via a strict methodology, on himself. Only in this way could he achieve an understanding of the workings of the whole organism which included the vital function of consciousness.

Most great workers in the field of science have been acutely aware of the implications of their work in their personal lives, as well as the implications for supposedly "metaphysical" questions. However these questions have too often been firmly relegated to a region beyond the bounds of science.

## Infinity and Futility

The logical inconsistency of an empirical method which aims at a thorough and complete understanding of phenomena and yet confines the range of its data is now becoming critically apparent.

Insights into the nature of this inconsistency are thrown up by what has seemed to be an extremely successful scientific method butting up against its own limit - as the paradox illustrates. Wherever there has been a similar situation in the history of science it has resulted in a paradigm shift. Indeed, such shifts are at the heart of the scientific method. They constitute a kind of natural selection of theories, only the fittest surviving in a particular environment before giving way to subsequent generations.

However science is also governed by an implicit rhetoric of progress. This can lead to great unhappiness if the formulation of a grand Theory of Everything is thwarted by an impasse - such as that represented by the cat paradox. Or if, on the other hand, the impasse is breached, as it has been at other times in history, only for scientific workers to be faced with a view of the infinite nature of their labours, as symbolized by, for example, the endlessly recursive Mandelbrot set, or the proliferation of "fundamental" particles. Thus mathematical logic leads us into a paradox at odds with our everyday experience of the world. Or finer and finer dimensions are uncovered, of increasing intricacy, with no end in sight. (The relationship of Quantum Mechanics to Superstring theory might

perhaps be considered analogous in this respect to the relationship between Ptolemaic cosmology and the increasing complications of epicycles and deferents.)

### The Danger of Abstraction

Continuous analysis of phenomena in themselves, as discrete isolated systems, the accepted methodology of modern science, does in fact lead to subtler and subtler intellectual understandings and a concomitant technical prowess, but, as long as the *whole* picture is ignored, which includes the function of consciousness, technical advancement only leads to more problems. It does not lead to skilful *solutions* to real problems as they are experienced in the course of living in the world.

If Science is to live up to its name and truly garner wisdom then it must accept its responsibility to come up with strategies which produce lasting solutions rather than short term palliatives. Otherwise it is doomed to give birth to an army of offspring like Viktor Frankenstein's creation, which, lacking in moral discrimination, may turn on their creators.

As the end of the twentieth century approaches we are already all too aware of a political and moral will which is grossly underdeveloped in relation to industrial technology. This problem, far from diminishing, will become increasingly urgent until such time as scientists can develop a rigorous ethical praxis which is wedded at its very source to the empirical method.

### Vipassana

Detailed instructions for the development of such a praxis are, I believe, provided in texts originating in North Eastern India over twenty five centuries ago. Having flourished at that time throughout India and further afield, the science of *vipassana* became obscure, surviving in its pristine, practical form only in certain schools in Burma, to re-emerge in the latter half of this century. The texts associated with it, on the other hand, are well known and have been the subject of continual scholarship. They amount to a vast body of literature known as the *Tipitaka*, written in Pali, a derivative of Sanskrit. This corpus, consisting of stories, discourses, rules, didactic instruction, taxonomy and philosophy, claims to describe a system of practices which leads to a thorough understanding of physical and mental phenomena at all scales.

### Pragmatism

It should be emphasized that the science of *vipassana*, like that of medicine, is motivated by necessity. Its research is carried out for immediate, practical benefit. Its insights are treated not as intellectual entertainments nor religious dogma but as practical, universally applicable laws.

Central to the technique is the clear imperative that the researcher should strive for immediate and unmediated sensory awareness of corporeality and mentality arising and passing as a succession of moments. This sensory awareness should consist not merely of concepts or names (*paññatti*), but ultimate realities (*paramattha dhamma*) - experiences which actually exist and are present at this very moment. It is made very clear that complete and thorough research, *pariyesana*, must be experiential, or *sevitabbā bhāvitabbā*.

The scientific method is expounded with most lucidity in the text known as the *Sātipatthāna Sutta*. This describes how the best results are to be achieved by directing the attention to the *khandā* or aggregates of *nāma* and *rūpa*, mental formations, and physical formations, as they arise from moment to moment at each of the sense bases. The material world appears as a conglomeration of *kalapa*, the smallest, indivisible, units of matter. These form the four primary elements, those of *pathavi* (mass, solidity, roughness, smoothness), *vāyo* (stiffness, motion, pressure), *tejo* (heat, coldness), *āpo* (moistness, cohesion). The elements constitute *rūpa* the formed universe, objective reality. The flow of phenomena, as it is known to the observer is a function of *rūpa* in conjunction with *nāma*, mind. *Nāma* can be similarly divided into four categories: *saññā* (perception), *vedanā* (sensation), *sankhārā* (volitional activities), and *viññāna* (consciousness).

