

Philosophy in Crisis

The Need for Reconstruction

By Mario Bunge

An Essay

By Bill Nelson

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Student Number: UM11559BBA18594

Atlantic International University

Introduction

‘Philosophy as a whole is like a tree whose roots are metaphysics, whose trunk is physics, and whose branches, which issue from the trunk, are all the other sciences. These reduce themselves to three principle ones, viz. medicine, mechanics, and morals.’ (René Descartes (1569-1650) Discourse de la Methode. 1637)¹

In an attempt to comprehend the enormity of the subject of philosophy I had first to read extra material in order to give myself an overall view of the subject.

Throughout that research I have discovered an absolute bottomless depth of information relating to philosophy. It would be impossible for an amateur like myself to reach a sufficiently knowledgeable level of understanding to completely satisfy the objective of this course.

However I have also come to the conclusion that there are absolutely no ‘experts’ in this field as I have repeatedly come across books and articles by philosophers who quote and challenge other philosophers, usually dead ones.

As well as countless philosophers there are also a myriad of schools of philosophy. As a person who is educated and trained in a predominantly scientific and engineering field, and works as a qualified engineer it is very difficult for me come to terms with a subject that appears to borrow ideas from an esoteric and eclectic world of thinking rather than a well defined and organised one.

Several times I have reminded myself that I must stick to the topic, that of writing an appraisal of the subject book written by Mario Bunge. This is much easier said than done as Mr Bunge is obviously a modern philosopher himself and is doing his best to create ‘originality’ in order to establish a niche for himself. There is nothing wrong with that as a target as he is possibly trying to categorise himself into somewhat of a

Sophisticated Materialist² (only matter exists) in order to remain pure.

¹ Griffiths, Tom. General Editor. Descartes, Key Philosophical Writings. Wordsworth Editions Ltd. 1997. Herefordshire. England.

² Bunge, Mario. Philosophy in Crisis, Page 63. Materialism Triumphant.

Philosophy in Crisis as a concept rather than a book title is a matter of opinion. Even the publisher, in the sleeve notes' gives an opinion a little contrary to the author's title by claiming 'obituary (for philosophy as contends Bunge) is premature'. Immediately the reader gets an opinion that could possibly shape the tone in which the book is read.

'The need for reconstruction', as the subtitle of the book would somewhat suggest that the reader will be given solutions to Mr Bunge's hypotheses concerning the state of philosophy. From my part I would consider there is more deconstruction than reconstruction in the book and the reader could be left with a confusion of conclusions that do not altogether solve the stated problems.

I have no idea how many languages Mr Bunge speaks fluently however one must assume he is sufficiently proficient in more than one language to appreciate that philosophy transcends language and cultures, many of which have their cornerstone in native languages.

References to language influencing thought are made several times in the book and the author reminds us when he states "*Remember that language is the clothing of ideas, and some clothes happen to disguise rather than reveal. Hence, although philosophical analysis starts off with language, one must go beyond it if one is to obtain any depth and be of any use*" (Bunge, Page 58). This is a fine ideal but what if a whole school of philosophical thought is embedded in one language only? Any further opinion postulated by others not absolutely fluent in the same language could be misinterpreted and sail off on a different tangent to that planned by the original philosopher.

Take the word 'matter' for example. Dealt with several times in the book and explained in a concrete way concerning change. But if we take the same spelling as used in 'nothing matters'³ mentioned in *The Outsider* by Albert Camus (1913-1960. French-Algerian) we have a completely different meaning. People not proficient in the English language could be forgiven for confusing the two while also confusing many who reads their work.

³ FEARN, Nicholas. PHILOSOPHY, 'The latest answers to the oldest questions'. London, England. Atlantic Books. 2005. Page 196.

In certain places throughout the book Bunge reveals some prejudices that he can scarcely hide. He is certainly an academic but in my opinion University campuses are not the only preserve of philosophy and philosophers. Anywhere open discussion takes place is a birthplace of philosophy. The bar, the café, church, the home, and restaurant. In fact even the open street can be a place of discourse provided the participants bring sound hypotheses to bear and appreciate counter arguments. For Bunge to finally conclude that philosophy is rather stagnant and that ...many renowned schools of philosophy (from Aristotialism through to Hegelianism to linguistic philosophy) are in ruins (Bunge Page 224) is a bit extreme. Is the only true philosophy published philosophy? Or to extend that something is only worthy of discourse when it is published and therefore accepted as worthy of further discussion and analysis by academia?

I do accept that unpublished work is difficult to last however throughout my own life I have inadvertently absorbed and re-distributed many philosophies only heard and discussed in my own home and until now never went into print, but which played a part in shaping my attitudes and views of the world.

My parents were not well educated in the modern sense. Their official level was only what is now known as 1st or Primary Level. Nevertheless they were intelligent people and the social and financial circumstances into which they were born dictated their official schooling. Be that as it may 1st level education was the only level known to their socio-economic group in the Dublin of 1924. My Mother's philosophy that *'If there was peace in the home there would be peace in the world'* is not without merit. Another was *'Life is for the living'*. These were her wise words to help me accept that dying is part of life. Coming from a large and extended family, death of the older members, aunts, uncles, grandparents etc is a regular occurrence. As a child I found death of loved ones difficult to accept and my mother's words helped me not to dwell on death but to concentrate on life.

My father's favourite expression was *'Every day is a school day'*. That has resonated with me on an almost daily basis as I strive to seek positivism from every learning day. Both my parents are now deceased and up until the day my father died at 90

years of age he still contended that.. he still did not know what he wanted to do when he grew up! If these are not philosophies mentioned as knowledge of knowledge and judges of values then I'm afraid my familial education would not be rated by Mario Bunge.

His book however, as I mentioned already, must be reviewed and must stand alone as the main subject of the essay. Sequencing chronologically may be difficult to achieve but I must start at the beginning of the book and see where my thought processes take me.

Lest my introduction is seen as too critical then all is not lost because there are many of Mario Bunge's points that I do agree with. For example his treatment of pseudo-science and anti-science as essentially a waste of time, and a possible distraction to real sceptical research. Also I agree with his assertions on psychophysical dualism and the shamanistic practices it spawned.

Philosophy in Crisis

On va commence.

One very hot Summer day in 1998 I was sitting on a small wall in the centre of the city of Heidelberg (Germany) eating an ice cream when I looked up at the building across the street and I noticed Gustav Kirchoff's (1824-1887 German physicist) name engraved into the plasterwork at the highest point on the walls just below the eaves of the roof. I realised I was sitting across the street from the University. Kirchoff was such an influential physicist and his experiments on electric current are the study of many students, including myself. No sooner had I finished the ice cream and turned to leave that I noticed a bronze statue of Robert Bunsen (1811-1889 German chemist) was standing right behind me. Another absolutely famous scientist, known by possibly countless numbers of students for his invention of the Bunsen burner. Throughout Mario Bunge's book science and philosophy, in many cases go hand in hand and I'm looking forward to the study the links.

Cosmology (The Universe).

In relation to Cosmology, the branch of Ontology⁴ that inquires into the basic constituents and patterns of the Universe, some expressions concerning Systemism have developed: *'Every concrete thing is either a system or a component of a system'* and *'Every research field is a component of human knowledge'*. These statements, according to Bunge, if one is totally absorbed with them, can only get us so far – or lead us astray. Several means are employed to maintain a philosophical perspective namely: Building of Interdisciplinaries, Mathematics, and Philosophy, to obtain Unity of Science. Cosmology may be described by Bunge (page 27) randomly as: magical, naturalistic, religious or secular, spiritualist, materialist, or dualist (two fold principles, spirit/matter, good /evil. E.G: Descartes). Bunge agrees that philosophical thought of this nature are not solely the properties of philosophers and theologians, and that every human has a tacit form of Cosmology in order to navigate the world.

To categorise Cosmology Bunge develops and describes ten paradigms (examples)⁵:

- Holism: Which views the world as an animal.
- Hierarchism: Which regards it as a stratified society.
- Tychism: That see the cosmos as the ultimate casino.
- Dynamism: Which views the world as a river without banks.
- Dialectics: That holds it to be ruled by conflict.
- Atomism: The metaphor for which is the cloud.
- Mechanism: According to which the cosmos is a clock.
- Sacralism: That views the world as the ultimate temple.
- Textualism: Which regards the world as a book.
- Systemism: For which the cosmos is the system of all systems.

The main Ontological and Epistemological⁶ consequences of Systemic Cosmology are Reduction and Unity.

⁴ Ontology: Branch of philosophy that deals with the nature of being. Glossary. Stokes, Philip. Philosophy, The Great Thinkers. Eagle Editions. England. 2007.

⁵ Ref: Readers Digest Great Encyclopaedic Dictionary: Oxford University Press. 1962.

⁶ Epistemology: The branch of philosophy concerned with the nature of knowledge and the limits of human understanding. Glossary. Stokes, Philip. Philosophy, The Great Thinkers. Eagle Editions. England. 2007.

Reduction alone is insufficient, nevertheless within Atomism research strategy involves micro-reduction but even this will not get to the core of understanding. Take cells for example. Their structure can be studied and understood but the organelle function will still not be revealed in relation to the overall functions of the whole. DNA is a case in point because reduction will not solve the regulating function. As well as in biology, there are examples in physics and chemistry too.

Epistemological consequences include understanding the Systemist Cosmology in terms of the world, and knowledge of it as a system. Due to fragmentation of science differing opinions exist concerning specialist and generalist cultures. An extreme view by Bunge stating that Sociologists have no use for physics and chemistry is stretching things a bit far (Bunge P 45). I have been involved in field trips with a Sociologist in Ireland when rock formations and fauna development are explained to University students in strong Physics and Chemistry terms⁷.

