

TURNING THE UNIVERSE INSIDE-OUT (I)

Scientists and Singularities

One of the main driving forces behind the development of science since its creation during the renaissance and reformation periods, has been the attempt to produce complete generality in the formulation of the laws of nature. Until very recent times it was held as an unquestioned belief that ultimately all nature could be reduced to the operation of a few, carefully defined, physical laws of complete generality and universality.

This assumption inevitably led to the mathematical formulation of physical laws as differential equations whose various solutions contained all the possible physical situations. These could be sorted out in particular cases by reference to the particular circumstances, or what are called boundary conditions, for each given situation.

Such a view of the world necessarily entailed the exclusion of all *singularities*. These included those inexplicable phenomena which did not fit the pristine, general laws and those singular solutions to differential equations which were defined away as "unphysical" or "irrational."

Since explaining and controlling are closely associated, scientists' obsession with explaining the world may well indicate an irrational and dangerous compulsion to control everything.

Classical Physics

Classical physics began with Galileo and Newton who regarded the matter of the Heavens as essentially the same as the matter on the Earth's surface and inside the Earth and therefore subject to the same laws of motion. The guiding maximum of these reductionist scientists was "as below, so above." This was in direct opposition to the medieval cosmology which had taken from the Greeks the assumption that different laws of motion applied to heavenly bodies as compared with earthly matter.

Like Galileo, Newton abandoned both the geocentric Christian cosmology as a whole metaphysical system and Kepler's revised "intermediate" metaphysical cosmology. (Kepler had identified the prime mover of the new heliocentric system as both the sun and God the Father, The planets he believed to be the sons of God and the *force* which the sun exercised over them was the Holy Spirit). Newton therefore desperately needed a fixed frame of reference in which his new laws of motion could operate.

Newton's Singularity

Newton devised a frame which he called "**the absolute frame**" which was defined tautologically as that frame in which his laws of motion held perfectly. To give it

metaphysical authority he claimed that it corresponded in some undefined way with "*the Mind of God.*" This was a Unitarian, theistic conceptualisation that differed significantly from Kepler's mystical Trinitarian approach to metaphysics. Here at the core of Newton's theory, which emphatically rejected non-universalistic principles in physics, was a great singularity.

The Great Work Continues

In spite of this great metaphysical flaw in classical physical cosmology the eighteenth and nineteenth century scientists pressed blindly on with the great work of reducing the whole complex system of the universe down to a few differential equations. In the course of this programme Maxwell's equations for electromagnetism reduced light and all other electromagnetic phenomena to four equations and Boltzmann, Maxwell and Gibbs reduced all thermodynamic phenomena to statistical principles applied to atoms and molecules.

Einstein's Singularity

There still remained, however, the problem of reconciling Maxwell's equations with the absolute space and time of Newton's cosmology and it was the pursuit of a solution to this problem which led Einstein to propose the theory of special relativity. Einstein founded his theory upon **a new absolute**, the "Speed of Light". The speed of light is postulated to be invariant for all observers. However this axiom is an assumption which simply cannot be explained in terms of the theory. It is both an act of faith and a singularity.

The actual value of the speed of light is not assumed by the theory but, more importantly, what *is* assumed is its invariance under Lorentz transformations. In just the same way Newton had assumed the existence of absolute space and time which were invariant under Galilean transformations. Modern definitions of distance and time based upon the light radiated by certain atomic transitions are closer to actually defining the speed of light than to measuring light or anything else measured by it.

Trying to Eradicate the Centre of the Universe

In general relativity, which is Einstein's theory of gravitation and cosmology, mathematical singularities emerge very clearly. In particular it is impossible, within general relativity, to remove a singularity of cosmological importance, this is the point at which the big bang of the universe began. Indeed we can once again envisage experiments in which it is possible to measure our absolute velocity relative to this singular point. This great cosmological singularity provides an absolute reference point or *centre of the universe* which Einstein had tried so hard to eradicate through relativity theory.

In general relativity frames of reference are still invariant under Lorentz transformations only, but a great deal of more theoretical work suggests that any future theory will have frames of reference which are conformally invariant. This is

a more general and less restricted way of transforming coordinates than through the Lorentz transformations. The Maxwell equations are already conformally invariant.

The Almighty Equation Replaces Almighty God

The development of physics in this century seems to have been concentrated upon a search for more and more general transformations being applied to less and less particular coordinate systems. This fits in with the original great work of producing equations of increasing generality. However the more general and all-embracing the equations become, in other words the more general the invariance, the more the equations themselves become unique or singular. Almighty God, the monotheistic medieval singularity and prime-mover, is replaced by the almighty equation.

The Inside-Out Model of the Universe

Attempts to widen the descriptive power of the laws of physics have resulted in a narrowing of the range of possibilities for the form of the laws themselves and hence a greater singularity in the laws. It now seems likely that all of the laws of physics can be made into a conformally invariant form. In other words the laws would remain the same when the coordinate system used to describe the whole universe or world system are subjected to a simple conformal transformation. In this conformal transformation, known as *inversion geometry*, the defined measuring unit for distance is able to change in a regular way from one point to another but angle measurements remain unchanged.