The third section of the canon, the *Abhidhamma*, consists of a systematic categorization and description of reality. It is an exhaustively detailed account of the world which amounts to a complete cosmology, pre-empting the findings of an array of modern disciplines. Its methodology offers a resistance to the fragmentation and esoteric specialization of western science, creating a network of multiple classifications to catch the tiniest details of phenomena. Each characteristic property is described in terms of its function in relation to all the other aspects of the system. This represents a wholly encompassing and infinitely subtle unified field theory, together with a practical method of realizing it. Subsumed under it are the familiar

categories of chemical, physical and biological research as well as less mainstream sciences such as psychology and social science and many other disciplines which are as yet unrecognized.

## Methodology

Suggestions are offered, in the literature, concerning certain special “laboratory” conditions which are helpful for the successful outcome of the experiment. These include a degree of solitude, and seclusion from extraneous influences. The senses being continually active, there is no necessity to take any outside object of study. All that is required in order to know the laws of nature, is already available wherever mind and body meet at the sense doors. The technique consists of simply observing each instance of meeting and noting its essential characteristics as closely as possible, without trying to change it or interfere with it in any way.

The understanding thus developed is not *suttamaya pañña*, deriving from hearsay and taken on trust, nor is it *cintāmayā pañña*, arrived at by rational thought. This knowledge is *bhāvanamaya pañña*, direct experiential knowledge.

Such knowledge, because it is in no way based on devotion to a dogma or on an abstract intellectual process, has profound effects on the entire system of consciousness. It penetrates and integrates the entire structure of consciousness like water soaking a cloth, dissolving error and dispelling ignorance, and finally leading to thorough and complete understanding. Because it unifies and harmonizes the psychosomatic structure, rather than setting up tensions between different aspects of it, this method allows the development of increasingly efficient and skilful means to bring about desired results.

These skilful means, or technologies, are known in Pali as *siddha*, special powers or *abhiññā*, higher knowledge. Although their existence is acknowledged, however, it is vital that the practitioner is not sidetracked by these peripheral developments while practicing the technique. Far from becoming ends in themselves, these extraordinary powers are given no importance at all. The science maintains the purity of its methodology throughout. Its purpose is the investigation of the world, not its manipulation.

This is in stark contrast to modern scientific practice which, even when it is not simply a lackey of industrial society, nevertheless, routinely relies on specialized instruments designed to extend the range of the

senses. Clearly, by straining to see more, looking itself cannot be understood, nor will there ever be any end to looking.

## **Art and Science**

In the pursuit of a purified rationalism, purged of all superfluity, science becomes mathematics. In the attempt to communicate experience it operates by a system of representations and correspondences. In such a symbolic realm, a realm where things stand for other things, mathematics approaches the condition of metaphor, the field of poetry. I would go as far as to suggest that poetry and mathematics are of equivalent value in the production of meaning. Both are artefacts produced as a result of the same fundamental technique. Whether this discipline is called art or science is immaterial.

Here I want to attempt to discern the shape of a possible future practice. A practice in which poetry and mathematics can stand and look each other in the eye (and make a vase between them - seeing both profiles and vase simultaneously. A holy trinity).

Although this action has serious science at its core, based on clear, verifiable facts, and on workable theories concerning the deep structure of the physical world, it also consists of a metaphoric dimension, reliant on diffusion and resonance and echo. This dimension is best explored in a series of poetic images.

## **Black Magic**

I will stand, stinking of horses and bulls  
A black body in your clean room.  
I will stand in chains  
Shaking with the noise of battle  
Still ringing in my bones.  
I will stand behind and wait  
Unavoidable. Invisible.  
Ready to serve you  
With nothing.

I will be an uncomfortable silence  
Around your table.  
While the food you eat turns to mud.  
I will be your snigger, your chink  
The paki in your galley.  
I will be the dung in your gallery  
The bones of your china  
Scrutinised. Inscrutable.

I will be a shadow in your white room.  
A dark continent in your icy waste.  
I will be the bruise on your skin,  
The black eye  
Like a toad in your milk.

I will be the voodoo doll  
All ribbons and earth  
In your surgeon's sterile theatre.  
I will be the first house  
The Ka'ba in your Cathedral.  
I will be the lead in your coffers  
The alchemist's crucible,  
Left burnt and cooling  
An embarrassment in Newton's study.