Be that as it may and to continue the Epistemological theme, the Unity of science, and possibly all knowledge, may be feasible by building interdisciplines of many scientific disciplines (chemistry, biochemistry, genetics, neurolinguistics and more) as well as mathematics and philosophy, the concepts of which are embedded in law, knowledge, hypotheses, the state of a thing, etc.

The Systematic approach tends to give theoretical advantages because of the known interconnections and interdependencies between things, with the exception of the Universe as a whole.

In short then the Generalist approach helps students setting problems in a broad context because it brings in ideas from knowledge acquired in other fields.

As regards the other paradigms, I will attempt to contextualise those throughout the essay.

Humanism (Humans first).

For every action there is an equal and opposite reaction, although Newton's 3rd Law of Motion was intended to improve our understanding of the Universe, the term can be equally applied to many everyday events.

⁷ Dr Eamon Slator. Sociology Dept. NUI. Maynooth, Co. Kildare. Ireland.

Throughout the technological revolution, which is ever evolving, there is a movement which tends to look at complimenting technology with it's human alternative or even humanising technology so as not to allow it advance inexorably by itself.

Secular humanists (of which I gather Mario Bunge⁸ is one) do not oppose all technological advancement but also do not believe that machines should not dominate people. Nowadays that really is a difficult concept to oppose. Should we walk instead of cycle or take the bus? Should we not drive a car or take a train or aeroplane? The list goes on. However we should not be too cynical about the humanist movement as we can see the changes in society by the saturation of modern technology. So called 'Social Networks' (the use of internet and e-mail messaging) for example may have the ability to connect millions of people but at the same time can strangely isolate those same people.

Social networks could equally be termed 'Anti-Social Networks' by the fact that messaging through technology has, in many ways, replaced personal contact and reduced it to sound bites or messages of extremely limited duration. People can 'follow or un-follow', 'be-friend or de-friend' at the click of a button. Children can be bullied unknown to their parents via their personal hand-held mobile computers and these devices could also have an affect on a child's imagination and ability to play. Apart from the rapid advancement of hand-held communication devices the real and disappointing revolution is the almost total capitulation of humans to the slavery of attachment. I take on a minimum of two flights per week all year round and the amount of passengers who literally cannot wait to turn on their mobile phones as soon as the aircraft lands is unbelievable. Although there is a loosely applied rule against turning on the mobile telephone until the aircraft is at least parked, many passengers still turn on their device and are careless enough not to have turned off the sound. So as soon as it re-connects everyone within earshot can tell who broke the rule.

Although Bunge evidently professes and teaches materialist and science based philosophy he admires greatly a Basque Jesuit philosopher, Ignacio Ellacuría (1930 –

⁸ Bunge: Materialist and Science based philosopher. **Materialist:** Marx, Engels and Lenin. Only matter or material things actually exist. Nullifies possible existence of God. Opposite to **Idealism**, where the mind is capable of objective reality.

1989) who, although a follower and teacher of an obscure spiritualist and unscientific philosophy, laid down his life in the cause of his beliefs and human rights. Bunge and Ellacuría, while both humanists of a different hue (secular and religious respectively) Bunge admits Ellacuría deserves a higher place in the humanist hierarchy, because of the absolute courage of his convictions.

In scanning Bunge's Theses on Secular Humanism⁹ my attention was drawn to his Political offering. Recently in Ireland a new President was elected (Michael D. Higgins, 9th President of Ireland). At the inauguration, as well as all religious persuasions being asked to attend and a representative being asked to speak, a Humanist also spoke and very much reflected Bunge's political offering where he states; *'While defending the freedom from and to religious worship and political allegiance, we should work for the attainment or maintenance of a secular state'* (Bunge 2001, Page 15)

An interesting observation was the placement of the Humanist speaker, which was after all other religious leaders had spoken, almost as a wrap-up of all persuasions in a Pluralist way. And a striking difference is the fact that the Humanist speaker was also the only woman.

A renowned Humanist of the 16th century was Michel de Montaigne¹⁰ (1533-1592). Born in France into a wealthy Catholic family, his father, also a Humanist ensured his son tasted life as a peasant by placing him in the sole charge of a poor family for three years. Montaigne son later trained as a lawyer and worked in the courts until such time as he could devote his life completely to thinking and writing. He influenced contemporary French philosophers René Descartes (1596-1650) and Blaise Pascal (1623-1662). He stayed loyal to his catholic upbringing but maintained a healthy scepticism which made it easier to accept religious truths.

⁹ Humanism: Devotion to human interests. The Readers Digest Great Encyclopaedic Dictionary, Volume 1. Oxford University Press, London. 1962.

¹⁰ Stokes, Philip. Philosophy, The Great Thinkers. Eagle Editions. England. 2007.

As an early cultural Relativist¹¹ and humanist as well as a sceptic Montaigne would have been an ideal example for Bunge (2001, Page 22 and 156) to use to give the readers grounding in Relativism before employing the theory in his examples.

Montaigne wrote three essays in the late 1500's and his eloquent writing led Friederich Nietzsche (1844-1900) to comment... *'That such a man wrote has truly augmented the joy of living on earth'*. Although Bunge dismisses out of hand Nietzsche's Humanist connections Nietzsche obviously held Montaigne's writings in very high esteem.

(A statue of Montaigne sits at the Sorbonne in Paris commemorating him as a genial, learned sceptic and a key Renaissance philosopher).

Returning briefly to the use or overuse of the information highway and specifically concerning Bunge's assertion that the Internet does not reach the shantytowns. C.K. Prahalad disagrees strongly in his book *The Fortune at the Bottom of the Pyramid*¹². Taking a leap of some 400 years from Montaigne to Bunge where a statement to the effect that Cyberspace is the cultural Relativist's paradise may be a bit obscure in comparison terms but the kernel of the connection could well lie in the sceptical viewpoint that was employed by Montaigne and could be equally employed nowadays to rein in the massive consumption of the Virtual society.

Materialism (Naturalism).

Zeno of Citium (Now Larnaca in Cyprus) (Circa 308 BC) first brought Materialism into the philosophy of Stoicism¹³. Stoics accept the laws of the Universe and also accept all occurrences as a result of divine will. Three keywords of Zeno's creed were Materialism, Monism and Mutation¹⁴. Zeno held that everything in the Universe - even time, even thought - has some kind of bodily substance (Materialism); that everything has a unifying principle (Monism); and that everything is continually in a process of change (Mutation). Stoicism is originally thought to have come from Middle Eastern philosophy and when it passed into the Roman world it was subjected to new thinking. This liberated Stoicism of its passion and given new impetus by

¹¹Relativism: The theory that there are no objective standards with regard to knowledge, truth and moral principles, which are influenced by cultural or historical context. (Stokes 2007)

¹² Prahalad. C.K. *The Fortune At the Bottom of the Pyramid*, Wharton School Publishing, New Jersey. 2010.

¹³ Stokes, Philip. *Philosophy, The Great Thinkers*. Eagle Editions. England. 2007.

¹⁴ Staniforth, Maxwell, *Marcus Aurelius, Meditations*, Penguin Classics. England. 1964.

Marcus Aurelius (121-180)¹⁵ and his disciples divided and subdivided the 'knowledge of things divine and human' into *Logic and Rhetoric*, *Physics and Theology*, *Ethics and Politics*.

The Materialism that Bunge attempts to explain has moved way beyond that originally theorised by Zeno. Since much of Western thought was altered enormously by Copernicus (1473-1543) when he turned the geocentric (Earth centred) theory on its head by developing the heliocentric (Sun-centred) theory Bunge's Materialism examples are somewhat limited and perhaps biased for the purposes of argument.

There is no doubt that Newton (1642-1727) disagreed with Aristotle (384-322BC) (And the Ptolomaic system)¹⁶, however a lot of water passed under the bridge in the intervening 2000 years between Aristotle and Newton. Surely Epicurus (341-270BC) (Bunge Page 49) was heavily influenced by Aristotle's theory and developed his own brand of Materialism as he also believed in Atomism. As it turned out, Epicurus was closer to Zeno in his understanding of Materialism as Zeno included even-time, even-thought under his umbrella of Materialism. Yes Galileo (1564-1642) moved Copernicus's theory on hugely before recanting to save his life in 1633 (due to the disagreement with the Church's teachings and being condemned as a heretic). Nevertheless it was Galileo's work that Newton used to great effect, including the work on Dynamics.

In fact Newton's first law of motion is taken directly from Galileo's principle of inertia, namely that a body moves in a straight line with uniform velocity unless acted upon. Newton was on much safer theological ground than Galileo and the fact that Galileo was forced to effectively bury his theories or else suffer the ultimate consequences of the Inquisition meant Newton could claim the ideas almost as his own.

Be that as it may, Galileo was the first to discover the law of falling bodies, or constant acceleration, which he wrote after his recantation and while he was under house arrest in 1638. And it was his work in dynamics that a falling object retains the

¹⁵ Marcus Aurelius, *Meditations*. 1964.

¹⁶ Stokes, 2007 Page 59.

rotational velocity of the Earth, thereby righting the wrong levelled against Copernicus concerning the falling body versus the rotation of the Earth which unproven led many to dismiss Copernicus as wrong. So Bunge's reference to Kant (1724-1804) and Voltaire (1694-1778), two giants of philosophy in their own right, not understanding the mathematics involved and postulating their 'repulsive' and 'gravitational' forces respectively, may be somewhat Materialistic irrelevant.