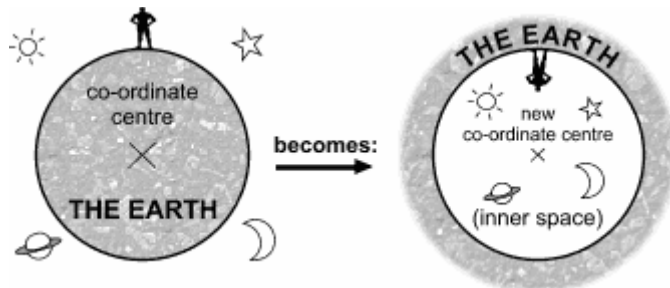


Figure 1: Pictorial representation of the transformation.

A frame of reference is first selected. The one chosen here being the geocentric model with the frame of reference placed with its centre at the centre of the earth. This is an acceptable model within the terms of reference of general relativity. Inversion geometry is then applied to this frame of reference. As a result we obtain a universe which is totally inverted or turned "inside out."

In the geoperipheral model we perceive ourselves as living on the inside of a sphere, which is the biosphere or surface of the earth, with the ground beneath our feet extending to "infinity" and in the 'inner space' above us, inside the earth's surface, are the sun, moon, planets, galaxies etc...

Immediately the inside-out universe is described, dozens of objections to it are apparent. The well-known phenomenon of the ship disappearing "hull-down" on

the horizon; why can't we in New Zealand see right across to Spain? Where are the sun and the stars, and why are we not burnt up by their heat if they are contained within the hollow earth? The shape of the earth's shadow on the moon; and so on. These, and a hundred other objections are easily explained in the new model.

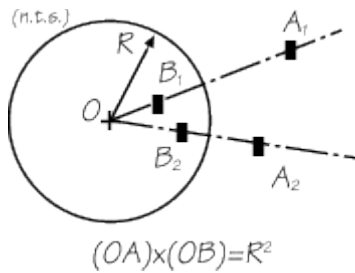


Figure 2: This diagram shows the basis of the theory.

The basis of the conformal transformation is illustrated in Fig. 2. If a point A outside a circle is taken at a distance OA from the centre, it is obvious that another point B can be found inside the circle, at a distance OB from the centre, such that $(OA) \times (OB)$ is equal to the square of the radius of the circle. The point B is then said to be the geometrical inverse of the point A.

In a similar manner any number of points outside the circle can be transferred to the inside as geometrical inverses, and so lines and figures outside can be transferred inside. Fig. 3 shows how this transformation appears for some simple figures.

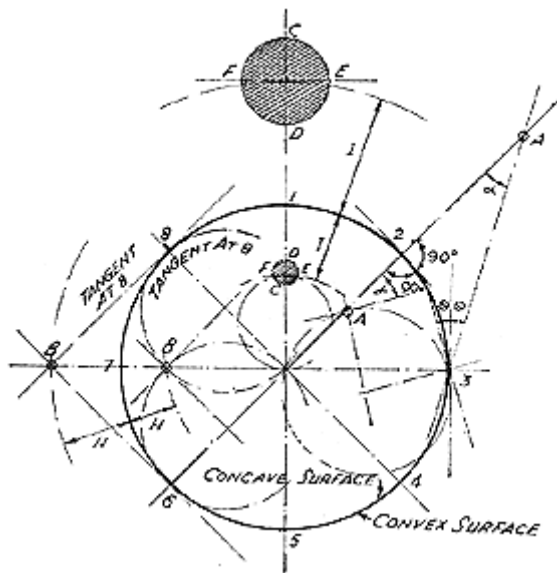


Figure 3.

One or two points about the type of field this inversion geometry produces inside the circle are immediately apparent. In the first place it will be seen that for every point outside the circle there is a corresponding point inside, so that the whole of the space outside can be got into the space within the circle. Again, it can be seen that as the point A recedes from the centre, the point B approaches it, but B only

reaches the centre when the point A recedes to "infinity"; therefore, the centre is the geometrical inverse of "infinity".

A further and most important point, which is not at first apparent but follows logically, is that if lines of sight outside the circle are transferred inside, their directions as seen by an observer on the surface are not altered. Thus if we imagine an observer on the outside, i.e. in orthodox space, at the point 3 (Fig. 3), he sees an object A at an angle (θ) above his horizon. His geometrical inverse on the inside sees the geometrical inverse of A at the same angle (θ) from his horizon.

