EDITORIAL

Assalāmu ‘alai kum wa rahmatullāhi wa barakātu hu,

Alhamdulillāh we will be welcoming another month of Ramadān shortly. We pray for the best for you and your loved ones during this blessed period and for a happy Eid. This quarter, our central theme is that of reflection and self evaluation.

This tenth edition features our regular sections together with a special tribute by Abdal Hakim Murad to a remarkable man, Khalil Dale, the Red Cross and Red Crescent worker killed in Pakistan earlier this year.

Although engineering and science can help us live and function, we believe that beauty and love are what make this life worth living, hence the presence of poetry and quotations of wisdom in this publication. The website highlighted this issue will be of particular interesting to young people contemplating an ethical career in the sciences.

The Ayman Series continues with a case study on Malaysian energy policy. Ayman, having spent many years in the jungles of Malaysia was an avid champion of Malaysia’s natural beauty, which has always moved us to link each topic discussed in this series to Malaysia. The Iraq War Series is taking a leave of absence in this edition but hopes to return in the next, God willing.

IMASE Reflection also continues, with a story format hoping to draw deeper attentiveness to the real life situations faced by many people around the world. A couple of thought provoking articles on Sharī‘ah have been written by our two regular contributors. This edition’s Journal section features papers on leadership and the food crisis we could face in the future.

We welcome poems, articles, papers and letters to the editor. Articles should be no more than four (4) pages long and be formatted using single spacing, Times New Roman and font size 12. Papers should be between 5 to 20 pages with the same format as above. All write-ups for papers are to be fully referenced. Letters to the editor should be kept to a maximum of 400 words.

The e-mail address to contact us for any correspondence is: imase.constellations@gmail.com. Please send in your contributions before 15th September 2012 for consideration and inclusion in our next edition. We may not be able to accommodate all requests and therefore ask for your patience if we cannot publish your article.

Thank you for your support.

Wassalām,

IMASE Team (www.imase.org)
Editors for Constellations - Vol. 3, Edition No. 2: Maraz Ahmed (Designer and Artwork), Dr Mustafa Ahsan, Mahbub Alam, Dr Fuad Ali, Asiya Khanom, Ahmad Abdul Hamid, Abdul Huque Yasin, Dr Mohamed Yunus Yasin (Managing Editor).

IMASE is a fully voluntary organisation with a vision “to nurture and exploit knowledge with an Islamic framework, for the advancement of mankind”.
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QUOTES

Progress of Science

*The progress of science is the discovery at each step of a new order which gives unity to what had long seemed unlike.*

*Bronowski, Jacob*
*Science and Human Values*
*The Creative Mind* (p. 26)

Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither

*The scientist with imagination is the pioneer of progress.*

*du Noüy, Pierre Lecomte*
*The Road to Reason*
*Chapter 3* (p. 81)

Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither

*It is because science is sure of nothing that it is always advancing.*

*Duckaux, Émile*
*In William Osl er*
*Evolution of Modern Medicine*
*Chapter VI* (p. 219)

Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither

Proof

*The proof of the pudding is in the eating.*

*Proverb, English*
*Source unknown*

Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither

Publications

*What to leave out and what to put in? That's the problem.*

*Lofting, Hugh*
*Doctor Dolittle's Zoo*

Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither
When apples are ripe, a trifling event suffices to decide which of them shall first drop off its stick; so a small accident will often determine the scientific man who shall first make and publish a new discovery.

Galton, Francis  
*Nature*  
Scientific Achievement and Aptitude (p. 686)  
Volume 118, Number 2976, November 13, 1926  
Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither

Questions

... it is frequently realised that half the battle is over when we know what are the right questions to ask.

Bohm, David  
*British Journal for the Philosophy of Science*  
On the Relationship between Methodology in Scientific Research and the Content of Scientific Knowledge (p. 105)  
Volume XII, Number 46, August 12, 1961  
Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither

If a general intends to conquer a hostile city, he will not consult his map for the shortest road leading there; rather he will be found to make the most various detours, and every hamlet, even if quite off the path, will become a valuable point of leverage for him, if only he can take it; impregnable places will be isolated. Likewise, the scientist asks not what are the currently most important questions, but, “Which are at present solvable?”, or sometimes simply, “In which can we make some small but genuine advance?” As long as the alchemist merely sought the philosopher’s stone and aimed at finding the art of making gold, all their endeavours were fruitless; it was only when people restricted themselves to seemingly less valuable questions that they created chemistry. Thus natural science appears completely to lose from sight the large and general questions; but all the more splendid is the success when, groping in the thicket of special questions, we suddenly find a small opening that allows a hitherto undreamt of outlook on the whole.

Boltzmann, Ludwig  
*Theoretical Physics and Philosophical Problems*  
The Second Law of Thermodynamics (p. 13-4)  
Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither

A clear mark of scientific genius is the ability to see certain well-known facts as departures from general rules ... and the germane ability to ask why-questions that occur to no one else.

Bromberger, Sylvain  
In Robert G. Colodny  
*Mind and Cosmos*  
Why-Questions (p. 103)  
Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither
Reality

Progress in truth – truth of science and truth of religion – is mainly a progress in the framing of concepts, in discarding artificial abstractions or partial metaphors, and in evolving notions which strike more deeply into the root of reality.

Whitehead, Alfred North

Religion in the Making

Truth and Criticism (p. 117)

Taken from "Scientifically Speaking", Carl C. Gaither and Alma E. Cavazos-Gaither
SPECIAL TRIBUTE

DALE MEMORIAL TRIBUTE
Abdal Hakim Murad (TJ Winter)1

Khalil was a man of many dimensions. Thanks to his diffidence and lack of ostentation, few of us saw more than a few of them.

One of the most consistent dimensions of his personality, and indeed of his life-story, was his relationship to Islam. I hesitate before trying to explain this side of him. We understand our own spiritual lives very poorly; how can we offer any thoughts about the spiritual or religious lives of others, particularly when they generally prefer to retain it as a private sanctuary of their lives, rather than an ostensible identity they wear very conspicuously on their sleeves?

Still, to Khalil there was certainly an inward richness, even though his close friends often found the contours of this hard to discern fully.

Khalil was never a conformist: witness his membership of the Campaign for Nuclear Disarmament, and his puzzlement when the clumsy medals and accolades of officialdom came his way. It wasn't even modesty that made him so amused by them – he simply did not inhabit the conventional world of status, acknowledgement, and public recognition. In our increasingly meritocratic society such a person is a strange maverick, who refuses quietly but firmly to play by anyone’s rules but his own.

1 Abdal Hakim Murad (born 1960), is a researcher, writer and teacher. He is currently the Shaykh Zayed Lecturer of Islamic Studies in the Faculty of Divinity at Cambridge University, Director of Studies in Theology at Wolfson College and Dean of the Cambridge Muslim College
Should we understand Khalil’s attachment to Islam simply as an expression of his impatience with the Western establishment and its conformist culture? These days, there is hardly anything more counter-cultural than converting to Islam. I don’t think it’s that. In the 1980s, when he was an active member of the Finchley da’wa group in North London, he was utterly committed and engaged, but was not interested in Islam as part of a rhetoric of protest. How easy it would have been for him to pontificate about the catastrophes of imperialistic Western intervention in Somalia, Afghanistan, and other places where he worked; and many would have recognised the rightness of such a protest. On occasion, of course, he did speak his mind about the wickedness of Western policies. But he was nowhere to be found on the Muslim lecture circuit. Even when, during his work in the Occupied Territories he witnessed the horrors of Zionism, his concern was to bind up the wounds, rather than to develop a complex rhetoric about those who had inflicted them.