To deny the thesis that matter is inert, as Bunge suggests science has done might also be a bit sweeping. The arguments go on concerning what is matter? Is space matter,? does space actually exist or has it a function of allowing the transfer of atoms from place to place by a vacuum? If something is inert, as the inert¹⁷ gasses in the periodic table of the elements then is it matter, Materialist, or other? Known also as rare gasses they include: helium, neon, argon, krypton, xenon and radon. The fact that they exist and can be readily and uniquely identified by the stability of their electrons must mean they are material (they also exist in Group 0 of the Periodic table of the Elements)¹⁸.

Classical Atomic Theory suggested over 2000 years ago that matter is not continuous, but is composed of very small individual particles and this has persisted down the centuries. Democritus (460-370BC – Stokes 2007) was first among the early thinkers to relate space and matter as being linked in that the void or space must be conceived as a property of matter.

Newton (1642-1727) upheld this theory of absolute space as a kind of receptacle for matter. While Leibnitz (1646-1716) and laterally Einstein (1879-1955) delved deeper in explanations of space and matter, the early work of Democritus and of Newton formed the basis of Lavoisier's (1774) Law of Conservation of Mass (or Indestructibility of Matter). The law states: ***Matter can be neither created nor destroyed by chemical change.***

Which, among other laws still forms the basis of chemistry.

¹⁷ Chemistry and Physics. The Readers Digest Great Encyclopaedic Dictionary, Volume 1. Oxford University Press, London. 1962

¹⁸ Heys. H.L. Physical Chemistry, The Periodic Table. George G.Harrap & Co. Ltd. 1970. London.

The possible dematerialisation of matter by physics, mathematics, field energy, mythical ether, spiritualization or events may have been viewed as attempts, through discussion or diversification or lack of full understanding to make matter concrete and nothing else. However the consistent performer in all this seems to be the inclusion of both matter and space as material.

Materialism versus Immaterialism will probably do battle for many years to come. Philosophers and scientists will use theory with rational thought and empirical evidence to state their case whereas the social studies may adhere to idealism and other interpretations to state theirs. Nothing wrong in this as it ensures debate will continue. But myself, coming from a strong science background would tend towards that which can be proved by a mathematics-based science. So in a way, I am with Bunge on this in the final analysis but I would have tried to explain it using different examples to come to basically the same conclusion.

Neuron to mind (Brain work).

Bunge draws his arguments towards a direct comparison between Cognitive Science and Psychobiology. Having initially illustrated the gap that existed before the mid-twentieth century he admitted the gap was narrowing and even crossover exists in areas studying behaviour. In two examples he represents Cognitive Science and Psychobiology respectively.

1. Cognitive Science: With Idealism at its centre being surrounded by cognitive psychology, artificial intelligence and being supported by linguistics.
2. Psychobiology: With Materialism at its centre, surrounded by immunology, endocrinology, neurology, and psychiatry, being supported by neurobiology and covered by psychology.

He further defines Cognitive Science as - the brainless synthesis inspired by idealism and Psychobiology as - the brain centre synthesis stimulated by emergentist materialism.

There are many viewpoints dealt with by Bunge (page 81) in a succinct manner to understand human behaviour, namely:

-Physical: A basic self-explanatory but impractical approach that studies somewhat unconnected block diagram physical components. This approach gives little understanding of the complexities of the nervous system, its development and its capabilities.

- Chemical: With biophysics, biochemistry is just as an important tool for understanding the brain.
 - Biological: The correct approach but again limited if used in isolation.
 - Psychological: Necessary for the understanding of behavioural, cognitive and emotional patterns but can be misused by behaviourists and psychoanalysts through the dogma of psychologism.
 - Sociological: Social plasticity is made possible by brain plasticity, which in turn is honed and adapted by social life and experience.
- Any of the above five are legitimate to the study of man but must be used together and interconnected.

Bunge uses certain conceptual models to further his understanding. Four are scientific and reflect the above in many ways with exception of psychological. Two are religious and engineering. Both described by Bunge as unscientific. And a systematic model that brings together the four scientific models by depicting man as a bio-psycho-social being with physical and chemical components.

Within the psychological approach, or model, any deep account of the mental is bound to be psychobiological. Psychobiology as well as including several branches of biology is also based on neurophysiology, endocrinology, immunology and evolutionary biology. Psychobiology looks into the neural mechanisms that mentally plan (mediate) observable behaviour. In effect it brings together all the studies relevant to the understanding of behaviour and mentation. It contributes powerfully to the synthesis as bridge builder between the cell and whole animal, between cellular and social processes, and between organ and function. (EG: adrenal glands and flight or fight).

In this case Bunge argues, both for and against, that in this synthesis a reduction of psychology to neuroscience could apply. Earlier in the book he mentions, concerning the recovery of unity of human knowledge, (Bunge 2007, page 44) where Ernst Mach (1838-1916) ¹⁹ assumed that all things are complexes of sensations so that ultimately

¹⁹ Stokes, Philip. Philosophy, The Great Thinkers. Eagle Editions. England. 2007. Austrian, Philosopher of Science, Scientist.

all sciences should be reducible to psychology, whereas Otto Neurath (1882-1945)²⁰ assumed that all things are physical, so that ultimately all sciences should be reducible to physics. Both philosophers of 'The Vienna Circle'²¹, with similar backgrounds and influences taking different viewpoints on what is reducible²².

Colin McGinn (Born 1950, English Philosopher, University of Miami) believes that humans have a natural method of understanding phenomena. This he calls 'CALM Conjecture' – standing for 'Combinatorial Atomism with Law-like Mappings'.

Although a simpler epithet, according to Nicolas Fearn²³, might be 'reductionism'.

McGinn's point is that our conscious thoughts are made possible by electromechanical activity in the neurons of the brain. Fearn adds that '*The physical processes inside one's skull can be analysed in reductive terms, with the cellular structures and chemical reactions elucidated, nerve impulses tracked and an overall picture of brain activity correlated with speech and perception.*'

Bunge further distinguishes two aspects of reduction: the ontological and logical ones. Ontological reductionism presupposes the so-called identity theory: '*Every mental event is a brain event*'. (Bunge page 91). But logically it does not fully tie up a deduction of psychology from neuroscience.

He agrees that most of the important discoveries about the mind recently came from combinations of psychology, neurobiology, endocrinology, immunology, neurology and psychiatry. Thereby allowing more accurate identification of Alzheimer's Disease, Depression, Stress, Obsessive Compulsive Disorder, etc. associated with cognitive neuroscience.

Comparing man to machines occurs frequently and the claim is made where computer programmes act like their human developers. They possibly do act like this but their capability is in fact finite, albeit they act extremely quickly. Bunge refers to the famous chess game in 1998 between Deep Blue, an IBM machine, and the chess grand master Boris Kasparov (Bunge, 2001, Page 183). Bunge's facts are incorrect in

²⁰ Plato.Stanford.edu/entries/neurath (Austrian, Philosopher of Science, Sociologist)

²¹ Stokes. Ref: Rudolph Carnap (1891-1970) and Moritz Schlick (1882-1936).

²² Reduce: Bring to a certain order or arrangement, bring to a certain form or character. The Readers Digest Great Encyclopaedic Dictionary, Volume 1. Oxford University Press, London. 1962

²³ FEARN, Nicholas. PHILOSOPHY, 'The latest answers to the oldest questions'. London, England. Atlantic Books. 2005. Page 161.

this case. In fact the first chess match was in 1996, it was Garry Kasparov vs Deep Blue, an IBM RS/6000 SP, when Kasparov won. Bunge refers to what was a rematch, and it was in 1997, not 1998, and Kasparov lost (Time Specials, www.time.com, Feb 15 2011)

The Artificial versus Human Intelligence is likely to continue for the foreseeable future but there is no denying that computers are making ground at a fair rate.

The American philosopher Hubert Dreyfus once promised that a computer would never be able to beat him at chess, only to retract in 1967 when Maurice Greenblat's 'Macchack programme did so. He was proved wrong again in 1998, having said a computer would never beat a true chess master²⁴. Garry Kasparov was arguably the best human to ever play chess but Deep Blue was simply a very fast but ultimately a mindless number crunching machine that operated in a finite square board of sixty four squares with also a pre-programmed colossal yet finite number of moves²⁵.

The human brain possesses a hundred billion neurons which process information at an estimated rate of up to a hundred billion MIPS (millions of instructions per second) with a memory capacity of equivalent to one hundred million gigabytes of information. By contrast, even the fastest supercomputers weigh in at ten million MIPS and only a fraction of the capacity.²⁶

Nevertheless, information technology progress cannot be ignored and over the past fifty years advances in computing power have observed 'Moore's Law' (Gordon Moore, 1965, Co-founder of Intel) – according to which the power of computer chips doubles every eighteen to twenty four months. So if the 'Law' holds then computers will match the human brain in about 2020 (Fearn, 2005, Page 42).

Let us wait and see.

Bunge's contentions concerning science's attitude to religion are somewhat sweeping where he states that 'science knows the soul does not exist' and that it also knows that 'the soul is a human invention'. I could state that, like Deep Blue above, Bunge has

²⁴ Fearn, 2005. Page 41.

²⁵ O'Neill, John, BSc. Tallaght Institute of Technology. 2011.

²⁶ Garry Kasparov also made all his own chess moves whereas Deep Blue gave instructions to a human who made the moves for it.

got his facts wrong, however a lot more philosophical thinking has gone into religion than computers so I'll need to deal with it separately and in more detail later.

Social Matters, Social Studies (Facts and Theories).

Bunge argues for systemism in Ontology and Realism in epistemology.