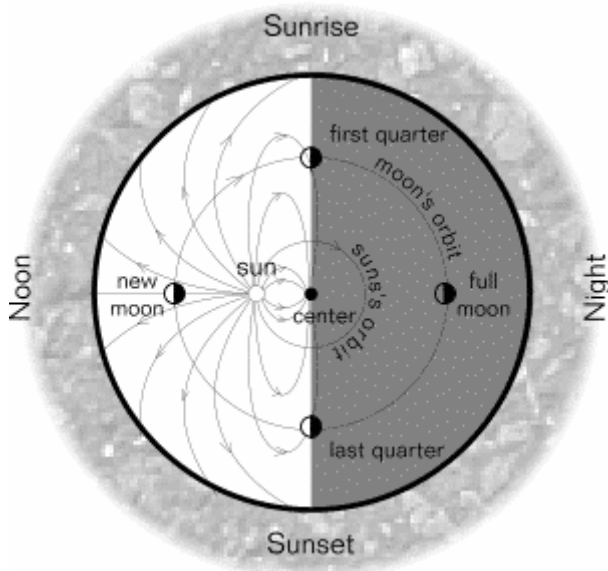


Figure 4 - Explanation of day and night.

In the geoperipheral model the sun and moon both revolve round the co-ordinate centre at an apparently very short distance from it and are considerably diminished in apparent size. The sun revolves around the centre every twenty-four hours with the moon. The moon gains in position relative to the sun and completes an additional orbit each lunar month. The planets have more complicated movements with the outer planets: Mars, Jupiter, Saturn, Neptune, Uranus and Pluto, revolving around the co-ordinate centre, and the inner planets, Mercury and Venus, revolving round the Sun. These are shown, considerably enlarged for illustrative purposes, in the diagram. Note that the earth's surface surrounds this system and is located at a considerably greater distance away from the limit edge of the diagram that can be shown on this scale.

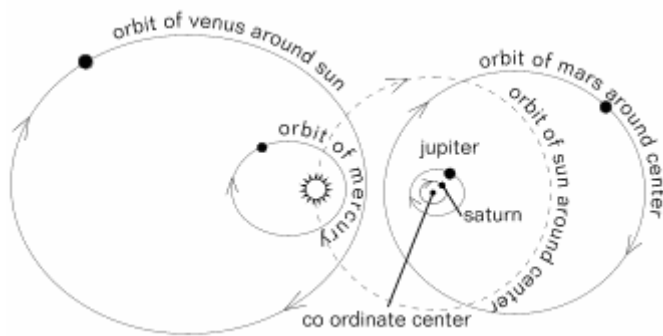


Figure 5 - The orbits of the Sun and planets.

It is possible for the apparently small hollow earth to contain these apparently large objects because the distance scale we are using as a measure changes rapidly as we move it towards the centre of the new co-ordinate system. A measuring rod which is moved into the centre would rapidly decrease in size. Hence objects which are measured by this rod still appear to be immensely large.

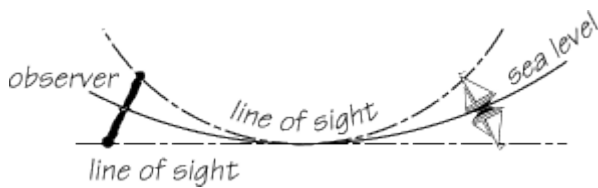


Figure 6: The "hull-down" phenomenon. View the image upside down for the orthodox theory.

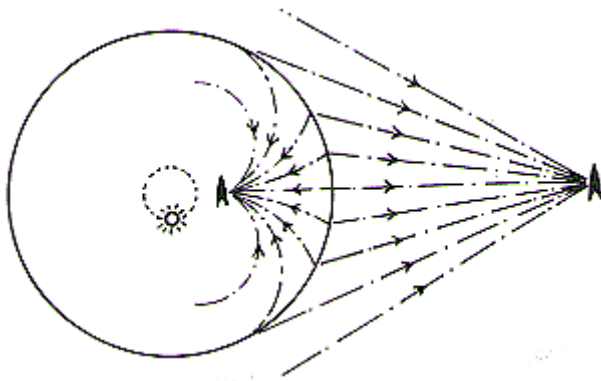


Figure 7 The earth as seen from a space ship in both models

Heaven Reappears in Cosmology

The most interesting aspect of this model is its creation of a single great singularity at the co-ordinate centre near which most of the matter of the universe is concentrated. The apparently most distant parts of the universe are closest to the centre and the distant galaxies, which are moving rapidly away from the surface of the Earth, are all converging upon this central point in inner space.

The adoption of the inverted universe as a model creates a definite centre which can be referred to from all points on or above the Earth's surface and which is located at the physically "highest" point for all possible observers. Moreover this centre is located in a consistent geometrical position. These qualities are precisely those sought for by pre-scientific metaphysicians when attempting to describe the great supra-mundane singularity referred to by such names as *paradise* or *heaven*.

Metaphysical speculation was cut off from physical speculation in the universities by the adoption of the reductionist Newtonian and Einsteinian physical cosmologies. It could be said that the great singularity was "repressed" from consciousness and therefore assumed eccentric and malevolent forms. The obvious failings of the Aristotelian model, modified by Aquinas and other scholastics, have now been corrected without doing violence to the laws of modern physics.

To reconstruct a satisfactory non-fragmented, non-reductionist, and non-eccentric cosmology which includes findings in all fields of intellectual endeavour is without doubt the most important task for the present generation of thinkers.