Khalil’s epic story with Islam began just before the Iranian revolution, when he was working as a nurse in Bandar Abbas. He went on to work in a hospital in Saudi Arabia, where he decided to learn Arabic. He already had a track record in the Islamic world, having worked in Bandar Abbas in Iran and witnessed the revolution at first hand, even sheltering revolutionaries who were fighting the forces of the Shah. After Iran, he was posted to a remote area near Lake Turkana in northern Kenya. It was not a substantially Muslim area, but had a small mosque, and Khalil soon became friends with its imam, enjoying long discussions with him in the evenings. He didn’t become Muslim formally at that time, but his heart soon softened to the religion. He converted shortly afterwards, at a mosque in London, and then studied Arabic in Saudi Arabia for two years.

Khalil, however, was more interested in the practice than in the theory of Islam. After learning Arabic, he launched a saga of support for some of the most desperate refugees on the planet. He would remark that his faith in Islam was at its highest when, in those appalling environments, he could give most fully of himself, living, as it were, only for the moment, when death could come at any time. Despite his abhorrence of the warlords, presidents and virtually all of the protagonists who turned already impoverished communities into battle-zones, he developed a profound love of the Muslim peoples among whom he worked. In particular, he was sharply aware of the gulf separating their traditional piety, from the ideologies of the new Islamist factions, which to him seemed un-Islamic in their hardness of heart, and their determination to press a puritanical morality on societies which already had their own successful ways of being moral.

Khalil travelled to work among the Baja people of Eastern Sudan, before returning again to England, where he completed a degree in geography at SOAS, and then a Masters at the London School of Hygiene and Tropical Medicine. After this he worked for a while with Yusuf Islam in the British-based charity Muslim Aid, and spent time with them in Palestine. Then he moved back to the International Red Cross, achieving considerable fame within the organisation for his heroic work in locating and rescuing concentrations of refugees during the crippling East African famine of the late 1980s. On one occasion, his work to save a group of some twenty thousand refugees, at a time when he was the last foreign aid worker still in Somalia, earned him an MBE, and a reputation in the aid community as an effective as well as courageous frontline worker.
So Khalil was unusual in becoming Muslim, in an age of Islamophobia, but was also unusual in his steady attachment to traditional, rural and domestic styles of Islam, based in action and straightforward piety, and his indifference to radical alternatives.

In 2002, his mother’s health took a turn for the worse and he chose to return to live with her in her small house in Dumfries, Scotland, where he nursed her devotedly for several years until her death. Afterwards, the Red Cross offered him a variety of senior administrative posts, including that of regional director for West Africa, but he preferred junior positions, because these would take him out into the field. Between his dangerous assignments he would return to England, where he stayed at Willowbrook Farm, England’s first organic halal farm. During these stays he developed a second career in photography, and became quietly famous through a number of public exhibitions of his work.

He never lost his interest in serving poor Muslims in dangerous, front-line situations. His final posting began early in 2012, in Quetta, Pakistan, when, at the age of 61, he was made deputy head of the Red Cross mission. A month after beginning work he was abducted by kidnappers, and after three months in captivity, was killed. His janaza was held in Lahore, and then in hundreds of mosques, in absentia, throughout the United Kingdom.

Khalil never married, but was engaged to an Australian nurse at the time of his death.

Finally, listen to these verses from the Holy Qur’an:

_The servants of the Merciful God are those who walk gently on the earth, and who, when the ignorant address them, say only: Peace._

_Those who from the love of God, feed the destitute, the orphan, and the prisoner of war. We feed you only for the sake of God; we hope for no reward or thanks from you._
POEM

Story Enfolding

We all are living a story enfolding,
Some stories like fairy tale with good ending,
Some stories simple yet heart-warming,
Some stories so complex it is frustrating,
Some stories difficult for the one living,
Some stories not realistic only for those who like dreaming,
Some stories slow and plain which may be boring,
Some stories full of adventure so exciting,
Some stories with many plots very interesting,
Some stories to complicated so confusing,
Some stories about love give you good feeling,
Some stories so tragic its heart wrenching,
Some stories very plain similar to just sleeping,
Some stories full of surprises it is just gripping,
Some stories like comedy very funny but maybe not reverting,
Some stories meanders along just glad when it is ending,
Some stories have a lesson in it if we are carefully listening,
Some stories talk of courage very motivating,
Some stories not finished but continues on enriching,
Some stories full of hope that keeps us want to continue breathing,
Many stories with lots of meaning worth telling,
These are the stories actually worth living,
In the universe with many stories beginning and some ending,
For all stories somebody is always watching,

So you may ask if your story is worth telling,
Long after many days of your passing,
Even so if it was never told the universe is recording,
For the universe continue the story not worth ending,

In the passage of time forever moving,
Time present even before the universe started expanding,
Leaving an indelible mark in all future existing,
The never ending story - God Willing.
At an early 2012 meeting in Cape Town, it was decided that public engagement would be one of the focal areas of IMASE activity in South Africa. The idea of Science Dialogues, as a forum to advance knowledge and generate interest and awareness of IMASE in South Africa, was then initiated. The first dialogue, ‘Sultans of Science: A Public Talk on Muslim Contributions to the Sciences’ was held on 12 May 2012 at the An-Nur Centre in Gatesville. The talk attended by about 50 people, brought together teachers, students, parents and scientists and was essentially focused on looking at the intellectual legacy of Muslim scholars of the past with the intent of finding our way in present and future path.

The event included an introduction to the vision and activities of IMASE; as well as three presentations which looked at Muslim contributions to the sciences. The first presentation was by Mahmuda Begum Jaffer, the founding coordinator of the forum “Future Echoes” which aims to find, via the rich culture of scholarship in the Golden Age of Islam, a way to inculcate love and enthusiasm for knowledge in all disciplines. Her presentation focused broadly on contributions of Muslim scholars in several sciences, including art and astronomy. The presentation by Sh. Dr. Riedtwaan Gallant, a science and math educator and also head of the Muslim Judicial Council's

\[\text{Najma is environmental researcher based in Cape Town and is one of the convener of IMASE South Africa}\]
Environment Desk, focused on the life and work of the father of algebra, Al-Khwarizmi. His interesting presentation highlighted Al-Khwarizmi’s contribution in developing foundational concepts in mathematics and astronomy. This was followed by a presentation on Al-Jazari, by mechanical engineering professor, Dr. Azeem Khan, who, in presenting the intellectual contribution of this great inventor, stressed the importance of engaging in knowledge production and creation, which is of benefit to society.