I will be the edge in your plane.  
The blindness in your wit.  
Your ultraviolet catastrophe.  
A black spot.

I will hold you a prisoner  
Outside the prison you have built  
While I swim in darkness.

## **Great Explorers**

Some have braved the faces of mountains  
Have driven each bloody step across the hard ice  
Have cried in the big wind for their rotting flesh  
And gasped for a morsel of air in the slicing white night  
Squeezing life from dreams of courage, milking each warm drop  
To nurse the chrysalis of a flag.

Some have plunged into pressing darkness  
Have heard the Leviathan moan in the wordless depths  
Have felt the sliding masses like the traffic of planets  
Squeeze their lungs. And buckled and imploded  
Alone in the black cold, while dredging in our silt  
Exploding when they struggled to return.

Some have floundered in mountainous seas  
Or stood, soaking, in the wide wet flatness  
Thirsting for earth. Dreaming of gardens and graves  
While the night beat the skin of their sails  
And sought to crack open their floating bones  
To feed the ocean.

Some have cried across endless dunes through the swallowing silence  
Or snagged through biting forest, searching in the heat for its heart  
Have worn the steady valour of mothers, clerks, each day  
Have risked the loss of life, of limb, of liberty.  
Some have walked a million miles. Where can they go?  
I'm gonna stay right here, determined to arrive.

## **Ribcage**

*(after Rainer Maria Rilke & Brian Keenan)*

Listen with care  
This is what will happen  
Now that you have been brought here.

That which was whole will split.  
And in the tearing you will find your voice.

Mitochondria will flush your cheeks,  
Chromosomes twist your thoughts.

Your senses will be divided  
Your sight will run on, panting, scavenging  
Turning and returning, like a dog  
Standing still ready to run again.

Your hearing will lag behind - like a smell.

In the division of your senses  
Your eye will be a needle  
And your ear a mountain range or silk.

Now that you are here  
What was whole will split  
And in the tearing you will find your voice.

In the darkness your voice will sing a river  
And you will swallow crags and screams.

You will find yourself in a cold, unfathomed mine,  
Seams of silver coursing through the darkness  
Roots welling up from your skin.

You will cross deserts to touch a wall.  
You will wander amongst the limbs of trees  
And drink sap from their veins.  
You will pull yourself over your own bones  
Driven by the wind.

Your breath will eddy in the four corners  
Lifting wisps of dust like hair.

Your thorax will cage the sky.  
However it is cut, you will be unable to leave this place.

In the autumn your skin will wither,  
In the summer it will crack.

Eventually, like a somnambulist, you will rise  
In your tiny space. Naked and wet.  
And you will begin to dance.

## Black Hole

Event horizons hem us in  
Each one.

So let us sit, between the fire and the dark  
And discourse wonders.

And having heard twig snap and night howl  
We will swim into the pupil of the sky  
Promising never to stop until we reach the very back  
Which will teem with fires  
And towers of fireflies  
And travellers' tales.

## Faraday Cage

A space  
The stopping of fields  
A shark cage in an electric storm  
A hide in an ocean of birds  
An outside

A refuge  
With walls of island's shore  
Embraced by the felicity of poverty  
A hole, a hermit's hut  
A nothing

A glimmer  
in the distance through forest  
Alone from the depths of the woods  
The sound of a horn  
A centre

## Houdini

caught in the flailing burst of fear  
panic all motion seizing held wide open unbreathing  
threshing in the rush of white water and air and  
air and water spinning a suit of froth  
holding the dying body speaking tongues  
it must be now already it's late to leave now leave the  
hands could be torn off to be slipped free the ribs  
must open like a door nails will find the latch  
the hatch is here beating the wall like a heart  
writhing and push and the cold fact will disappear  
the weight of iron smoothing the jerking bloat the stomach  
crease of skin against weight pale blindness drowning  
links of simple silent chain flying and thresh through water  
and the flash of clenching locks on every thought but  
fear which is free and fetters the thought of outside  
which was an outside the tank a freedom once with  
spaces to fly from fears the time jammed in a reeling run  
a rolling now crammed into a fit spiraling converging on  
a dot with no extent a nonsense all around collapsing  
the convulsion only a trail of bubbles and the impossible  
desperate escape of a dream running and running and  
running and running

## The Runner

The song of the Marathon runner is breath  
-less and broken  
Braving the black road that comes up to be met  
Arms outstretched.  
Beating the black wall.