A start was made in this direction by the Wizard who produced an outline in 1972 which was taught as an experimental, non-accredited, course at the University of Melbourne in 1973, and at the Christchurch Polytechnic in 1975. In 1997 the Wizard began putting the post-modern cosmology on his web-site.

THE NEXT STEP

Having outlined the nature of this new model of the physical universe and opened it up for discussion, the next step is to outline some of the reasons why this model should be adopted by the human race at this particular time in history.

REUNITING PHYSICS AND METAPHYSICS (II)

PHYSICAL FRAMES OF REFERENCE AND METAPHYSICAL WORLD VIEWS

Since the emergence of Relativity Theory it is now clear that there are no absolute frames of reference. Yet people constantly pretend that their own subjective frame of reference is somehow fixed, and absolute. The challenge is to learn flexibility in our choice of referential structures.

HE WHO PAYS THE PIPER

Scientific research is now held captive by the military-industrial complex, which dictates its own frames of reference to meet its corporate objectives. Those who would eschew technocracy must devise new referential frameworks to fit differing conceptual ideas.

A SOUL DESTROYING WORLD VIEW

Work, warfare and international trade do not constitute a sufficient lifestyle package to sustain our species for much longer. Even if the biosphere survives the relentless assault of unfettered economic growth, this degrading obsession with mechanistic values leads to spiritual emptiness, economic servitude and government by organized crime.

BREAKING THE SPELL OF MATTER

The Geoperipheral Universe has much to offer in breaking the spell of matter since it treats the arrangement of matter in the macrocosm as subject to human design, within limits. This shocking claim does not seem so outrageous if human beings and their symbolising activities are regarded as an intrinsic part of the universe, in fact the most complex phenomena in the known universe.

The major benefits of deliberately and purposefully inverting the model of the Earth we choose to live in, from a ball in space into a hole in matter, are as follows:

- 1) Human beings regain the belief that they are part of the known universe as an ecosystem, the governor itself in fact) and not terrified impotent voyeurs having no power to interact with the cosmos.
- 2) The Earth's surface is the single most important part of the Cosmos to us Earthlings. Our new frame of reference should recognise this. NASA, space-ship pilots and rocketry-obsessed engineers should stick with Newton.
- 3) If there is Anybody Else Out There, they themselves can perform the same conformal inversion in their cosmological world-view. While their planetary surface features would be different from ours, it is interesting to note that the centre of their cosmos will be similar to ours (the macro-world into which the Universe's matter is mostly receding), and the central point (heaven) will be identical for all possible planetary-peripheral frames of reference.
- 4) Religious cosmologies were rejected by materialists because they depended on accepting the existence of a central place above them and of a qualitatively different level of reality, known as heaven, paradise, the happy hunting ground etc. There was no possible location for such places if the Earth was portrayed as a sphere in infinite space. In the inside-out universe model the singularity at the centre once again focuses human attention on a transcendent and mysterious place.
- 5) Purpose is relative and subjective. It is something that human beings create, it is not something we have "revealed" to us or "discover". Most secular humanists have such negative feelings about religion that they have an irrational fear and hatred of teleological reasoning. However it takes a great deal of self deception to even imagine a cosmos without purpose, let alone live in one. And in a relativistic universe we should feel free to choose a frame of reference which will suit our spiritual needs.

6) The dramatic impact that would follow the widely publicised realisation that human beings can, by an act of collective will, turn their universe inside-out, would be so great that many other ideas that depend on relativistic thinking which have for almost a hundred years been restricted to discussion by cloistered intellectuals, could be accepted for discussion and adoption by the general public.

Dysfunctional and absolutist ideas and moral attitudes that have been drilled into school children for almost two hundred years could then be properly and publicly exposed. I refer to the various blood-thirsty versions of the resentment-based belief in equality and levelling in general, which leads to mindless hatred of all hierarchical organisation; the stressful primacy of the recently invented individual with a mind of his or her own; socialist and capitalist beliefs about the absolute importance of work, money, and physical health and low priority of play, status and mental peace; the absolute value of political independence and nationalism regardless of good or bad government; and the overemphasis on passive feeling and sensation at the expense of active reason and imagination.

7) The freedom to shift frames of reference by freeing oneself both from the absolute frame of an authoritarian deity and the absolute frame of an objective universe is essentially a magical view of the inter-relationships between the self or *ego* and the other or *alter*.

The Post-modern Cosmology represents a paradigm shift in perception from scientific "objectivity", which is no longer a tenable position, towards a more interactive and participatory relationship between ego and alter without flipping back to the previous religious "revelatory" position. In the former the alter is distorted and separated from human control through reductionism and the unacknowledged and unconscious selection of frames of reference to suit the needs of industrial civilisation, and the ego is distorted through claims of objectivity whilst being biased by unconscious belief in materialism and economic determinism. There is no inter-action between ego and alter. The ego is bribed by fame and fortune and the alter is exploited for economic gain. Feedback is entirely economic and the preservation of both the social and cultural infrastructure and fragile biological ecosystems is subsidiary.