The discussion and dialogue which ensued brought many concerns to the table, these included: the challenges facing maths and science educators in South Africa; the importance of memory and the loss of memorisation skills among learners; and the need to reclaim the rich heritage of Muslim scholarship with a view to participate in knowledge creation in the world today. IMASE was also commended for “awakening” interest and dialogue on knowledge creation and development in Islam. There was also a request to compile a list of key resources on Muslim contributions to science, this was compiled and circulated among all the participants. Participants were also invited to join and become active members of IMASE.

The upcoming dialogue on astronomy, set to be held before the beginning of Ramadan 2012, was also advertised at this event.

INTRODUCTORY RESOURCES ON: MUSLIM CONTRIBUTIONS TO SCIENCE
“Discover the Past, Develop the Future”

Key Organisations:

1001 Inventions http://www.1001inventions.com/

International Association of Muslim Scientists and Engineers http://www.imase.org


Islamic World Academy of Sciences (IAS) http://www.iasworld.org/index.html

Museum of Science and Technology in Islam http://museum.kaust.edu.sa/about.html

Muslim Heritage http://www.muslimheritage.com/

Muslim Science http://www.muslim-science.com/

Sultans of Science http://www.sultans-of-science.com/

Educational Resources:

1001 Inventions http://www.1001inventions.com/education
Curriculum Enrichment for the Common Era [http://www.ce4ce.org/teaching-resources.php](http://www.ce4ce.org/teaching-resources.php)

Islamic Art and Culture: A Resource for Teachers

Science and Islam [http://www.mhs.ox.ac.uk/scienceislam_education/](http://www.mhs.ox.ac.uk/scienceislam_education/)

Sultans of Science, MTE Studios

Compiled by Najma Mohamed, IMASE South Africa
May 2012
NEWS FROM AROUND THE GLOBE

In this section we highlight pertinent happenings from around the globe. If you have such articles from your country or field of interest, please send them for us to consider.

Shining Forth from the heavens: Rare blue 'night-shining clouds' pictured at dusk over Edinburgh's landmark rail bridge
By Rob Waugh, Daily Mail Online
30th June 2012

“A photographer caught a glimpse of the most distant clouds in the atmosphere shining an electric blue from 50 miles up as the skies cleared over Edinburgh at dusk this week. The 'night shining' clouds are normally invisible, but shine at twilight when ice crystals in the high-altitude clouds are lit up by the sun as it sets. The clouds are especially bright here at the height of Edinburgh's summer.

A photographer in Fife captured the rare clouds over the Forth Rail bridge as the skies cleared after a week of storms.....”

Read more: http://www.dailymail.co.uk/sciencetech/article-2166528/Rare-blue-night-shining-clouds-pictured-dusk-Edinburghs-landmark-rail-bridge.html#ixzz1zM3IgZus

Wish you were mine
The Economist
11 February 2012

“THE true extent of Africa's vast wealth of resources is hard to guess. Geologists have picked over most of the rest of the globe in search of minerals, yet huge swathes of Africa remain largely unprobed. But the immense ore deposits so far discovered and soaring commodity

© North News & Pictures Ltd
prices on the back of rip-roaring Chinese demand have convinced the world’s miners that the continent is the next big frontier. Bumper profits have also spurred mineral-rich countries to seek a bigger share of the spoils.

The list of African governments that have miners in their sights is a long one. South Africa, home to the greatest mineral wealth in the world, estimated to be worth $2.5 trillion, is considering imposing a swingeing 50% windfall tax on mining “super profits” and a 50% capital-gains tax on the sale of prospecting rights. Those are among the proposals put forward by an independent panel of experts, set up by the ruling African National Congress (ANC) to study the possibility of greater state intervention in the mining sector.

Ghana, Africa’s second-biggest gold producer, recently announced a review and possible renegotiation of all mining contracts to ensure that mining profits are “maximised... [for] the good of the country”. It plans to raise taxes on mining companies, from 25% to 35%, and a windfall tax of 10% on “super profits” in addition to existing royalties on output of 5%. Zambia, which is Africa’s biggest copper producer, recently doubled its royalties on the metal, to 6%. Guinea, home to the world’s largest bauxite reserves as well as one of the world’s biggest iron-ore deposits, is helping itself to a 15% stake in all mining projects and an option to buy a further 20%. Namibia has decided to transfer all new mining and exploration to a state-owned company.

[...]
Read more: http://www.economist.com/node/21547285

25 years of HIV in India
by Shoba Shukla, Asia Sentinel
3 February 2012

"From despair to hope"
The first case of HIV/AIDS in India was detected in Chennai sex workers in 1986, triggering shocked disbelief among health professionals which ultimately transformed into panic and then hopeless resignation.

"We never thought that HIV would ever visit India and take us on," said Dr Ramesh Paranjape, Director of the National AIDS Research Institute, Indian Council of Medical Research. "At that time HIV was considered to be a disease of the western world and we had nothing to do with it. But slowly with more and more cases testing positive for the virus, it became a grave concern for us too."

Today, with an estimated 2.39 million HIV infections (of which 39 percent are female and 4.4 percent are children) India is home to the second largest population of people living with HIV - an epidemic which is concentrated in high-risk populations such as sex workers and their clients, gay men, transgenders and injecting drug users."

[...]
Read more:
http://www.asiasentinel.com/index.php?option=com_content&task=view&id=4194&Itemid=404

**Ancient antibiotic-resistant bacteria found in isolated cave**

*CBC News*

13 April 2012

"Bacteria that have never before come in contact with humans, their diseases or their antibiotics, but are nevertheless resistant to a variety of antibiotics, have been discovered in a U.S. cave.

"This supports a growing understanding that antibiotic resistance is natural, ancient," and an integral part of the genetic heritage of microbes, suggest researchers from McMaster University in Hamilton, Ont. and the University of Akron in Akron, Ohio, in a new study published this week in the journal *PLoS ONE.*

Scientists have long debated the relative roles of humans and nature in the evolution and spread of antibiotic-resistant bacteria, which can pose a serious problem in the treatment of diseases."

[...]

Read more:

**Losing Your Religion: Analytic Thinking Can Undermine Belief**

by Marina Krakovsky

*Scientific American*

26 April 2012

"People who are intuitive thinkers are more likely to be religious, but getting them to think analytically even in subtle ways decreases the strength of their belief, according to a new study in *Science.*

[...]

Analytic thinking undermines belief because, as cognitive psychologists have shown, it can override intuition. And we know from past research that religious beliefs—such as the idea that objects and events don't simply exist but have a purpose—are rooted in intuition. "Analytic processing inhibits these intuitions, which in turn discourages religious belief," Norenzayan explains.

[...]

Greene concurs, while also raising a provocative question implicit in the findings: "Obviously, there are millions of very smart and generally rational people who believe in God," he says.
"Obviously, this study doesn't prove the nonexistence of God. But it poses a challenge to believers: If God exists, and if believing in God is perfectly rational, then why does increasing rational thinking tend to decrease belief in God?"

Read more: http://www.scientificamerican.com/article.cfm?id=losing-your-religion-analytic-thinking-can-undermine-belief

'Fat Tax' to Lower Obesity

ABC News
16 May 2012

"Calories, number of hours spent exercising, number of pounds to lose, those who are overweight now have a new number to worry about: a "fat" tax.