Studying social facts assist in improving the understanding of the social sciences. For example, history, anthropology, economics, sociology, and political science. Studying social technologies, such as urban planning, law and management science assists in tackling social issues like poverty, violence, and over-population.

Should social scientists restrict themselves to describing social facts or should they try to interpret the meaning or purpose of their subject's actions?

One popular area of study for sociologists is that of landscape. Landscape, in certain hostile or remote areas, for example islands or mountains could have remained virtually unchanged over a thousand years despite being continually populated. Urban areas, however like towns and cities are utterly changed completely over the same period.

This is mans effect on his surroundings. Within the change periods perhaps jetties were built on a river or by the sea. This then has an effect because others, who have not built the jetties, will be in turn influenced by the presence of a jetty and land their boats. Boats then can bring supplies for use or consumption by humans, which in turn develops trade and the cycle continues as land-based farms can produce products for a wider market. Services then spring up to provide labour, and an economy develops. Population increases and the town or community expands possibly leading to overcrowding. Close proximity living yields to violence and therefore the need for laws. And the cycle continues. Groups form and leaders develop and become powerful. The history of this development is a social process.

Bunge recommends several approaches to study social facts:

These he calls trilemmas;

- Individualism-holism-systemism (Ontology)
- Positivism-idealism-realism (Epistemology)

At this point in the essay, for the benefit of the reader, it may be helpful to define once more what is meant by Ontology and Epistemology:

-Ontology: The branch of philosophy that deals with the nature of being.

-Epistemology: The branch of philosophy concerned with the nature of knowledge and the limits of human understanding.

Combining both Ontology (being) and Epistemology (knowing) we find the core of the branch of philosophy concerned with first principles, also known as Metaphysics²⁷.

Central to the Metaphysics speculation are all the traditional questions of philosophy, such as: the origin of life, the nature of mind and of reality and the meaning of concepts such as time, space, causation and free will, among others. So Bunge's two trilemmas carry a fair bit of philosophical weight.

To ensure no confusion in the readers mind I think a further breakdown of the approaches suggested by Bunge are required thus:

-Individualism: Social theory advocating free and independent action of individual.

-Holism: Tendency in nature to produce wholes (bodies and organisms) from ordered grouping of unit structures.

-Systemism: The composition of a system is the collection of its parts. Involves the concepts of composition, environment, structure and mechanism.

-Positivism: The theory that limits knowledge to what can be derived from observation and comprehended within the bounds of science.

-Idealism: The philosophical view that the empirical world does not exist independently of the human mind and hence can only be known according to our conceptions of it (opposite of materialism).

-Realism: Philosophically, the theory that universals exist independently of the human mind.

Bunge brings together some links in a micro and macro fashion. Using social systems and social facts of systems and system components he uses historical examples drawn from social science literature.

²⁷ Metaphysics: Ontology and Epistemology as well as the ultimate nature of what exists. Stokes, 2007. Glossary.

One such is well known generally which is the French Revolution, where Bunge blames the fall of the French Monarchy on the insistence of Louis XIV to centralise the aristocracy in Versailles. The lands they owned were left in the hands of stewards thereby leading to absentee landlords. (*Centralising the French aristocracy also increased hugely the expense of maintaining living standards and style in Versailles - B.Nelson.*). The tenants revolted due to the landlords' absence (*and rent increases - B.N.*) and the ultimate consequence was the French revolution of 1789.

Tocqueville (Bunge 2001, Page 101) tied these facts together in a systemist fashion. He combined sociological, economic, politological, and historical analysis in France, leading to the French revolution and compared it to the '*typical English aristocrat who lived much of his time on his estate and saw personally to it that his land was well cultivated, his tenants paid their rent punctually, and his neighbours observed law and custom*'. (Page 101)

In both reading and writing that piece I am finding it difficult to maintain my equilibrium so I can contest Bunge's sanitised version of what was the actual. In Ireland for example the term 'absentee landlord', even to this day, is nothing short of an abomination that visited starvation, death and destruction on the Irish people from the early 1600s. Under the plantation²⁸ policy of Queen Elizabeth I, Irish people were evicted from their homes and forced off their lands by the English Crown. The lands were donated to many English aristocrats who pleased their Queen.

Like France the lands were left in the hands of stewards but in Ireland they were protected by the forces of the English Crown. The evicted peasants were forced to work on their own lands for paltry subsistence. They were prohibited by law from owning land. The teaching of the Irish language and Roman Catholicism was outlawed on penalty of death by those who tried to keep the flame of Irish culture burning. Many priests and teachers were put to death. Those who refused to leave their homes were burned out. English and Scottish people were planted onto holdings that had been confiscated from their rightful Irish owners. Yes they paid their rents, but it was a paltry sum to their 'absentee landlords' for their obedience. This policy in

²⁸ Hayden Mary, & Moonan George: A short history of the Irish People, Part 1 (From earliest times to 1603) 'The Elizabethan Plantations Page 24. The Educational Company of Ireland.

no small way contributed to the many famines in Ireland culminating in the great famine of 1845²⁹, a mere 50 years after the French revolution.

My painting of the consequences of ‘absentee landlordism’ and that of the clinical version given by Bunge differs wildly but still may be classified as systemist but encompassing a completely different context within the historical analysis. In my opinion by Bunge giving selective facts from history to suit his argument he is using a technique of too much specialisation, for which he is critical of others in his book, instead of being more generalist in order to get a more broadly scientific view.

‘One does not collect facts unless one suspects they may be of interest’ (Bunge, Page 131, 2001). I would generally agree but many facts obtained are not used and also surely the omission of facts, known or unknown, or incorrect facts, can distort an argument to the point that one loses confidence in the text as a whole.

Interpretation and hypothesis

Interpretation and hypothesis in social studies have come about by research.

Hypothesis was probably the product of an enquiring mind up to the point of proof or of a positive interpretation. Early positivists, from Ptolemy (circa 87 – 150 AD) theorized to the point of hypothesis and this process was taken on by Bacon (1561-1626) and Mach (1838-1916) with their scientific research and data gathering. The Hermeneutic school (William Dilthy, 1883 and Max Weber, 1913), proposed replacing hypothesis and explanation with interpretation or comprehension. Social facts predominate over natural facts in this school of thought. Practical and constructive ‘meaning’ to actions carry more weight than intended desires. Bunge gives the example of the building of the Egyptian pyramids, suggesting that Hermeneutics would claim that they were built to prevent flooding of the river Nile instead of symbolizing the Pharaoh’s power. An example I could use brings us back to the previously mentioned famine in Ireland of 1845. Soup kitchens were established by the English to prevent people dying of starvation. This gave it

²⁹ The population of Ireland fell from 8 million to 4 million in the years after 1845 due to a combination of starvation and emigration. Lack of investment in the land by absentee landlords lead to the destruction of crops, mainly the potatoe crop, that had been the staple diet of the Irish people. Mac Annaidh, Seamus. Irish History, The Great Famine (An Gorta Mor). Page 166. Paragon Books, Bath, UK. 2005

meaning. However in many cases people would not be fed without changing their religion to Protestantism. Max Weber might have guessed the 'significance' of such actions in that its primary intended goal was to convert people.

Inexact philosophy however will ensure the debate over correct meaning or interpretation of 'interpretation' will go on.

'Almost everybody is of at least two or three minds about almost everything of any real social importance'. So quotes Bunge (page 129), according to Bales (1999, 89,) from whence found a seasoned social psychologist.

This vagueness is rather vague and in the important subject of individual inconsistencies there is a certain truth but I find the source adds to the inconsistency.

Methodological individualism focuses on individuals and their circumstances which of course gives varying opinions concerning social facts. This in effect gives interpretations of a characteristic hue, one of which suggests that the ontological assumption that there are no societies only individuals. Be that as it may there is also a suggestion of a move away from Atomistic individualism and towards institutional circumstances.

Using examples of gravity and stellar stars in an effort to calculate the motion and behaviour of two or more moving bodies; Impossible as it may seem another imponderable would be: what if the force of gravity was greater at the centre of the earth than at the surface? Rational choice indeed (Bunge Page 134). (*sic*)

Social and natural sciences need different approaches when being studied. Natural science tends towards empirical and mathematical data while social science will be based more on hypothesis and theories. Using rational choice or indeed common-sense approaches to social facts yields many arguments. If conclusions work out as predicted (or interpreted) then whether the systems approach by Hermeneutic or indeed intuitionism is employed then both social scientists and natural scientists will claim victory.

If however things do not work out as predicted and systems fail, then common sense becomes not so common and arguments prevail. Aristotle taught, there is no science but the general.

For myself I would tend towards the practical but I would not rubbish the academic because reading and sometimes instinct play important parts in understanding. Ad-hoc guessing has its place among society where a solid background supports the system.

Materialists and realists find favour in both social science and natural science because both involve scientific studies and can not be divorced from one another no more than solid known planets and the space that separates them.

Scepticism, dogmatism, plausibility.

*'It still remains a scandal to philosophy and to human reason in general that the existence of things outside us ...must be accepted merely on faith, and that if anyone thinks good to doubt their existence, we are unable to counter his doubts by any satisfactory proof'*³⁰ (Immanuel Kant, 1787³¹).

Every reasonable doubt is prompted by some reason that is not questioned for the time being because it has shown its conceptual or practical worth. Bunge (page 148) is quite right in this statement.