In "revelatory" cosmology the ego is completely suppressed and the alter becomes divine and absolute like a strict parent or dictator. Again there is no real interaction between ego and alter. The ego becomes deformed and irresponsible and even malevolent, and the alter, rigid and remote. There is no accurate feedback just censorship and sacrificial appeasement.

Buddhism and Taoism represent exceptions to this view and are closer to the magical view, especially the latter. The magical view of overall inter-connectedness and the interaction of ego and alter at the highest level emphasises the importance

of symbols. This leads to the realisation that words and numbers form "spells" or subjective reality systems which we can conjure up and use to communicate with, and in which we live.

The magician's role in society as performer gratifies his or her ego so there is less likelihood of them making security and control of materials their main aim in life. This is much more likely to happen to priests and scientists.

Another advantage of the magical view of the cosmos is the tradition of the alchemical quest to realise the androgyne, or perfect male/female sexual-intellectual union. Both priests and scientists are drawn to their intellectual cosmologies as an escape from the female principle which both terrifies them and is idolised by them. The female is seen by them only as a feared mother figure or desired sexual object.

8) In my attempt to create a proper post-modern cosmology, frames of reference were consciously chosen for each level in the cosmology so that the phenomena at that level of complexity can be understood and acted towards with purpose and with concern for the levels above and below.

The geoperipheral universe is the physical base or "ground" for a cosmology which is my attempt at a synthesis of current human knowledge based on emerging and converging "spheres" which, through positive and negative feedback, act as "figure and ground" to the spheres below and above them in terms of complexity.

Thus the sub-material world of particles etc is the ground for the physical world. This is in turn the ground for the biosphere which is the ground for the organic behavioural ecosystem which is the ground of the complex roles in the interlocking vertebrate social systems which provide the ground for the overall human symbolic communication system or "nosphere".

What is this latter the ground for? In order to avoid trapping myself in a "closed system" I allow for some sort of metaphysical transcendence, perhaps some form of dematerialisation and ascension into the central singularity or heaven. This appears from my reading of anthropology and history to have been an almost universal human aspiration until modern times.

This has the advantage of combining both Eastern religions (which emphasize levitation) and Western religions (which emphasize ascension) for the means of combined physical and metaphysical transcendence. For materialists physical transcendence is displaced into an obsessional desire for conquest and expansionism implemented through sending space ships to colonise the universe.

Note. My use of the concept of "figure and ground" owes a great deal to Marshall McLuhan's historical analysis of the development of the peculiar idea of figures without ground in Western Civilization. See pages 1-128 in *Laws of Media: The New Science*, by M and E McLuhan (1988).

9) My cosmology is thoroughly post modern in that I have never claimed that it is an objective assemblage of phenomena and their various dynamics which have been "discovered" by observation. Moreover it is most unlikely to be adopted for its "usefulness" to the thoroughly modern military-industrial complex. It is a synthetic symbolic creation and is therefore a cultural phenomenon itself, located in history and limited by the extent of my own awareness of the relevant human knowledge at this present time and in this present place. Like all human creations it is ultimately subjective, being both anthropocentric and ethnocentric and bearing the marks of the personality of its creator. Claims of freedom from such biases are only made for divine creations and "objective" scientific theories.

The modern scientific world view is little more than mechanistic physics together with a chaotic, unconnected collection of specialist knowledge only linked together through their utilitarian connections to the funding organisations. There is in fact no modern cosmology, only astrophysics.

NOW IS THE TIME FOR ACTION AND THE WEB IS THE PLACE FOR IT!

WHAT SHALL WE DO TO BE SAVED?

Once the geoperipheral model of the physical universe is recognised as a perfectly valid model within the constraints of the known laws of physics, then its "usefulness" for providing the ground or base for a truly new post modern cosmology, which includes biological, behavioural, social and cultural phenomena, can be discussed.

This web-site can provide the opportunity for such an exciting discussion which is unlikely to take place in either a state-funded academic institution, or a god-centred ecclesiastical environment.

IS SCIENCE REALLY RATIONAL? (III)

Firstly I must point out that I do not believe that human beings can live entirely rationally and we should be careful to avoid condemning all forms of metaphysics, especially imaginative speculation, as equally "false" using irrelevant scientific arguments. Secondly it is important not to confuse science, a limited and dogmatic set of beliefs which make up a disciplined way of understanding and explaining the world we can observe, with technology, which is the means by which humanly

desired outcomes are pursued. Scientific dogma is a set of values that are not absolute but have been institutionalised by secular governments in recent times. This article is greatly influenced by the writings of the philosopher Alfred North Whitehead.

The Ancient Greeks underwent an intellectual revolution which laid the foundations for the Scientific Revolution of the 17th Century. It is hard to appreciate the magnitude of the paradigm shift that took place when the religious world view held by all previous civilisations was challenged by the appearance of the Milesian school of Greek philosophers which began in the 7th Century BCE.

These natural philosophers speculated (without proof) that they were conceptually separate from the gods and the world around them and become the first intellectuals who believed they could “observe” the world and “understand” it. Aristarchus even suggested that the spherical Earth went round the Sun. Prior to this time intellectuals believed that they were embedded in a matrix of magical and/or divine forces. Meanwhile technology proceeded without speculation and ordinary people continued to believe in these influences, as many still do today.