Adding a high tax on unhealthy food and drinks may help slow the rising rates of obesity, according to a new study published Tuesday in the British Medical Journal. Previous studies suggest that the sharp tax increase on cigarettes in 2009 has contributed to the dramatic decrease in the number of smokers in the U.S. And it's hoped a "fat" tax would work the same way.

A tax of at least 20 percent placed on sugar-sweetened drinks could drop obesity rates by 3.5 percent and prevent 2,700 heart-related deaths each year, according to the study.

[...]

Read more:
http://abcnews.go.com/Health/Wellness/fat-tax-lower-obesity/story?id=16353067#.T7ocJNwnyz4

How do you learn about electricity... if there's no power?

The Independent
17 May 2012

“There's an old joke about a university vice-chancellor bemoaning the cost of his physics department's expensive gear. "Why can't you be like the mathematicians?" he pleads. "All they need is pencils, paper and a wastepaper basket. And the philosophers don't even need the wastepaper basket."

If the joke is unkind to the intellectual heirs of Socrates and Plato, the reality can be just as harsh for those hoping to stand on the shoulders of Newton and Einstein: experimental kit really can be prohibitively expensive. Many African schools resort to teaching physics purely theoretically – an approach good enough for exams but of little help with ingraining real understanding. Growth of their own science and engineering base is being impeded by a lack of resources and the will to put them to good use – until now.
Over the past few years, current and retired UK teachers have been showing how to carry out enlightening experiments with cheap or makeshift equipment – balloons, paperclips, toy cars and dice – across sub-Saharan Africa.”

[...]


**Revealed: Rothamsted scientist’s role in destruction of key GM research**

*GM-Free Cymru*

20 May 2012

"It has been revealed that Professor John Pickett, the team leader behind Rothamsted's controversial GM wheat trial, was one of the leading players in the destruction of a GM safety experiment more than 13 years ago. He did not need to pull up a GM crop. There is more than one way to skin a cat, and more than one way to kill off a research project.

In 1998 Dr Arpad Pusztai and his colleagues at the Rowett Research Institute in Aberdeen discovered that for some reason rats which consumed GM potatoes in a carefully controlled feeding experiment suffered from health damage (1). With the permission of the Director of the Institute Dr Pusztai gave an interview to Granada TV which was aired after a lag of seven weeks, on August 10th. In the brief interview the researcher voiced his concerns about his findings and said that he wished to complete the research and maybe instigate a follow-up project to confirm his data. He said afterwards that -- as a responsible scientist -- he wanted to alert the public to the possible dangers of eating GM food. All hell was let loose. There was a media frenzy, and politicians and the GM industry joined forces to denounce Pusztai as incompetent and irresponsible. The scientific community went into damage limitation mode, and set about the systematic destruction of Pusztai’s research project and his reputation. His laboratory was closed, his team members were all dismissed, and Pusztai himself was sacked. His papers were confiscated, and for a time he was not allowed to speak to the press or to other scientists. The events of 1998 - 99 are too convoluted to recount in detail -- but the Royal Society, which should have supported a highly respected and fastidious senior scientist, instead set about a carefully planned campaign of vilification dressed up as a "scientific review process.” This was absolutely out of order, and completely unprecedented. To this day we do not know the full background to this, but there were certainly very powerful political and commercial interests involved; it is clear that neither the GM industry nor the British government could cope with the idea that GM crops and foods might in some way be harmful.”

[...]

Read more: http://www.gmwatch.org/latest-listing/1-news-items/13930

**How EU farming policies led to a collapse in Europe’s bird population**

by Robin McKie, *The Guardian*

26 May 2012
“They have entranced generations with the beauty of their songs and glimpses of their plumage. But today the sound of the linnet and the vision of a turtle dove are becoming increasingly rare experiences for visitors to the European countryside.

Indeed, according to a new survey, the chances of encountering any one of the 36 species of farmland birds in Europe – species that also include the lapwing, the skylark and the meadow pipit – are now stunningly low. Devastating declines in their numbers have seen overall populations drop from 600 million to 300 million between 1980 and 2009, the study has discovered.

This dramatic decline represents a 50% reduction and is blamed on major changes in farming policies enforced by the EU over the last 30 years.”

[...]

Read more: [http://www.guardian.co.uk/environment/2012/may/26/eu-farming-policies-bird-population](http://www.guardian.co.uk/environment/2012/may/26/eu-farming-policies-bird-population)

**Liberals are Ruining America. I Know because I am One**
by Steve Almond, *The New York Times*
8 June 2012

“In the spring of 2006, I quit my job as an adjunct professor at Boston College to protest the school’s selection of Condoleezza Rice as commencement speaker. My resignation letter, published online by The Boston Globe, went viral. Over the next few days, I received hundreds of e-mails, evenly divided between praise and condemnation, along with numerous invitations to appear on cable television.

[...] A producer promised me 10 minutes of airtime, during which I would be free to voice my objections to Rice, the former secretary of state. As it turned out, my interview ran just over three minutes, much of which I spent trying to fend off Hannity’s insistence that I voted for John Kerry. Not what I’d envisioned, but I managed to outlast his bullying and even launch a few zingers before my mike was cut. I was immensely pleased with myself, and I happily accepted kudos from fellow lefties.

[...] This, to be blunt, is the tragic flaw of the modern liberal. We choose to see ourselves as innocent victims of an escalating right-wing fanaticism. But too often we serve as willing accomplices to this escalation and to the resulting degradation of our civic discourse. We do this, without even meaning to, by consuming conservative folly as mass entertainment.”

[...]

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Read more: http://www.nytimes.com/2012/06/10/magazine/liberals-are-ruining-america-i-know-because-i-am-one.html?_r=1&pagewanted=all

**Chinese Astronauts Complete First Manual Space Docking**  
*RIA Novosti*  
24 June 2012

“Three Chinese astronauts have successfully completed a manual docking between the Shenzhou-9 spacecraft and the orbiting Tiangong-1 lab module in the first such attempt in China’s history of space exploration, Xinhua news agency reported on Sunday. Astronaut Liu Yang assisted by his teammates Jing Haipeng and Liu Yang, controlled the Shenzhou-9 spacecraft to dock with the Tiangong-1 space lab module at 12:42 p.m. local time on Sunday.

“It means China has completely grasped space rendezvous and docking technologies and the country is fully capable of transferring humans and cargo to an orbiter in space, which is essential for building a space station,” the agency said.”

[...]  
Read more: http://en.rian.ru/world/20120624/174214427.html

**Hybrid ships to take Japan’s hybrid cars to the world**  
by Yoshihiro Yasukawa, *The Asahi Shimbun*  
26 June 2012

“KOBE--Even the vessels shipping Japanese cars around the world are now becoming hybrids. The Emerald Ace, a 60,200-ton car carrier that combines solar power panels with a diesel engine, was shown to the media on June 25 at Mitsubishi Heavy Industries Ltd.’s Kobe Shipyards and Machinery Works.

A ceremony to mark the official completion of construction is set for June 29.