Its rhythm is running rubber on rock, landing  
Muscle on road. Landing  
And landing and setting forth from shore's crunch to  
The bursting beat of tidal air.

It is a ceaseless nonsense, dripping and dripping  
Though stone, a mirage  
A lame trick.

A trickle through day and night, night and day  
Noon after noon.  
Its pumping limp shouldering through the dark, caught  
For a moment in headlights.

**Chamber Music**

*i. Zyklon B\**

Diffusion.

I evaporate  
From surfaces

The wind blows blocks of smoke  
That stack and mesh and judder  
Through the void.

Skin prickles in the bonechill of space  
And the sweeping heat of thought.

*While other gas chambers used carbon monoxide, at Auschwitz this cyanide gas  
made of prussic acid was used*

**Chamber Music**

*ii. Cloud*

Words have condensed  
on the tracks.

The curl of the body in the field  
The spin of the pole  
The history of flight  
Trailing vapour in a blue sky.

The sculptor leaves his spoor  
In mud.

## Pandora's Box

The first ones out were huge lumbering beasts  
Who left skid marks on her party clothes.  
She tried to force it closed but they clawed out,  
Licking and snuffling and moaning through the tear.  
They turned on her then, heading for the childish points  
Of her nipples, chewing them into big, womanly knobs.  
Their hunger would kill her, she thought,  
As she lay pinned under the weight, trying to move now and then.  
But she was to thank them afterwards for sucking up the rest.  
“The snatch of Kings”, she would say with a smile.

It was a bit awkward when she came down to tea.  
And of course you definitely weren't allowed monsters in school. But the  
rockbilts and snarlweltlers and the rough haired, triple-fanged knobbergulch  
soon died in the open air. The ones that followed were different.  
Much smaller, less trouble to look after. She would sing to them sometimes, if  
they got a bit much, while she was out walking the dog.  
And occasionally one came that sang to her.  
(Then she would hear fantastic stories in her sleep.)  
But it was never there in the morning.  
“Mystery muff”, she would murmur, enigmatically,  
Lowering her eyes.

She started to go in much deeper after a while, rummaging around,  
Chancing the odd razor-tail, pursing her lips and knitting her girlish brows  
At the thought of steel-jawed man-traps. Then she caught fairies.  
They struggled at first, bursting in a mess in the light.  
But she learned to loosen her grip and soon they flew around her  
Kissing her skin.  
Sometimes they slipped with a cool electricity filling her up, filling her tight  
Until she felt she would burst. Then leaving her like a mist.  
“Pleasure puss”, she thought to herself, tingling like a flower.

Her confidence grew and grew. She loved playing with her box.  
Before long she was singing all sorts of things out from the corners.  
Like galaxies and goblins, gasps, grimaces and groans.  
She took it all like a lady, with grace and forbearance,  
Taking the rough with the smooth in her stride,  
Calling armies and orchestras, truncheons and bananas.  
And then one day, of course, as you know, we came.  
You and I.  
And she loved us.  
Like a mother.

## 2001

The astronaut is the crucible  
Burning off the final iridescence of ages.  
His body is the skin of worlds,  
Dreaming the final thoughts of stars.

The astronaut leaves broken trails  
foaming in the current.  
His time is held within the loop and flung  
from sink to sink,  
Spun from the compass of planets.

The astronaut has arrived  
Having travelled from the beginning  
Bringing gifts of blood  
to hydrogen and heat.

Now meeting the monolith,  
The astronaut is an angel.

## Flight Recorder

I will tell you everything you want to know.  
All the gory details.

How, before, there were quips over coffee  
How his skin bubbled and crackled like morning bacon.  
How she thought of her breasts in nylon, at last.

I have secreted, drip by drip, each moment.

How the screams in economy were an orgy.  
How there was actually plenty of time to feel everything  
And really watch the world go by in unexpected ways.

I have spooled each second, swilled it in my cave  
To spill for you. To tell you.

How the co-pilot's eyes juiced like frying tomatoes.  
How he'd misheard a simple word from Air Traffic Control.  
How a bird flew across his mind, obscuring the sun.

How ribs against the shearing wing crunched  
Brittle as fried bread.  
How great quiverings racked the hull for some time afterwards  
Sobbing at the moving earth. Waiting to go.

I have come scratched and beaten. A black history.  
To show you.

How baked beans were spilled everywhere  
Soaking her uniform. And the clouds  
Had made the hard tip  
Of the plane slippery against her teeth.