In *Science and the Modern World* the radical philosopher of science and mathematician, Alfred North Whitehead, gives an excellent account of the development of science as an essentially irrational world view but which was so successful in providing a framework for technological innovation that the irrational elements were ignored or repressed from consciousness. This is still very much the case. In *Adventures in Ideas* he makes a careful distinction between uncontrolled speculative philosophy which transforms fundamental beliefs and the incremental changes in knowledge which take place in government research and development bureaucracies. Copernicus, Kepler and Einstein are good examples of the former. The scientific establishment does its best to marginalise and ridicule philosophical speculation if it impinges on their territory.

OUR CURRENT RELIGIOUS AND SECULAR WORLD VIEWS ARE FUNDAMENTALLY WRONG

The horrors of the 20th Century destroyed many peoples belief in what the Victorians called “progress”. It was not the primitive, superstitious, uneducated peoples who were responsible both for what happened in 1914-1918, and the unbelievable brutality of the Nazi and Communist regimes that followed. The most educated and scientifically sophisticated people in the world initiated the war and guaranteed disaster with their foolish political engineering at the Treaty of Versailles.

Many people simply refuse to admit that there is something fundamentally wrong with the way we see the world. Others escape into their own private realities or retreat into narrow-minded religious or political fanaticism. Most academics in the universities still act as if the physical universe is a phenomenon that can be

observed and measured quite independently of psychological, social or cultural realities.

The catastrophic late medieval division of university studies into the so-called 'natural sciences' and humanistic 'moral' or 'human' sciences is still with us. Influential practitioners of the former have convinced themselves that they are free from any irrational moral bias and practitioners of the latter are convinced there is no connection between the physical sciences and moral philosophies. Social Darwinism, which provided the rationalization for both extreme capitalism and extreme socialism, is neither good materialistic science nor good moral philosophy.

MATERIALISM

The philosophy of materialism developed on the foundations laid down by the Greek natural philosophers like Epicurus and Democritus and is a combination of reductionism and atomism which led to great advances in understanding the behaviour of material phenomena. However although materialists show great aversion to metaphysical speculation, their own philosophy is based on the *metaphysical beliefs* that the study of the parts can lead to an understanding of the whole and that they can be detached from all subjective or supernatural reality as "observers".

The practical results that follow reducing things down to simpler elements in order to manipulate them through recombination etc, has blinded scientists to the fact that reductionism as a way of describing and understanding complex phenomena is, although useful, essentially irrational. The related scientific dogma of atomism, the belief that there are tiny fundamental identical "building blocks" which make up the universe, is another example of irrational scientific belief. The idea that the universe is made up of 'things' which impact on each other, is a Greek idea which is both dogmatic and irrational.

THE ORIGINS OF IRRATIONAL ECONOMIC DETERMINISM AND UTILITARIANISM

Although there is no rational explanation for this belief but there is a political/economic explanation. There is a branch of moral philosophy called Utilitarianism. It is crudely moral but it is a metaphysical value system which can provide purpose to human action.

As Europe entered the Renaissance, trading, banking and urbanisation expanded rapidly and the ruling elite of land-owning warriors and priestly intellectuals who had mastered the art of administering the agricultural economies were losing their power to a new rising class of bankers, businessmen and manufacturers. The needs of an agricultural civilisation centre around fertility and stable land-ownership. The needs of an industrial society centre on manufacturing technology, the preparation of raw materials and improved transportation. The new rulers needed secular

intellectuals and engineers to provide the knowledge to implement these new cultural goals.

During this transition from agriculture to industrialism, which lasted from the 15th until the end of 19th Century, there was no clear moral alternative to Christianity even though belief in its essential dogma was draining away amongst the intellectuals who were not employed by the church. The Protestant Reformation detached many believers from church control and they could now pick and choose which parts of religious dogma they would adhere to.

There was no longer a sophisticated system of explanation for events in life nor any clear direction for which course to choose in planning one's life meaningfully. Material well-being increasingly replaced spiritual well being. Although of course they were important in religious civilisations, health, wealth, sexual fulfillment and social satisfaction replaced immortality, in both in the afterlife and through offspring in this life, to become the supreme goals of existence for the new ruling elite of the industrial society.

In the 18th Century England became the world's first fully industrialised society. Most intellectuals paid lip service to religion provided it did not interfere with the new moral absolutes of health, wealth, sex and social satisfaction. Religion, even today, has an important role to play in dealing with ultimate mysteries, providing consolation to the grief stricken and motivating people towards charitable concern for those who are suffering. However as an intellectual explanation for events taking place around them religion receded and was replaced by science, which guaranteed better health, wealth and happiness provided you no longer sought for any deeper meaning.

Secular intellectuals triumphed over sacred intellectuals in the universities and during the 18th Century utilitarianism became very popular. "The greatest happiness of the greatest number" was the doctrine of Jeremy Bentham and the American Constitution similarly emphasised "health, wealth and the pursuit of happiness" as the qualities a government should seek to provide for its people.