The ship is expected to cut carbon dioxide emissions by 4 percent on a two-month voyage to Europe, officials said.

The 199-meter-long vessel can carry 6,400 passenger cars. The 768 solar power panels installed on its deck have an output capacity of 160 kilowatts, enough to power 50 average households.

Energy is stored in 324,000 lithium-ion batteries in the ship’s hold and fed through to the engine. Excess energy is used to power the ship’s radar instruments, lighting, air conditioning and other equipment.”

[...]
Read more: http://ajw.asahi.com/article/economy/environment/AJ201206260054

**Ants call for emergency backup with chemical trail**

by Victoria Gill, *BBC Nature*

27 June 2012

"Brazilian "big-headed" ants use chemical trails to drag others into helping them carry food, a study shows.

Researchers found that when an ant discovered food that was too large to carry, it immediately set off for the nest, laying a pungent chemical trail.

This almost instantly caused hundreds of other ants to rush in and help drag back the oversized snack.

The team thinks the species' "chemical breadcrumb trail" is the fastest and most accurate ever recorded.

The findings from this study are reported in the journal *Behavioural Ecology and Sociobiology.*

[...]
INTERESTING WEBSITE

Scientist for Global Responsibility

(http://www.sgr.org.uk/)

Scientist for Global Responsibility is an independent UK-based membership organisation of about 1000 natural and social scientists, engineers, IT professionals and architects. We promote science, design and technology that contribute to peace, social justice, and environmental sustainability.

The website contains information on issues such as Security and disarmament, Climate change and energy, “Who controls science and technology?”, and Emerging technologies. SGR's main projects in recent years have been:

- Ethical careers in science, design and technology (from 1999) - producing educational materials for students and graduates which highlight the ethical dilemmas in choosing a career path, and outline those which emphasise peace, social justice and environmental sustainability;
- Military influence on science and technology (from 2003) - research and campaign work to highlight the extensive influence that militarism has within science and technology, and to argue for a shift in priorities;
- Corporate influence on science technology (from 2007) - research and campaign work to highlight and challenge the overemphasis on short-term commercial priorities within science and technology.

Most of these resources are available as downloads from the website.
ARTICLE 1

Why Are We Polluting Our Important Necessity?

Abu Hanifah

Water, as we may all have been aware by now, is imperative to life. Plants, animals and people all need water to survive. Plants absorb H₂O to make food for us and animals. Humans utilize water to grow crops, raise cattle, provide refreshments to households, and enable the manufacturing of products in factories.

About 70% of the earth's surface is covered by water. Nevertheless, freshwater makes up a mere 3% of earth's water [1]. Even then, only about 0.7% of the freshwater is easily available, coming from sources such as rivers, streams, lakes and groundwater, whereas the rest are in the forms of ice caps and glaciers. The more easily-accessed but limited sources of freshwater are mostly the ones used to 'fuel' vegetation, livestock and more than 7 billion of us on planet Earth. Between years 1900 and 2000, global water consumption climbed quite steeply by 4 times [2]. With surging number of mouths but non-increasing number of water resources, competition for fresh and clean water is becoming more severe amongst people, agriculture and industry. This means that with the passage of time, more and more water is needed for drinking, cooking, bathing, sanitation and sustaining life necessities.

In developed nations, plentiful water supply is usually taken for granted. Today, more than 1.5 billion people lack access to reliable water supply. Within 10 years time, about 2/3 of the world's citizens could be plagued by water scarcity. Our global water supply will soon become abysmal, thanks mostly to our own doings that have contributed much to pollution and climate change on Earth.

Since the time when man lived in caves, rivers have been the lifeblood of civilization. Rivers have functioned as routes for travelling and transportation, also providing recreation to human beings. They have indeed been a significant source of food to humans and animals. Flowing from mountains to lower areas, they supply water to cities and farms, supporting trillions of

1 Abu Hanifah is a social observer based in Malaysia.
creatures, and help sustain aquatic lives worth billions of dollars. Sadly, rivers are also where people dump wastes, either coming from industries, farms or households.

As a consequence of the pollution of fresh water supplies such as rivers, not only will we be lacking water, but we will all soon be facing a critical shortage of clean water. Contaminated water will of course corrupt our internal body system, harm our sources of food and diminish aquatic ecosystem. In much of the developing world where consideration for economic development comes first, regard for the conservation of the environment is not high on the priority list. People’s Daily recently reported that about 40% of China’s rivers were seriously polluted in 2011 [3]. About 75 billion tons of sewage and waste water had been released into the country’s rivers. Sadly, five most polluted rivers on the planet are to be found in the third world [4].

Groundwater is another source of clean water that is depleting [5]. Contaminants could come from municipal waste, chemical spills, fertilizers, pesticides and livestock waste. Agricultural and urban discharge seeping into groundwater sources are threatening the human survival. Millions of people will continue to become sick and die prematurely as a result of ingesting water polluted with contaminants, bacteria, virus and parasites. Solutions may rely on improved policies and regulations, but most importantly on altered human behaviour.

With more pollution, comes climate change which has led to irregular rain patterns. What was once taken for granted is now a crucial issue, such as the intensity of rain fall and the length of drought. People are starting to feel the health effects of climate change. Research found that after periods of heavy precipitation, there was an increase in the number of waterborne disease outbreaks [6]. Whenever it rains heavily, pathogens would be washed into surface water and groundwater, human’s essential sources of drinking water, exposing people to debilitating illnesses.

Whilst excessive rain afflicts human beings in its own way, drought will make life, economies and societies unsustainable. As water is one of man’s most indispensable resources, water shortages will torture people irrespective of where there are in the world. The once glorious Mayan civilization, for instance, collapsed as a result of drought [7]. Ancient Mayans were talented builders, scientists and mathematicians, but a chronic lack of water supplies took the vibrancy of the civilization away.

The possibility of more drought years to come should be raising concerns to all. In addition to water scarcity, droughts will cause wildfires which could destroy forest and homes. Global climate change will nullify and negate the perceived remarkable achievements of modern economic progress. Yet the ruining of the environment continues nonchalantly.

It was 20 years ago when world leaders gathered in Rio de Janeiro to discuss matters pertaining to global environmental problems for the first time. 20 years later, the recent Earth Summit has been characterized as ‘a failure of epic proportions’ and ‘three days of empty rhetoric’ [8]. The European Environmental Bureau saw the summit as a failure of leadership lacking ambition, filled with feel-good policy statements [9]. As a commenter described in The Guardian, ‘Governments have given up on the planet’ [10].
References (Accessed in June 2012)

Many people may already be familiar with terms such as “carbon credit”, “carbon market”, and “emissions trading” but do not understand what it is, how it works and why it’s there in the first place.

In this short article, we will try to give you the basic concept and theory of emissions trading mechanism.

Term such as “carbon market” gives us the impression that emissions trading is a commercial enterprise and that the role of government is fairly limited. This is a misconception since government has a significant role in determining the economic activities in these markets.

Our familiar markets such as fish market and retail market or even the financial market are often initiated by groups of entrepreneurs as an “unregulated market”, which eventually becomes a “regulated market” through intervention by the government.