A perfect example is the economic crisis the Western World is experiencing. For many years the expansionist bubble was not questioned vigorously enough because the rise in the economic tide was lifting all boats. The building boom was enabling construction employment, which in turn kept accountants and lawyers busy with business briefs. Because employment was rising there was more money in circulation. Retail and services in many areas were kept buoyant which bolstered employment. Government revenues increased as a result of increased income tax, corporation tax,

³⁰ Fearn, 2005, Page 80. (From Critique of Pure Reason Page 34)

³¹ Stokes. 2007.

service taxes and value added taxes. Alarmingly even the sceptic community retrenched because most people were happy with the situation.

The profligate attitude of the second part of 2000 decade led to many ridiculous 'blind-eye' back-slapping by the business communities. One such episode led to the former Royal Bank of Scotland (RBS) boss, Fred Goodwin being awarded a knighthood by the Queen of England. Goodwin brought RBS from a UK provincial bank to one of the biggest banks in the World. This he achieved by acquisition of other bank networks worldwide. Unfortunately the loans far outweighed the assets of those establishments and when the financial bubble burst the 'house-of-cards' collapsed bringing with it lots of many loyal deposit customers money with it. Despite his seemingly uncontrolled expansionist policy and the subsequent massive collapse, Fred Goodwin insisted and received his contracted million pound Sterling bonus. Recently the screw turned a full circle and Goodwin's Knighthood was unprecedentedly stripped because he brought the honours system into disrepute³². No doubt many bankers were handsomely rewarded for their 'contributions' to business during this period. What was sorely missing were many non-compliant sceptics who would unstintingly question the actions of the reckless egotists of the business communities. Just when the world needed plenty of radical sceptics they were strangely absent.

Normally there can be different levels of scepticism. Science and technology can be moderately sceptical, everything is not doubted every time always leaving open the genuine possibility of knowledge. The results of scientific research and findings are debated and discussed, then published so the entire community can evaluate (so too a requirement of AIU with this paper, to ensure its authenticity).

Both extremes of scepticism can be unhealthy. The radical sceptic blocks new knowledge and treats everything he does not already know with scepticism. In fact he is a dogmatist. Whereas the dogmatist holds on to what he regards as infallible received wisdom. Evidence suggests that radical sceptics are prepared to believe that even the most trusted scientific laws are vulnerable.

³² Hennessy, Mark. 'Former RBS chief stripped of knighthood'. The Irish Times, London Editor. February 1, 2012.

Briefly the dogmatist is blind acceptance and/or rejection whereas the sceptic is always checking and cross-checking. Gullibility and dogmatism in former times hinged on lack of research in the development of new ideas and shared beliefs being guarded staunchly often by ignorance.

In Athens in the 5th century BC in the time of the leader Pericles scepticism developed and flourished through doubt, critical discussion and the requirement of proof. Approximately two and a half thousand years ago logic, mathematics, science, law and political democracy blossomed spawning systematic doubting of just about everything. Scepticism therefore became the pillars of retributive justice. Reasonable doubt would be enough to delay or suspend justice, sometimes indefinitely. Philosophical scepticism is diverse but sometimes meet and agree, for example in the case of fallibilism, or “*to err is human*” (Page 141).

Otherwise however they disagree on many points, obviously enough considering the diversity of opinions and backgrounds involved. Sceptics never allow one school of thought to sit easy, otherwise they could be accused of being dogmatists. They would never tolerate serious science and scientists being compared or confused with amateurs and opportunists, for example astrologers, psychoanalysts and alchemists. Although every day one sees examples of seemingly ‘flat-earthers’ being given airtime and print space on topics like the break-up of the European Union and the dissolution of the Euro currency.

There are different degrees of both dogmatism and scepticism. Since we very rarely possess indubitable evidence for our beliefs we could have problems deciding what exactly constitutes a good enough justification to know something to be true.

Returning to Kant’s statement on satisfactory proof we can say that philosophers have demonstrated that knowledge is at least possible. Plato (427-347 BC) set some rules with his account of knowledge. He demanded:

- First, that the proposition in question be true.
- Second, that one believes it.
- Third, that one can provide a justification for one’s beliefs.

The last condition helped differentiate between knowledge and ‘true belief’ that just happened to be correct. However, according to Plato, beliefs held without reason tend

to behave like statues of Daedalus, which were so lifelike that they ran away in the night³³.

Radical sceptics tend to be humble because they are not sure of anything, whereas moderate sceptics are also modest but are not humble but they could benefit from admitting their own limitations. Though science and technology do not necessarily suspend judgement concerning miracles and whereas Bunge (2005, Page 147) mentions paranormal in the same sentence I would prefer to deal with miracles exclusively within religion and leave paranormal to the extremists.

In rural Ireland pre 1940s a paranormal phenomenon existed called a 'Banshee'. This unseen female shrieked only in the dark of night and was the harbinger of death in whatever locality she was allegedly heard. After the rural electrification scheme in Ireland in the 1940s she disappeared without trace. We can draw our own conclusions as to where she went but technology, giving us street lighting, dispelled the figure and the extremists imagination.

Miracles on the other hand are more readily associated with good and in the New Testament, miracles always took place in the context of faith.³⁴ Jesus Christ was challenged by a leper when he said 'If you want to, you can cure me'.³⁵ The man was cured. Whether it was Jesus or the man's faith is irrelevant. He was cured of an incurable (at that time) disease. So it was a miracle and it was documented. More on this topic to follow.

Plausibility can be sometimes difficult to gauge depending on the hypothesis or datum or techniques. Linking it to some body of knowledge can often introduce reasonable doubt. The hypothesis that organised religion inhibits freethinking is rather generalist and the moderate sceptic may in fact accept that. But perhaps a more accurate statement would be that fundamental religion inhibits freethinking.

³³ Fearn, 2005. Page 81. The political leader Anytus, himself a holder of opinions without reason, because of his prejudice, indicted Plato for corruption of the young and condemned the philosopher to death. Plato was a student of Socrates.

³⁴ Understanding the Faith, Sixth Sunday of the Year, 12 Feb 2012. Rollebon Press, Dublin.

³⁵ Book of Leviticus, 5th Century, Mark 1:40.

In the scientific context authentic findings are supported by computations, or empirical data. But then certain empirical data are more compelling than others. So not all scientific findings are equally doubtful, some are more plausible than others. Karl Popper (1902-1994), a well known sceptic, would have been a negativist in that his approach would have been that we should never attempt to justify, only fail to falsify. Whenever possible refrain from existential³⁶ statements, we never confirm. (Bunge Page 152). Popper's philosophy may be dubbed logical negativism and he made scepticism an art-form as it was accordingly more helpful to spot errors than to search for truth. Negative truths are more plentiful and thus cheaper than positives. The Sceptics paradox: Whoever is radically and consistently sceptic must end up being just as gullible as the naïve dogmatist because he cannot master any arguments against the impossibility of anything.

Frank Muir, the English comedian once described himself as 'a lapsed agnostic whose doubts are beginning to wane.' In other words his negativism meets positivism only to become negative again.

The consistent radical sceptic makes excuses for not doing anything important. This calculated indecisiveness is endemic in the world of business. There is little or no planning only stalling for events so there can be a reaction, usually a short term solution that lasts only as long as the event and corrupts future structure.

The sceptics scale runs from radical to moderate. Luckily the latter type favours rational action over blind obedience and will attempt to design plans in the light of the best available social science and technology. In other words the moderate sceptic contributes positively in an open society as a practical realist. He believes that some things can be changed for the better, but it won't happen overnight. Planning for sound business progress is the hallmark of the constructive sceptic (Popper, 1962).

Pseudoscience.

Like many systems and procedures the modern tendency is to 'dumb down', therefore making systems and operational tests easier to perform. The same is true of science,

³⁶ Existentialists argue for human responsibility and judgement in ethical matters, seeing the individual as the sole judge of his/her own actions, with human freedom understood precisely as the freedom to choose. (EG Sarte, Camus) Stokes, Philip, Philosophy, the Great thinkers. Eagle Editions, London, England. 2007.

the result of dumbing down is pseudoscience. In fact we may say that the further advanced science becomes the greater the chasm widens between the scientists and the operatives of scientific procedures. Philosophers and sociologists of science have a challenge on their hands to stay on the scientific track and not stray into the modern culture of pseudoscience.

Fakers of science can do damage to decent and reputable experimentation by making results populist to catch the popular eye and probably earn false kudos to the publisher. Newspapers that print populist falsehoods will chase the so-called scientific disclosure in a vain attempt to enhance their reputation in an academic field they know nothing about and only think they understand the concept simply because the publication has been dumbed down to achieve popular appeal.

Bunge mentions that pseudoscience and anti-science are good test cases for any philosophy of science. He uses the art historian or critic as an example if he overrates artistic impostors. I would use as an example to counter this; 'The Taking of Christ' by Carravagio.³⁷ This masterpiece was only discovered some 20 years ago in Dublin, Ireland having been painted over and re-discovered when the paint cracked on the over-painting revealing the masterpiece underneath.

How many possible critics viewed that painting without noticing its true value and identity. Much has been written and read about this painting but *'A narrative may present some kind of explanation, but that explanation will not have the character of historical truth...the way events can be considered objective, as in public and historical, comes from the fact that any event involving an experience of a work of art involves an identification of a work of art...I defined a narrative sentence as a sentence that refers to time separated events and describes the earlier with reference to the later...The 'earlier event' within the constitutive interpretation as a narrative sentence should be defined as a set of appropriate facts...the pieces of knowledge which need to be known about something in order for it to be interpreted....the 'later*

³⁷ The Taking of Christ, (1602). Michaelangelo Merisi da Caravaggio. 1571-1601. National Gallery of Ireland.