SCIENCE WITHOUT GOD

Any attempt to convince reductionist, utilitarian scientists, who have a monopoly of communication, that they hold outdated irrational beliefs has to be made on their own ground. Attempts to persuade them on philosophical grounds they would dismiss as irrelevant, since they believe that science is purely rational and has no connection with moral philosophy. There have been many such attempts but they have fallen on deaf ears. I personally believe that a "super-scientific" demonstration is needed that would confront their arrogant claims of rationality and objectivity and reveal the close alliance between science and the utilitarian moral philosophy of the industrialists. It would need to be made as a popular

entertainment spectacle without the scientific fraternity being able to prevent it through censorship or ridicule.

The first step in my “culture war” was to demonstrate the truly amazing consequences, which Nietzsche alone fully realised, of living without God.

Earlier scientists simply assumed that God or some other supernatural source provided the “absolute frame” for the physical universe. They were not troubled that there were no rational comprehensible links between God’s power and the operation of the laws of Nature, though Descartes at least recognised the problem.

Medieval Christian scholastics (like Aquinas with his doctrine of “participation” a feudal rather than absolutist form of divine government) although influenced by both neo-Platonism and Aristotle's more objective mechanical view, were emphatic that God was not outside the natural universe but was immanent throughout all its parts. “The Great Chain of Being” specified the various levels in the cosmic hierarchy. Whitehead points out that early Christian theologians steeped in Platonic philosophy had managed, through the doctrine of the Trinity, to reconcile the new understanding of God’s nature provided by Jesus as a persuasive Father rather than an autocratic tyrant, together with His being in the world as the Son, a sensing, reasoning human being, and with the Holy Spirit guaranteeing that divine immanence remained in the world after the departure of Jesus. This radical new theology of “mutual immanence” which united revelation of the nature of the Father with the example of the Son and the gift of the Holy Spirit, has the potential to encourage free expression of thought and to prevent the separation of God from Nature and from human sensation and feeling. This was a remarkable theological advance on previous human conceptualisations of the nature of reality but the implications were not fully taken up by succeeding theologians.

In a civilisation without any rationally understood links between God, human consciousness and Nature, and where theology is seen as irrelevant to mainstream science, how can any frame of reference be understood as absolute? In all fields of human expression absolutes have been under attack. Relativity theory in physics and postmodernism in the arts and philosophy have paralyzed attempts to provide a coherent world view. In the vacuum fundamentalist religions and authoritarian political parties are flourishing.

TURNING THE WORLD UPSIDE-DOWN

If there is no absolute frame for the universe then is there any proof that world is north-up as all the maps in the world show? Of course not! This being the case then it would be quite possible to make an “irrational” decision as to which way up the spherical world should be shown on maps. Obviously no religious authority could be invoked since all the major religions are based on texts which describe the world as flat and round, or flat and square. So far no major revelation has been received

that the earth is a sphere let alone which way up God, or the Gods made it. For the needs of agricultural civilisations a flat earth is perfectly adequate. The Renaissance separation of natural and moral philosophies with each set of intellectuals minding their own business left scientists in sole charge of the field of physics.

The northern nations, in the first industrial civilisation, possessed the most capital and the most powerful military and put themselves in the superior geographical position in an emotionally driven irrational act of egotism. In the same way they assume that the Christian calendar (now BCE) should be the world's standard. What is believed to be rational is usually determined by force. With the end of the European empires and the emergence of powerful industrial nations outside Europe and North America, the question of which way up the world should be shown on maps becomes problematical. The obvious way to settle this issue would be by a collective vote in an international assembly of nations or, even better, through voting on the Internet. There are good reasons (all of them "irrational") for a change to making maps "South Up". I estimate that, after making emotional historical appeals to the pride and sense of humour of Latin Americans, Africans, Indians, Chinese and the Islamic peoples, there would be about four to one voting in favour of the change. An important consequence of this 'thought experiment' would be to give human beings back the feeling that they are embedded in the universe and not merely observers, and have the power to effect it in other than destructive ways .

Science needs to be cleansed of *unacknowledged* irrational elements in such as materialism, reductionism, atomism and the rigid belief that anyone can stand outside the universe and observe it like an impotent deity. Such beliefs certainly have their uses in improving the understanding of the nature and behaviour of material phenomenon etc but these uses are based on values that are irrational. Non-reductionist religious cosmologies like those of Thomas Aquinas (and more recently Tielhard de Chardin) which lack these modern moral absolutes are ultimately more rational, if less useful to the military-industrial establishment, than the rigid, lifeless astrophysical cosmology which is orthodox teaching and dogmatic belief in all the present scientific establishments.

TURNING THE UNIVERSE INSIDE-OUT (THE ULTIMATE ZEN KOAN!)

The proposed experiment to turn the world (and surrounding space) upside down is only a preliminary step in a most important thought experiment which if carried out would certainly produce irrational outrage amongst utilitarian materialists.