On the other hand, the market for the emissions trading was/is created by the government. This is because, emissions trading mechanism is a policy instrument.

The first ever large-scale emissions trading mechanism started in 1995, which was implemented by the U.S. Environmental Protection Agency (EPA) known as Acid Rain Program to reduce NOx and SO2 (air pollutants) emissions from the regulated sources, primary coal fired power plants. Emissions trading mechanism was used to reduce SO2 emissions.

The 110 power plants under the program were allocated with a SO2 emissions quota. Any power plants which wanted to emit SO2 more than their given quota were able to buy the permit from

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4 Shiro Chikamatsu, is a Consultant of Ecological Economic Solutions a consulting firm based in Kuala Lumpur. Shiro’s main area of work is environmental business development. His professional experience stretches from Researcher of DNAFORM, a biotech company developed under Riken Venture system, to Senior Consultant of Smart Energy Co., Ltd., a Japanese environmental consultancy company, before joining 2ES. Shiro graduated from Imperial College London, MSc Environmental Technology.
the market. Any power plant that had surplus emissions permits was able to sell them in the ‘open’ market.

EPA had to allocate the right amount of permits to the power plants. Over-allocation of permits would have caused the price of the permits to crash resulting in all the power plants buying cheap permits with no reduction of SO\textsubscript{2} emissions. On the other hand, under-allocation would have caused the price of the permits to shoot up such that the only way for the power plants to meet the target will be to install desulfurization equipment. The EPAs’ act of setting quotas to regulate sources is called “capping” and EPA had to find the appropriate capping for the emissions trading mechanism to function as intended. This type of emissions trading mechanism is called the “cap and trade” approach.

You can start to see that the government (i.e. the regulator) has a strong grip on the market and the demand for the permit is artificially generated through the capping process. In fact, the reason why EPA implemented such emissions trading mechanism in the first place is quite obvious. It wanted to reduce SO\textsubscript{2} emissions. So the emissions trading mechanism is a policy instrument.

You may wonder whether there are other policy instruments to regulate air pollutions which there are. Figure 1 gives you the overview of various ways to control pollution. In the 1990s EPA could have ordered all the power plants to install desulfurization equipment. This sounds like a straight forward solution rather than creating a whole new market. But what happens if there are various ways to reduce SO\textsubscript{2} emissions? In fact power plants could reduce SO\textsubscript{2} emissions by using coal with less sulfur content, increasing power generation efficiency, or the power company may reduce the use of coal fired power plant and increase the use of natural gas fired power plant and etc. One option may be cheaper than others for a particular company depending on their circumstances. Instead of specifying technologies, EPA had the option to set quantity limits.

Power plants could have reduced the SO\textsubscript{2} emissions in the most economically efficient manner as long as they met their given quantity limit. This sounded like a simpler solution than emissions trading and more flexible than specifying technologies. In fact, EPA has taken this approach to reduce NO\textsubscript{x} where the power plant had various choices to reduce their NO\textsubscript{x} emissions. Specifying technologies or setting quantity limits (and limiting choices) by the regulator is known as the command and control approach.

But what happens if there is a company, which can reduce SO\textsubscript{2} emissions cheaper than other power plants? With the command and control approach, there is no incentive for that power plant to reduce more than what is required. This is where tradable permit (i.e. emissions trading) comes in to play. The power plant which can reduce SO\textsubscript{2} cheaper than other power plants can reduce additional SO\textsubscript{2} emissions on behalf of other power plants. Additional emissions reduction could be sold as tradable quotas to other power plants. This is a market based approach. It relies on price signals to create incentives to reduce emissions in the most economically efficient manner. The companies will have incentives to reduce pollution, more than what is required by the regulation, since they can sell their surplus permits in the market. Taxation is other form of market based approach, but price of taxation is fixed, whereas price of the permits will fluctuate according to market demand and supply.
Now we see that emissions trading mechanism is a policy instrument, the demand for the permit is artificially created by the regulator, it has a specific goal to reduce pollution, it is a means to reduce pollution in the most economically efficient manner, and it provides incentives for the companies to innovate in emission reduction technologies.

In the case of the climate change problem, instead of SO₂, Greenhouse Gas (GHG) is the pollutant. And like the Acid Rain Programme, the United Nation implemented the emissions trading mechanisms (known as Kyoto Flexible Mechanisms) to reduce GHG in the hope that such mechanisms can reduce GHG emissions in the most economically efficient manner. The UN implemented the variant of “cap and trade” approach called “baseline and credit” approach to include developing countries with no emissions reduction targets (i.e. no capping). But the basic rules apply. The market exists because there are those who are capped, in this case, Annex I countries such as EU and Japan. And you can start to see that the emissions trading mechanisms will run into trouble if the developed countries and the major emitters do not come with a definitive emissions reduction target.

How it should work and how it works is a different story. Some have hailed the Acid Rain program as a success and others have criticized its outcome, but hopefully you have understood the basic concept and the theory behind emissions trading mechanism.

**Figure 1: Various pollution control policy instruments**
ARTICLE 3

Evolution Without Paradox:
The Improvisational Continuity of Natural Inclusion

Alan Rayner

Future Present (Oil painting on canvas by Alan Rayner, 1999’2000). This painting, featuring examples of animal, plant, fungal and bacterial life, portrays biological diversity as an 'embodied water flow', producing similar patterns over diverse scales through the dynamic relationship between genetic 'content' and environmental 'context'. It also suggests how we can best understand the 'present' as a bringing of 'past' into the coming of 'future', not as a 'cut' between one and the other.

Dr Alan Rayner is a naturalist who uses art, poetry, fluid mathematics and careful science to enquire and communicate about the evolutionary diversity of our natural human neighbourhood. He was educated at King's College, Cambridge and has been a Reader in Biology at the University of Bath.
Any attempt to explain or model a continuous process on the basis of discontinuous logic and mathematics cannot fail to be paradoxical. This is because as soon as any event, entity or objective is rationalistically singled out from the fluid continuum by placing it within a definitive frame of reference, the process itself stalls. It is akin to localizing a changing scene within the fixed frames of a cine film and then using the frames as the basis for explaining or predicting the very movement that they arrest into discrete segments of space and time. The apparent continuity that meets the eye in the projected string of images is no more than the product of contiguity or ‘informational adjacency’, not the true continuity of what goes missing beyond the edges and in the gaps between each frame. Correspondingly, the apparent movement in the projected sequence is nothing less than a string of imaginative leaps of faith across chasms of space confined between the trammels of a linear path or trajectory.

Nonetheless, such backwards or forwards linear projections continue to be accepted not just as a valuable tool of investigative enquiry, but as a legitimate way of accounting completely for the past and predicting the future based on exact local knowledge of the present. In effect, the ‘progress’ of discrete ‘objects’ pushed or pulled by external or internal forces is plotted from ‘here’ to ‘there’ along a ‘time line’ divided up into equal and sequential intervals. The outcome is not only a very inadequate, misleading and logically inconsistent Newtonian/neo-Darwinian explication of the evolution of life, but a psychologically, socially and environmentally damaging perception of our human place on Earth. This is the source of needless senselessness, distress, conflict, inefficiency and loss of creativity that it really would be good for us to assign to history. In the process, we could open up and sustain the possibility for a more varied, tolerant, just, compassionate, democratic and enjoyable future for our selves and their natural human neighbourhood.