*event should be defined as the way in which a spectator may interpret the material part of the work of art’.*³⁸

So even written and tangible proof can often be misinterpreted. I don’t agree that philosophers have abandoned or deserted or forsaken the scientist. That statement is too sweeping. Bunge’s dislike of psychoanalyst activities and inspirations shouldn’t give him *carte blanche* to draw such conclusions.

Values and Morals.

Deontology versus Utilitarianism, duty versus right, obligation versus pleasure.

Navigating in society can be difficult using any of the above, according to Bunge.

Instead he proposes ‘Agathonism’: the striving for the good of self and others. (Bunge Page 203.) That may not be quite as original as Bunge makes it sound. ‘Jean-Jacques Rousseau, by observing the hunt, was an early and incisive critic of the idea that self-interested behaviour would necessarily work to the benefit of all’.³⁹ Basically he says...Catch a Deer; share it. Catch a Hare; eat it. So it is really a matter of scale as to whether the benefit is for all or not.

Survival rates are very high even in a social context. In times of plenty it is easy to be generous. In times of scarcity values change and regardless of social norms or principles the likelihood is that altruism will be set aside. People become necessarily selfish for the good of themselves or their family. It is not necessarily a descent into carelessness for others, it is more of a sharper focus on values dictated by circumstances.

Animals exhibit these tendencies at all times. They may work together in the wild to hunt for the common good. Once the prey is secured however a hierarchy is immediately imposed whereby the dominant male eats first, then the females and finally the rest. The logic being the leaders need to keep their strength up in order to protect the others. Humans apply a different ethic whereby the adults sacrifice their own needs for those less able.

³⁸ Cadwell. Stephen J. What is the Matter with Modern Art? Thesis for Doctor of Philosophy. Aug 2011. University College Dublin

³⁹ Kay. John. ‘Why the rioters should be reading Rousseau.’ Financial Times. Wed August 17, 2011.

Humans apply a similar logic in times of disaster, where they will go to great lengths to rescue others. That is assuming the disaster is an isolated event, earth quake, fire, flooding etc where resources can be sourced from an unaffected area. In war however, where help is not readily available then values tend to change to individual survival. In short people tend to act based on the facts as they perceive them, even though those facts may be false. The actions however are taken based on the perception and the thought processes that occur before action, and it may even put right and duty ahead of law and rule.

Regardless of societal rules humans often strip away the required processes of law and act based on ethics and morals, sometimes at great personal risks. The efforts and actions of 160 surviving French citizens in saving Jews during WW2 were acknowledged when they were presented with the Legion d'Honneur in 2007 by Jacques Chirac, France's President.

At enormous risk to themselves during WW2 they prevented the Nazis in occupied France from capturing and deporting Jews to the death camps. In all 2, 275 French citizens were found to have helped the Jews during WWII⁴⁰. Many of course have died since but 160 were honoured at the Elysee Palace in Paris. The moral courage demonstrated by these people far outweighed all other considerations because discovery by the Nazis would have meant certain death.

Bunge uses the French Revolution as examples in several instances not least in defining Liberty in the context of '*the freedom of what one wishes to be...*' (Page 201) However, it is worth noting the 'Liberté' of the French Revolution pertains in that context to '*the protection of the collective from individual monarchical power*',⁴¹ and not individual liberty, as Bunge (Page 201) suggests.

Bunge paraphrases the 'drop in the ocean' expression in his summation of values and morals. '*Our axiology (The study of value, or goodness, in it's widest sense) and ethics must be realist, cognitivist, and ratio-empiricist...It should be geared to*

⁴⁰ European Jewish Congress. Wednesday, April 11, 2007. www.eurojewcong.org

⁴¹ Gillespie. Bob, Machiavelli and the Mayflower. 2007 (Page 94) La Rémyge, Paris France.

individual well-being in a systemist fashion...because humans are cognisant and active components of social systems rather than...nondescript drops in an uncontrollable ocean' (Page 205). Ultimately, I contend, to achieve or maintain liberty or freedom. I use the same expression, a 'drop in the ocean', in a similar unfolding of freedom as follows:

Liberation⁴² (Wisdom Stories for Turbulent Times – Francis J. Padinjarekara)

'One who is aware is always a dew drop in the ocean.'

Bunge's conclusion.

Bunge alludes to Crisis and Reconstruction? I include the question mark to illustrate my own uncertainty that Bunge has succeeded in even scratching the surface where reconstructing philosophy is concerned. No doubt throughout the book he has given his reasons why reconstruction is needed, but there is an argument that reconstruction is always on-going as long as philosophy is practiced and that this is the very basis of all philosophical discussion.

Bunge obviously is not a great fan of Nietzsche or Wittgenstein and Heidegger for that matter.

Let us take Freidrich Nietzsche as one example in an effort to reconstruct his philosophy. Bunge describes him as a notorious enemy of philosophy. Born in 1844 into a German and staunchly Protestant family. Nietzsche had two options. The first to accept the mantle imposed by his pastor father or the second, to rail against it. He seems to have taken the latter. Endowed with an intellect that gained him a professorship in Basel at the age of 24 years⁴³ he was seemingly ahead of anyone of his generation. This would have engendered huge jealousy among his peers, so he was likely to get a bad press. His creation of the Ubermensch (Superman in 'Thus Spake Zarathustra', 1885) was blamed as an inspiration for the Nazi's to adopt the glorified Aryan hero. However this was possibly more to do with his sister Elizabeth, a notorious anti-semite, with whom Freiderich was eventually forced to live due to his failing health. Elizabeth, also called Lama was married to a maniacal anti-semite called Bernhard Forster.

⁴² Padinjarekara. Francis J. A Dewdrop in the Ocean. Wisdom Stories for Turbulent Times. Awareness Arc. 2009. Mumbai, India.

⁴³ Stokes, Philip. Philosophy, The Great Thinkers. (Page 190). Eagle Editions. England. 2007.

Much of the damage to Nietzsche was done after his death as it was only then his sister edited his writings and published them in the 'Will to Power'. Reassessment of Nietzsche's philosophy has in fact put his 'Superman' closer to Aristotle's man of virtue and he held that the strong had a duty towards the less fortunate. In his book 'The Birth of Tragedy' (1872) he tries to show a connection between Greek tragedy and Wagner's operas by contrasting Apollonian and Dionysian arts (music, tragedy, sculpture, painting and epic poetry). Dionysios became a central figure in the thinking of Nietzsche. It suited Hitler's vision to adopt and misinterpret his thoughts for his own purposes.

Although Nietzsche was anti-Christianity he was not an anti-Christ. He maintained that Jesus was betrayed by the Evangelists and that while alive he taught man how to live on Earth but not to be the future saviour. He contended the only true Christian was crucified on the cross. At 38 years of age Friedrich met the only true love of his life. She was Lou Andreas-Salomé a 21 year old Russian. He considered her an intellectual equal. She would not agree to marriage and she proposed a platonic ménage a trois, with Paul Rée as the other live-in partner. Friedrich accepted the arrangement but the subsequent quarrels, accusations and deceptions broke his heart and they separated.

From 1889 Friedrich's mental health began to deteriorate. He was no longer able to travel to his favourite place of rest, Nice in the south of France, and his book 'The Genealogy of Morals' (1887) was to be his last work published during his lifetime.⁴⁴ So born into religious oppression, gifted intellectually but not understood, unrequited love, and finally the ignominy of a failing mind, delirium and eventual insanity, he died aged 56 in 1900.

Not unlike his contemporary Oscar Wilde, (1854 – 1900. Irish poet, playwright and novelist)⁴⁵ Friedrich was gifted with a dizzying intellect, which probably worked against him while he was alive. There were very few other academics in their fields at their level to share their understanding. Both became tortured souls. This obviously

⁴⁴ Onfrey, Michel. 'Soyez vaches' (Be damned) Nietzsche, une vie philosophique. Le Point. 28 juillet, 2011, nr 2028. Paris, France.

⁴⁵ Wilde, Oscar. 'The Picture of Dorian Gray' 1891. Penguin Classics. 2006. Introduction by Robert Mighall, University of Oxford. London, England.

led to frustration and probably contributed to their physical and mental demise at a relatively young age.

Taking Nietzsche's difficult circumstances into consideration and his previously mentioned respect for Montaigne (Page 11) I'm prepared to give the guy a break. I won't damn him for the influences that others have taken from his philosophical writings. After all he's not here to defend himself and no doubt if he were he would have kept his detractors at bay with his incisive arguments.

If we assume that Nietzsche was not the devil he was portrayed by those who came after him, and were probably less gifted than him, then we could possibly deduce that a major contributor to philosophy was not quite a notorious enemy and ergo did not plunge it into crisis. So perhaps not so much needs to be reconstructed but rather to be re-examined.

If I were to delve into the lives of Wittgenstein and Heidegger and had the time to do so I could probably give reasonable arguments too as to why they are also not so notorious enemies of philosophy.

In the last 18 pages of Bunge's book he lays out 'The Crisis', 'Causes of the Crisis', 'Options and Desiderata for Reconstruction' and 'Conclusion'. I think I have dealt sufficiently with the contents of the book as a whole without feeling the need to pick points from such a short contribution to his so-called reconstruction. He does not agree that philosophy is dead but says it is stagnant. However in his conclusion he says many schools of philosophy, starting with Aristotelianism are in ruins. I don't think so. However I have to bow to his superior knowledge but with few exceptions he has not convinced me of his hypotheses by the arguments presented in this book.

Nelson's Conclusion.

Throughout this paper I have purposely avoided dealing with religion. Bunge refers to religion often but apart from his admiration of the Jesuit philosopher Ignacio Ellacuría, he has no time for it. For my part I would not be so dismissive of the role religions have played in the development of philosophy since ancient times.