I have been trying unsuccessfully since 1972 to provoke interest in another conformal inversion of the spatial coordinates. This is the inside-out model of the universe where the earth is a hollow sphere containing the rest of the universe. Occam's razor gang is quickly on the scene making the assumption that, following Newton, ballistics and cosmology are much the same thing. A 'geoperipheral'

model makes calculations of the trajectories of moving objects impossibly complicated. I have never denied this and recommend using the heliocentric model in Euclidean Space for all such calculations. The same argument applies to ballistics and Einstein's four dimensional space-time model, even for NASA.

One model does not suit all but materialists regard the material aspects of cosmology as the only reality, over-riding all biological, psychological, social or cultural considerations with the exception of "usefulness" to the non-rational aims of those who fund and administer their activities.

MARTIN GARDNER'S REVIEW OF ABDELKADER'S PAPER

A good example of how a leading orthodox apologist for science reacts when confronted with a speculative change of the utilitarian model of the solar system is found in Martin Gardner's *On The Wild Side* where he reviews a speculative scientific article, Mostafa Abdelkader's paper "A Geocosmos: Mapping Outer Space into a Hollow Earth". This was published in 1982 in the reputable journal *Speculations in Science and Technology*.

Gardner's review is a classic example of false claims of rationality being made by a respected spokesman for the scientific establishment. Occam's razor is wielded with panache so that poor Mustafa's perfectly rational argument for an alternate frame of reference is ridiculed. He is portrayed by Griffin as a religious bigot needing psychotherapy and his perfectly rational argument associated with the tricks of a new age charlatan. Occam's razor cannot be used on this model unless it is presented as an explanation of the ballistics of the Solar System. The two theories are not "competing for explanatory and predictive power". For that matter Occam's razor could not have been used to reject Copernicus' Heliocentric model, a radical conceptual innovation, on the basis of its predictive power when it appeared. Ptolemaic epicycles were a much more accurate guide to the movement of heavenly bodies. *Like the Heliocentric model when it first appeared, the Geoperipheral model has immense explanatory power in cultural, philosophical, aesthetic and spiritual terms.*

Abdelkader's motivation for suggesting a Geoperipheral frame for the Solar System is probably religious rather than utilitarian. Adopting this new frame of reference restores "Heaven" (as the new coordinate centre and singularity) to being the centre of the universe and it is positioned directly overhead for all observers on the Earth's surface. At no point does he consider his model has any value for calculating orbits or trajectories. His values are not those of providing useful information for the industrial-military complex. There is a history of alternative models of the earth including this one on the internet written by Duane Griffin of Bucknell University, "What Curiosity in The Structure; The Hollow Earth in Science". This can be found at www.facstaff.bucknell.edu/dgriffin/Research/Griffin-HE_in_science.pdf However as the title indicates it is a history of "hollow earth"

theories which, with the exception of Halley's 18th Century conjectures, are in no way scientific. It is important to note that in spite of the title he chose for his paper Abdelkader's model is *not* a hollow earth but a rational inversion of the Copernican model, best referred to as Geoperipheral. By association Griffin makes Abdelkader's model appear as yet another crazy hollow earth like that of Cyrus Teed (the 19th Century American prophet Koresh) and his German imitators of the 1930s. On the title page of the article the words "from Mercator projection to Freudian phantasm" and references to Abdelkader's "apeirophobia" indicate that rational scientists are prepared to use psycho-babble to dismiss theories they find unsettling. Essentially Griffin believes that human beings are powerless observers outside the universe whereas it is obvious that we are the thinking part of the universe and can shape it to some extent, to suit our "non-rational " human wishes.

The point I wish to make is that secular intellectuals when confronted with a rational argument which runs counter to their orthodox utilitarian beliefs react just like religious intellectuals when confronted with rational arguments that upset their religious dogma.

NOTES

For those who are interested in the Geoperipheral model of the universe it appears as a novelty in *Newnes Practical Mechanics of 1938*.

In 1974 I published a poster with the upside-down world on one side and the inside-out universe with a mathematical explanation on the other. Since then I have been addressing crowds on the topic and have circulated tens of thousands of these posters. So far I have not heard a word from any intellectual regarding the truth or value of this model. This is in itself a very interesting socio-cultural phenomenon.

Elsewhere on this web-site I have outlined my proposed "Thought Experiment" converging time, space and identity (which includes turning the universe inside-out) as a conceptual art exhibition. This could be performed on the internet making use of computer generated imaging as a virtual "magic spell". This my way of conducting a culture war; using logic, love and levity. A major shock, like a Zen Buddhist koan, may be the only way to bring about a "paradigm shift" to a cosmology which integrates the radical new theories in the physical and human sciences and closes the vast gaps between them.

Sophisticated readers of this page with some knowledge of the history and philosophy of science should study Whitehead's collections of essays, "Science and The Modern World" and "Adventures in Ideas". Some rather obscure philosophical chapters can be passed over, however his views on the fundamental nature of reality are stunningly unusual and enlightening. I wish I had come across his work years ago when I began construction of my cosmology. A good guide to his thinking by Richard Lubbock can be found on the Open Directory at "<http://www3.sympatico.ca/rlubbock/ANW.html>" .

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