The assumption that the ‘present’ is the product of its immediately preceding ‘time frame’, and that the future is completely prescribed by the present lies deep in the discontinuous logical and mathematical foundations of deterministic evolutionary models. These are ‘evolution in a box’ models, which start by defining ‘the initial conditions’ or ‘niche’ that change is going to be constrained within, by dint of internal genetic information content (‘nature’) and/or external environmental imposition (‘nurture’), and proceed to account for how these conditions are fulfilled. Whatever happens is pre-ordained as the box becomes filled by whatever fits it best, if needs be through the competitive exclusion of others. There is no room for manoeuvre here, no role for individual creativity or ‘choice’ in what happens and ultimately, therefore, no responsibility to be accepted or claimed other than that of the box ‘designer’, whether natural or supernatural, intelligent or stupid. Those that fit the box are accepted as ‘successes’, those that do not are discarded as ‘failures’. Once in occupation, the occupant stays as it is, running at a standstill like the proverbial ‘Red Queen’, because to change would be ‘non-adaptive’ in the short term, unless the ‘designer’ so happens to pop another box magically alongside the one already occupied. Far from providing the foundation for expression of natural variety and evolutionary creativity, these models paradoxically remove and stall them into ‘fixation’. They then rely on ‘random accidents’ inconsistent with their prescriptive limits to engender the possibility of a staccato pattern of change that lurches discontinuously and wastefully from pillar to post. An incredible, digital ‘to be or not to be’ story of ‘missing links’ and ‘impossible odds’ unfolds between atomic simplicity and biological complexity, delivered down to the faithful from the ivory towered authority of their leaders.
The application of these prescriptive evolutionary models to human ‘forward planning’ is all too evident in those many kinds of ‘agenda’ that fix a desirable ‘objective’ or ‘end’ in advance, regardless of changeable circumstances, and proceed to fulfill this at all costs and by whatever ‘means’ deemed necessary. Everything and everyone is selected to fit its purpose according to the agenda, on pain of being discarded as ‘not good enough’. Schoolchildren are uniformed and examined relentlessly for their ability to reproduce what they are told. Job seekers are required to fit job descriptions, not the other way round. Members of Parliament, those supposedly democratic representatives of the people, are punished if they don’t conform to their Party Whip. Research Projects are required to predict their findings in order to receive funding, and regarded as failures if they discover something different, no matter how innovative. Heretics, who honestly stand up for what they think is true, are ostracized or worse. And so the paradoxical logic of discontinuity perpetuates itself, neither grounded in evidence nor sound sense, but rooted instead in a convenient supposition that serves the self-interest of the powerful and is easy to fabricate into stories acceptable, especially given the carrot and stick of reward and punishment, to the gullible. We set our selves on course for an evolutionary dead end governed by the rule of selfish ascendance.

No sooner, however, is the rationalistic logic of discontinuity recognized for what it is, as the mythical product of assuming that material form can be singled out from the context of open space that it both dynamically includes and is included in, than a very different way of understanding evolutionary process emerges. Evolution breaks free from the box of predestination and opens out into the continual, improvisational process of ‘natural inclusion’ as the co-creative, fluid dynamic transformation of all, through all, in receptive spatial context’.

This process is based on the continuous logic of ‘inclusionality’, which lies in the understanding of natural energy flow as the dynamic inclusion of space in form and form in space. ‘Space’ is understood here not as a rationalistic ‘emptiness’ or ‘absence of presence’ that counts as ‘nothing’, but instead as limitless ‘openness’. Far from being a source of ‘discontinuity’, which stops at the surface of perceptible form, space is that infinite, uncontainable, indivisible and hence continuous omnipresence that pervades throughout everywhere and pools all together. As a dynamic inclusion of form, space has a receptive quality, and as a dynamic configuration of space, form has responsive, protective and reflective qualities. Instead of being regarded, like a cine film frame, as a purely local and definable space-excluding or containing object that can at most be connected contiguously to others, all form is understood as ‘flow-form’, a dynamic locality or ‘somewhere’ as an inclusion of ‘everywhere’, non-local. Every flow form is correspondingly a receptive-reflective-responsive opening or ‘hole’ that is included in the flow of every other form, like eddies in a river. It cannot be a ‘whole’ or even a part of a ‘whole’, complete in itself, and only rigidifies into stasis when frozen in or crystallized – whereupon its fluid mobility can only be restored by melting or dissolving.

Hence the evolutionary process is more like a river for all to immerse in and contribute to, than an arrow of time for the select favoured few to progress along. There is neither complete end nor complete beginning to the river, for in its dynamic inclusion of infinite openness it continues to open up and follow new possibilities for flow within its ever-changing catchment. As individual dynamic bodily localities we can accept our lives as a gift of natural energy flow from others and relay this on to others when necessary in a continual co-creative circulation instead
of a competitive dash of opponents to the finishing line. Where and how and in what form the river will travel is unpredictable in the long run, for uncertainty is inevitable where the inclusion of infinite possibility precludes the complete definition of initial conditions and all are simultaneously included in each others’ influence. But that uncertainty does not preclude understanding of the possibilities and attunement to changing circumstances in an evolutionarily and environmentally sustainable way. It is only when we step out of the river, claiming immunity from its and one another's influence, that we set ourselves on course for a dead end, wasting talent and energy in a relentless quest for the false security and meaningless freedom of uniformity.

In coming to recognize our dynamic inclusion in natural evolutionary flow, a vital transfiguration occurs in the way we regard our bodily identities. Instead of thinking of these identities as conventionally discrete numerical or geometrical mathematical 'figures', that is as concrete 'statistics on a government chart’ pushed or pulled around by local force, we can reclaim our unique personhood that comes through our dynamic locality as inclusions of energy flow. We open up our ‘I’ self to the inclusion of all around that flows into and out from us as breathing holes in the flow, receptive to, protective of and responsive to our ever changing natural neighbourhood. As we do this, maybe we will also recognize the need for our conventional discontinuous logical and mathematical foundation to transfigure. In fact, though so far only for a few of us, it already has. And very exciting and inspiring it is too!
Islam in Kashmir was spread by the peaceful missionary activities of the Sufis. The common masses were reeling under the dictatorship of exploitative kings and religious clergy. Most of them were illiterate peasants, who found in Islam the egalitarian social justice and equality for all. Hence over a period of time they accepted the alien creed as their faith. The important Sufi who is pioneer of Islam in Kashmir, was a Kubrawi Sufi, Mir Sayyid Ali Hamdani, known to Kashmiris as Amire Kabir, Shah e Hamdan and Ali e Thani. He proved to be a harbinger of social and economic revolution in Kashmir. To celebrate and pay tributes to his life and legacy, the Islamic Studies department of Kashmir University, named after him as Shah I Hamdan Institute of Islamic Studies, organized a Three Day International Seminar from 13-15March, 2012. The seminar was titled as "Shah I Hamdan’s contribution to learning and society". The department under the dynamic Directorship of eminent scholar, academic, writer and activist Prof Hamid Naseem Rafiabadi is progressing by leaps and bounds. This seminar was a part of the academic programmes undertaken by Prof. Rafiabadi.