Bunge places a lot of store in empirical evidence being definitive in relation to believing. Without doubt science has disproved many myths and put an end to much philosophical discussion (QED. Quod Erat Demonstrandum/Mathematical proof).

Nevertheless imponderables will always exist and will be discussed and argued.

Albert Einstein (1879-1955) himself when asked ‘*Sir, do you believe in the existence of God*’, he replied ‘*I define first that you know God and I say to you yes I believe he is there*’.⁴⁶

Many other renowned philosophers throughout the ages held an opinion concerning God and religion without dismissing either out of hand.

René Descartes (1596-1650), Benedict de Spinoza (1632-1677), and Gottfried Wilhelm von Leibniz (1646-1716) all proved the existence of God. Descartes wrote his thoughts in ‘*Les Méditations Métaphysiques*’ and ‘*Le Discourse de la Méthode*’, Spinoza in ‘*L’Éthique*’, and Leibniz in ‘*Opuscules et Fragments Inédite*’.

Richard Fearn writes: ‘*Those who come to philosophy via disillusionment with religion are liable to find themselves even more disappointed*’ (Philosophy, 2005).

Saint Thomas Aquinas (1225-1274) said: ‘*Of God, we can not know him by what he is, but by what he is not*’ (Dhilly, 2010)

In the Dostoyefski play ‘*The Brothers Karamazov*’ Ivan says: ‘*If God does not exist then everything is permitted*’. Commenting on this Sartre said: ‘*This is the start of existentialism. In fact everything is allowed if God does not exist*’ (Dhilly 2010)

Spinoza maintained that ‘*God is an infinite substance*’. (Dhilly 2010)

And ‘*The heart that feels God, this is faith*’ is Pascal’s contribution.

Nicolas Malebranche (1638-1715): French philosopher and theologian in his ‘*Search after Truth*’ (1674) developed the doctrine of *occasionalism* - the view that God is the true cause of all events. He also defended the Cartesian (Descartes) ideas, notably the distinction between body and soul.

In a more modern context, André Comte-Sponville, contemporary French philosopher in his work ‘*L’esprit de l’athéisme*’, deals with spiritualism without God, or without the dogma of religion.⁴⁷

Von Leibnitz (1646-1716) in his work ‘*The Theodicy*’ (1710) he defends God’s goodness and justice in the face of evil that is found in the world....and this is best of all possible worlds. In ‘*The Monadology*’ Leibnitz describes an infinite number of substances called ‘*monads*’, soul-like objects, no two of which are exactly alike. (He

⁴⁶ Dhilly. Olivier. Philosophie. Testez-vous. Le Point. Nr 2. Juillet- Septembre 2010. Paris. France.

⁴⁷ Dostoyefski, Spinoza, Von Leibnitz, Pascal, all above from; Dhilly. Olivier. Philosophie. Testez-vous. Le Point. Nr 2. Juillet- Septembre 2010. Paris. France

was also a practical mathematician who invented a calculating machine for multiplication).⁴⁸

There are also arguments against the insistence of existence of God. For instance Voltaire, (1694-1778) ridiculed Von Leibnitz in his work 'Candide' (1759). He championed reason over superstition and did much to popularise and investigate the 'age of reason'. (Dhilly 2010)

To be true much of the debate on the existence of God centres around the universe. Jean d'Ormesson, Académie Française, deals with 'For and Against': *'The big bang theory created space and time, the idea of transcendence, tradition, an intimate conviction, the precision observed in the universe, the fact of only one universe, human intellect only capable of trying to comprehend the universe, and the acceptance of the mystery, all support the existence of God as creator'*. Those tenets opposing are: *'The big bang happened in time, the progress of science, evolution and transformation, reason, the regression for the infinite demand of the notion of God, co-incidence, the possibility of multiple universes, the possible existence of greater intelligence capable of greater understanding, and the acceptance of the mystery is absurd.'*

Yves Coppens, palaeontologist professor at College de France, while studying the frescos in the grotto of Lescaux, Montignac, France declared that *'they are like paintings in a church'*. From his discoveries and studies of sites dating back 100,000 BC he maintains *'That man is born religious'*.

Trinh Xuan Thuan⁴⁹, (Born 1948). This Buddhist astrophysicist, specialising in extragalactic astronomy says the study of science and God is for him intimately linked. He believes in the God of Spinoza and of Einstein. While he maintains that 96% of the universe remains unknown, the big bang theory must involve God.⁵⁰

In line with Yves Coppens discoveries comes constructions built some 4000 years ago in Ireland. Newgrange (County Meath, Ireland) being the most famous of 3 passage tombs. 200,000 tons of stones, quartz from Wicklow, (50 miles south), granite from County Down (100 miles north) brought together and built with such precision that

⁴⁸ Malebranche's occasionalism and Von Leibnitz's monads from: Stokes, Philip. Philosophy, The Great Thinkers. (Page 190). Eagle Editions. England. 2007

⁴⁹ Discoverer of the youngest known galaxy, 1 Zwicky 18 in 2004.

⁵⁰ Golliau Catherine, and Recasens Olivia: Questions et réponses sur l'existence de Dieu. Le Point. Dec 2011. Paris, France. (Also references Jean d'Ormesson, Yves Coppens, and Trinh Xuan Thuan)

centimetres of error would not allow the winter solstice sunshine to enter the passage at the precise time. While the Celtic race looked to the earth for their Gods, so those preceding them, the great stone builders looked to the sky for theirs⁵¹. Newgrange is their legacy of worship.

We must not however confuse non-belief with scepticism. For example: Saint Columbanus (Irish 543-615) Abbot of Luxeuil and Bobbio was a dissenter when necessary, confronted the Pope on the exact date of Easter and criticised Rome as being only for the elite.⁵²

Throughout Bunge's book many mentions are made concerning science and both its complimentary and disillusionary effect on philosophical thought.

Scientific advances now allow for example an understanding of how the bumble bee can fly. The wings are attached to the thorax. Complex contractions of muscles in the thorax changes its shape causing the attached wings to beat rapidly (up to 240 beats per second). Creationists can now no longer needle the scientist with the taunt that some things in nature are mysteries beyond scientific explanation and explicable only by invoking divine intervention. It would be deliciously odd if God had decided to reveal himself through the flight of the bumble bee!⁵³

Science and philosophy are inextricably linked. Even as science becomes more advanced there are always new frontiers of philosophical discovery. As long as the human mind seeks to solve problems we will always have thinkers creating hypotheses of inquisitiveness in order to establish a launching platform for ideas. André Comte-Sponville (Born 1952 Paris) says '*Philosophy gives him a taste for life*'⁵⁴

And so it will always be. Despite the discovery or invention of artificial intelligence . (John McCarthy 1927-2011, also invented LISP, the list processing language)⁵⁵ human intelligence will still determine the unknown and strive to know it.

⁵¹ The Irish Times, Gearóid Phelan, An Irishman's Diary. 20 Dec. 2012.

⁵² TG4, Irish Language TV channel documentary Jan. 2012.

⁵³ The Irish Times, Science Today, Flight of the Bumble bee generating a lot of buzz. William Reville. 1st Dec 2011.

⁵⁴ Psychologies. Nr 298. juillet-aout 2010. Paris France.

⁵⁵ Irish Times, Obituaries, Leading Academic who coined the term 'artificial intelligence'. 12th Nov 2011.

In France the first Baccalauréat examination of every season is Philosophy. Much emphasis is placed on this as a bedrock of academic education. Philosophy in France is part of mainstream culture. ‘Cafés philos’ proliferate throughout Paris, where Sunday mornings are set aside for academic discussions on current topics. I have seen events that cause public disquiet being dealt with on national news programmes with an invited philosopher being asked to rationalise the event.

In my opinion the French are seeking something through continuous questioning that can never be retrieved: A Monarchy.

During the French revolution, despite its grandiose principles of Liberté, Fraternité, Egalité, it allowed anarchy to prevail. It spawned a psychopath lawyer Maximilien Marie Isidore de Robespierre. As a young advocat (lawyer) in 1789 he defended the abolition of the death penalty. Four years later he introduced ‘La Terreur’ and helped give the guillotine its despicable place in French history. He orchestrated the biggest massacre of the revolution, 170,000 people butchered in the Vendee region as ‘counter revolutionaries’. He rose to the top of the administrative government and ordered the execution of the king in 1793 . Although king Louis XVI was a reformist, political self interest and blood letting had taken over. However Robespierre⁵⁶ himself was guillotined in 1794 by the mob who couldn’t stop killing until the chief butcher himself was be-headed.

The French consider France the most sophisticated and civilised country on earth. But their despicable acts during the revolution can never be obliterated. In fact they behaved worse than the Russians who murdered the Tsar Nicolas II and the entire Romanov family in 1918. The French would consider themselves socially much above the Russians in every way, but underneath the veneer lurks a dark history. Their eclectic philosophical ways act like a veil that is not completely transparent.

This does not attempt to negate the fact that France has produced its fair share of home grown philosophers. Post WW1 Paris became home to Jean-Paul Sartre (1905-1980), principle spokesman for the Existentialist movement⁵⁷. Other contemporaries in Paris included Albert Camus (1913-1960), Simone de Beauvior (1908-1986) and Maurice Merleau-Ponty (1908-1961). Without doubt they would have been huge

⁵⁶ Historia, Robespierre, Le psychopathe légaliste. Baron, Pierre, Editor. Nr 777. sept. 2011. Paris France.