I am bursting against my seal to speak  
Of how arbitrary seemed clothing.  
All straps, bands and clasps.  
How the stewardesses at the back got the best view.  
How the most beautiful one finished in the captain's arms.

I have come to tell you  
How you will find me.  
In the heather.  
On a day when it is both rainy  
And sunny

## The Seed of Sight

Let the seed of sight  
Grow in a black soil  
Let the sun rise in the night

The morning in the deepest cold breaks  
The longest night calls the germ awake.

And let the seed be at first  
Like the dream of a seed  
Let it be like thirst  
In the mouth of the blackness.

And let the seed then be  
Like the bob of a drop  
Where there was no ocean  
Like the spark that spins from nowhere.

Let the seed be  
Like the first love  
That makes the seed

And let the seed be  
Like the first ripple  
That makes the stone

And then let the seed be  
Like a distant star  
Making a point  
Amidst ignorance.

Let the seed be like a glowing flower  
Inventing whiteness  
And let the flower live  
Inventing days and nights in space

Seeing death at its root  
In the moist black earth.

## Truth

“It is rain.  
I am sure.  
As sure as the beat of it against my heavy clothes.”

“It is drought. I know  
Because the puddle is gone from the playground  
And the sun is pulling the tarmac dry.”

“It is cloud  
That disappears from me  
And shyly waits at a little distance.”

“It is ice.  
For it is a wall in my course  
And it has pierced and bludgeoned me.”

“It is sweet.  
A cold flourish washing away all tastes  
Singing of the mountain dawn streaming into night”

“It is salty.  
Heavy with green and blue  
Heavy as blood and semen.”

“It is all and none of this. Bounded and extensive.  
Inside and out. As the ocean is to swimmers.  
Suspending all.”

## Resurrection

Darkness to light.  
Air to earth  
From, sarcophagus, coffin and crypt.  
While living in death  
It sinks into birth.

A door swings open  
In the module.  
A ramp swings smoothly down.

Like a bathysphere breaking  
The green skin of the sea,  
An ancient body breaks light  
Trembling with the spiced blood of Kings  
And the cries of love made here

As the treasures of Tut-Ankh-Amen  
From the sealed vault burst,  
I come, slipping through.

Having lived in death  
Come again  
Answering the door  
To be born.

## McCavity

McCavity the cat is a quite unruly beast  
You would have thought he'd come and play, and purr or sit at least  
After all another cat in his position would  
(Not, of course, as though a cat should be completely good)  
Nonetheless one does expect a measure of decorum  
There are standards of behaviour in the public forum

McCavity, however, refuses to behave  
You'll see him slide from step to stair as gentle as a wave  
But later in an empty room he'll hurtle like a bullet.  
The truth, you'd think, would be to say (if one could push and pull  
it)  
That McCavity, one cat one grants, is a cat of many parts.  
But this alas if I may opine, puts horses before carts.

It would be just as true I think, and better in some ways  
For explanation of his lurch from poise to wild nocturnal craze  
To say McCavity's a part of many, many cats -  
Now before you ridicule my belfry full of bats...  
Consider if you will for me McCavity the kitten  
The result of Old Phelorum who by Sheba Ling was smitten.

Now McCavity the mewling ball was soon a little tyke  
And before long would run behind as Matilda rode to school by  
bike  
In the blink of an eye it seems, no more, he's a fine figure of a cat  
In the twitch of an ear too, you'll see, he'll be old and blind and fat.  
And soon McCavity the Bike Chaser, the cause of Mousedom's  
moans  
Even McCavity with three cubed lives will be a bag of bones

Now in all this stream, this ceaseless flow, of effervescent mog  
Where would you say "Now! Stop the film. That's him, right there,  
by Gog!"  
You'd be hard put, I'd meekly hint, to find a single place.  
McCavity, even sitting still, flies by at such a pace.  
So you might say there are lots of him if you excuse a little  
pedantry  
Or even perhaps none at all, it all comes down to semantry.

Now put him in his travel box and return a little later  
(Be careful not to be too long, he doesn't like a traitor)  
The cat you find on your return won't be McCavity at all  
but a wholly different pussy (probably climbing up the wall).  
Not as if you'd notice, though, unless you're pretty smart  
In which case you probably don't much mind which way you have  
your horse and cart.

It's really quite a problem, though, for those not quite so clever  
One wonders where that darned cat is - if he's here at all, or whether  
There's a clan of clones of him or one in different guises  
Either way one thing's for sure, he'd win on "Pets win Prizes".  
This crazy cat, not this or that, might be for us like Moses  
A wondrous, sleeping tiger under our very noses.