⁵⁷ Stokes. Philip. Philosophy. The Great Thinkers. London, England. 2007.

influences and given continued impetus to a culture of philosophy in France which exists to this day and is part of popular culture.

In order to do justice to this essay I read many books on philosophy. Not all are referenced here but I needed to read them in order to get a better idea of philosophy. One such book is *Zen and the Art of Motorcycle Maintenance* by Robert M. Pirsig (1974. Bodley Head. London). I found the story endearing and could relate to it in a practical way. I ride and maintain old motorcycles myself. I get pleasure from ensuring the mechanics are in good order, although the work is tedious. But if the bike is right, then I'm right and it allows me think of other things in the comfort of knowing that my bike is reliable for the trip in hand. Pirsig does not pretend the book is definitive on either orthodox Zen Buddhism or motorcycles and while I like this attitude, perhaps it contributed to his book being rejected by over 100 publishers. On the road trip with his son, the rider discusses motorcycle maintenance itself, and philosophical examination on how best to reconcile science, religion and humanism. Bunge's book deals with these topics also, along with many others and I trust my understanding was enhanced by the extra material studied.

To finish I return to the expression '*nondescript drops in an uncontrollable ocean*'.
(Page 205)

Ocean⁵⁸ (From *The Ocean in the Dewdrop* by Francis J. Padinjarekara)

Some of the sage's friends noticed that over time he seldom used the metaphor of the dewdrop in the ocean. When they questioned him about the reason for the change, he stated that he did see spiritual transformation differently now.

"How do you see it now?"

"The ocean is in the dewdrop!" the sage said.

Asked to elaborate, he said, "You are Consciousness, the limitless being. That which you seek is what you already are"

And the room was filled with silence.

END

⁵⁸ Padinjarekara. Francis J. *The Ocean in the Dewdrop*. De Mello Publications. Mumbai, Dublin 2010.

References

1. Griffiths, Tom. General Editor. Descartes, Key Philosophical Writings. Wordsworth Editions Ltd. 1997. Herefordshire. England.
2. Bunge, Mario. *Philosophy in Crisis*, Page 63. *Materialism Triumphant*.
3. FEARN, Nicholas. *PHILOSOPHY*, 'The latest answers to the oldest questions'. London, England. Atlantic Books. 2005. Page 196.
4. Ontology: Branch of philosophy that deals with the nature of being. Glossary. Stokes, Philip. *Philosophy, The Great Thinkers*. Eagle Editions. England. 2007.
5. Ref: Readers Digest Great Encyclopaedic Dictionary: Oxford University Press. 1962.
6. Epistemology: The branch of philosophy concerned with the nature of knowledge and the limits of human understanding. Glossary. Stokes, Philip. *Philosophy, The Great Thinkers*. Eagle Editions. England. 2007.
7. Dr Eamon Slator. Sociology Dept. NUI. Maynooth, Co. Kildare. Ireland.
8. Bunge: Materialist and Science based philosopher. **Materialist**: Marx, Engels and Lenin. Only matter or material things actually exist. Nullifies possible existence of God. Opposite to **Idealism**, where the mind is capable of objective reality.
9. Humanism: Devotion to human interests. The Readers Digest Great Encyclopaedic Dictionary, Volume Oxford University Press, London. 1962.
10. Stokes, Philip. *Philosophy, The Great Thinkers*. Eagle Editions. England. 2007.
11. Relativism: The theory that there are no objective standards with regard to knowledge, truth and moral principles, which are influenced by cultural or historical context. (Stokes 2007)
12. Prahalad. C.K. *The Fortune At the Bottom of the Pyramid*, Wharton School Publishing, New Jersey. 2010.
13. Stokes, Philip. *Philosophy, The Great Thinkers*. Eagle Editions. England. 2007.
14. Staniforth, Maxwell, *Marcus Aurelius, Meditations*, Penguin Classics. England. 1964
15. *Marcus Aurelius, Meditations*. 1964.
16. Stokes, 2007 Page 59.
17. Chemistry and Physics. The Readers Digest Great Encyclopaedic Dictionary, Volume 1. Oxford University Press, London. 1962
18. Heys. H.L. *Physical Chemistry, The Periodic Table*. George G.Harrap & Co. Ltd. 1970. London
19. Stokes, Philip. *Philosophy, The Great Thinkers*. Eagle Editions. England. 2007. Austrian, Philosopher of Science, Scientist.
20. Plato.Stanford.edu/entries/neurath (Austrian, Philosopher of Science, Sociologist)

21. Stokes. Ref: Rudolph Carnap (1891-1970) and Moritz Schlick (1882-1936).
22. Reduce: Bring to a certain order or arrangement, bring to a certain form or character. The Readers Digest Great Encyclopaedic Dictionary, Volume 1. Oxford University Press, London. 1962
23. FEARN, Nicholas. PHILOSOPHY, 'The latest answers to the oldest questions'. London, England. Atlantic Books. 2005. Page 161.
24. Fearn, 2005. Page 41.
25. O'Neill, John, BSc. Tallaght Institute of Technology. 2011.
26. Garry Kasparov also made all his own chess moves whereas Deep Blue gave instructions to a human who made the moves for it.
27. Metaphysics: Ontology and Epistemology as well as the ultimate nature of what exists. Stokes, 2007. Glossary.

28. Hayden Mary, & Moonan George: A short history of the Irish People, Part 1 (From earliest times to 1603) 'The Elizabethan Plantations Page 24. The Educational Company of Ireland.
29. The population of Ireland fell from 8 million to 4 million in the years after 1845 due to a combination of starvation and emigration. Lack of investment in the land by absentee landlords lead to the destruction of crops, mainly the potatoe crop, that had been the staple diet of the Irish people. Mac Annaidh, Seamus. Irish History, The Great Famine (An Gorta Mor). Page 166. Paragon Books, Bath, UK. 2005
30. Fearn, 2005, Page 80. (From Critique of Pure Reason Page 34)
31. Stokes. 2007.
32. Hennessy, Mark. 'Former RBS chief stripped of knighthood'. The Irish Times, London Editor. February 1, 2012.
33. Fearn, 2005. Page 81. The political leader Anytus, himself a holder of opinions without reason, because of his prejudice, indicted Plato for corruption of the young and condemned the philosopher to death. Plato was a student of Socrates.
34. Understanding the Faith, Sixth Sunday of the Year, 12 Feb 2012. Rollebbon Press, Dublin.
35. Book of Leviticus, 5th Century, Mark 1:40.
36. Existentialists argue for human responsibility and judgement in ethical matters, seeing the individual as the sole judge of his/her own actions, with human freedom understood precisely as the freedom to choose. (EG Sarte, Camus) Stokes, Philip, Philosophy, the Great thinkers. Eagle Editions, London, England. 2007.
37. The Taking of Christ, (1602). Michaelangelo Merisi da Caravaggio. 1571-1601. National Gallery of Ireland.
38. Cadwell. Stephen J. What is the Matter with Modern Art? Thesis for Doctor of Philosophy. Aug 2011. University College Dublin
39. Kay. John. 'Why the rioters should be reading Rousseau.' Financial Times. Wed August 17, 2011.
40. European Jewish Congress. Wednesday, April 11, 2007. www.eurojewcong.org
41. Gillespie. Bob, Machiavelli and the Mayflower. 2007 (Page 94) La Rémiège, Paris France.
42. Padinjarekara. Francis J. A Dewdrop in the Ocean. Wisdom Stories for Turbulent Times. Awareness Arc. 2009. Mumbai, India.

43. Stokes, Philip. Philosophy, The Great Thinkers. (Page 190). Eagle Editions. England. 2007.
44. Onfrey. Michel. 'Soyez vaches' (Be damned) Nietzsche, une vie philosophique. Le Point. 28 juillet, 2011, nr 2028. Paris, France.
45. Wilde. Oscar. 'The Picture of Dorian Gray' 1891. Penguin Classics. 2006. Introduction by Robert Mighall, University of Oxford. London, England.
46. Dhilly. Olivier. Philosophie. Testez-vous. Le Point. Nr 2. Juillet- Septembre 2010. Paris. France.
47. Dostoyefski, Spinoza, Von Leibnitz, Pascal, all above from; Dhilly. Olivier. Philosophie. Testez-vous. Le Point. Nr 2. Juillet- Septembre 2010. Paris. France
48. Malebranche's occasionalism and Von Leibnitz's monads from: Stokes, Philip. Philosophy, The Great Thinkers. (Page 190). Eagle Editions. England. 2007.
49. Discoverer of the youngest known galaxy, 1 Zwicky 18 in 2004.
50. Golliau Catherine, and Recasens Olivia: Questions et réponses sur l'existence de Dieu. Le Point. Dec 2011. Paris, France. (Also references Jean d'Ormesson, Yves Coppens, and Trinh Xuan Thuan)
51. The Irish Times, Gearóid Phelan, An Irishman's Diary. 20 Dec. 2012.
52. TG4, Irish Language TV channel documentary Jan. 2012.
53. The Irish Times, Science Today, Flight of the Bumble bee generating a lot of buzz. William Reville. 1st Dec 2011.
54. Psychologies. Nr 298. juillet-aout 2010. Paris France.
55. Irish Times, Obituaries, Leading Academic who coined the term 'artificial intelligence'. 12th Nov 2011.
56. Historia, Robespierre, Le psychopathe légaliste. Baron, Pierre, Editor. Nr 777. sept. 2011. Paris France.
57. Stokes. Philip. Philosophy. The Great Thinkers. London, England. 2007.
58. Padinjarekara. Francis J. The Ocean in the Dewdrop. De Mello Publications. Mumbai, Dublin 2010.