I as a student of political science was also invited to present a paper on the political thought of Mir Sayyid Ali Hamdani. I confined my paper with the study of his political thought as espoused

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6 Mushtaq ul Haq Ahmad Sikander is writer-activist based in Srinagar-Kashmir and can be reached at sikandarmushtaq@gmail.com
- The article first appeared in The Intellectual Dispatch, April 2012, Vol I, Issue II
in his famed work, “Zakhiratul Maluk”. My argument was that for a student and scholar of political science, Hamdani appears as a moral theorist rather than a systematic political scientist in the book. In this book his personality manifests itself as a Sufi more than as a seasoned political realist. There is no discussion about the State Formation, Resource Allocation, Political Adjudication, Political Participation, Political Socialization, Political Culture, Political Development or Political System. Hamdani also appears least bothered about the form of government.

As a political treatise it fails to impress its readers, but here in lies its essence and virtues of it. Mir Syed Ali Hamadani is a Sufi belonging to Kubrawi order. All Sufis lay much emphasis on Tazkiya e Nafs (self-purification), and each chapter of the book is a living testimony of this fact. He wants a Muslim ruler's soul to be purified as he attains the reins of governance. The first four chapters of the book deal with faith, duties of a man, virtues and rights and duties towards parents, wives, husbands, children etc. Mir Syed Ali Hamadani's style of writing is to draw lessons from Quran, Sunnah and lives of various righteous men, in order to create love for Allah, his creations and fear from his wrath and punishment for breaking his laws. The teachings and lessons as espoused in these chapters are essential for any human being to discipline himself as a God Fearing Muslim, who has purified his Nafs (the self) from the base and lower beastly instincts of lust, greed and blind hedonism. When he has attained this purification, only then can he deliver the rights of his subjects and rule justly.

Then the ruler is supposed to Command good and forbid evil. He is also supposed to be thankful and content with what Allah has bestowed on him. He should always be fearful about trampling the rights of his subjects. While carrying out the duties of governance he is faced with a lot of obstacles, impediments and problems which are to be dealt with patience, which is the divine tool. Lastly the evils of Anger and Arrogance are depicted along with virtues of humility and forgiveness towards his subjects.

This scheme of chapterisation leaves the book open to debate whether it can be considered as a Political treatise or a charter on State craft? I concluded with the remarks that the book still remains relevant, as Hamdani wants the rulers to be noble men who have purified their souls from the baser instincts of lower self like greed, lust, thirst for power etc. If the rulers today attain this Tazkiya e Nafs (self-purification) at first, then go for Power much of the vices emanating from Power will come to an end.

What drew flak from the audience, were my comments that "Islam's ultimate aim isn't capture of power, but the individual self-purification (Tazkiya e Nafs) so that the person becomes a better human being, contributing towards the overall welfare of Society and humanity. These purified souls would not indulge in any beastly acts based on their lower instincts of self like lust, greed and hedonism. Wherever they go, they will prioritize and put before collective needs over their personal ones. In certain cases they will also sacrifice individual needs for collective ones.

But are we as Muslims contributing to the collective good and welfare of humanity? The answer is a complete Big No; though there may be few individual efforts, but as a Muslim community we have failed to contribute towards the society positively. Even if Muslim parties come to power somewhere, they try to impose legal injunctions of Islam more vehemently than moral ones. The
Muslims are suffering from moral waywardness all over the world, the Muslim states are the most corrupt and least democratic. These shortcomings need to be remedied at first rather than going for Shariah imposition. Also the imposition of Shariah as prevalent in various Muslim countries does not solve the problem of poverty, environmental pollution, injustice, corruption and political instability.

Many among the audience strongly criticized me by stating that Shariah has all the solutions only the need is to get it imposed as soon as possible. They unlike Mir Sayyid Hamdani could not understand the essence of Tazkiya e Nafs. It is an apathy that wherever Islamist parties come to power they seek to impose legal injunctions of Shariah more vehemently especially in case of women and minorities, than the core values of Quran which include, Justice ('Adl), Compassion (Rahmah), Benevolence (Ihsan), Truth (Haq) and Wisdom (Hikmah). Instead they are more concerned about the lengths of Burqas of women and how to control their bodies. Also the laws of punishment are imposed as if Islamic Shariah is only about Hudud laws.

The claims of imposition of 'Shariah' in countries like Saudi Arabia and Iran did not take us near to the Islamic and Quranic model of social justice and non-discrimination. Instead we have the rule of elites, who justify their rule in the name of Islam. The laws are discriminatory towards women and minorities. While Islam and Quran debar any kind of discrimination in the name of religion and gender, but we find them evidently in case of women in Saudi Arabia and Bahais in Iran. The problem still lies with the indifference of Muslims towards Tazkiya e Nafs and their romanticism with Political Islam. History is a witness to the fact that Islam has survived without Power Politics and will continue to thrive in future too. The peaceful spread of Islam in various parts of the world by the Sufis is a testimony about the fact that Islam does not need political patronage for its spread.

Hence the need as has remained since time immemorial to produce the best human beings who are an epitome of human equalities of selflessness, dedication, pluralism, tolerance, justice, love and peace. Despite our material progress and technological advancement, the need retains and political ethics as deliberated by Mir Syed Ali Hamadani are going to fulfil those.
ARTICLE 5

Judging The Book By Its Cover

Shafiq Morton

THE famous English expression “don’t judge a book by its cover” is an oft-used adage that has become curled at the edges. Covered with greasy fingerprints and yellowed with age, I’m forced to use it because there are none better.

It implies, with little ambiguity, that the cover of a book may not be indicative of its contents – that something may not be what it appears to be, that the human personality may not always be the sum of its appearance.

On another level, the saying warns against prejudice: we should caution ourselves against judging the human condition purely through its outer shell. Behind a friendly smile there might lurk a back-stabbing enemy, behind jolly laughter there might just be great sadness.

But judging a book by its cover carries a further caveat: we cannot think that its inner issues are incomprehensible just because we might not be aware of them. What may be a mystery to us is painfully obvious to the one who has opened the book and experienced it. There is always someone wiser than us to teach us a lesson.

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And don’t think that we can ever reduce the contents of a book to its cover. The secrets of metaphor cannot be condensed into literal paraphrase, or be summarily discarded just because they might challenge the limitations of our own stunted thought.

In other words, the sacred cannot be shrunk to its husk like a cannibal’s head on a stick. Or, to put it into theological terms, we cannot reduce God. This is something that represents the biggest crisis of modern times, the inexplicable, Infinite Divine becoming the Reader’s Digest of our soul.

And hopefully without sounding like I’m ranting from a Friday pulpit, we have to admit that in Islam we’ve not been exempt from this affliction of reducing the Divine. Islam’s ‘puritans’ – so desirous of reducing the time-honoured customs of Islam to dust – have probably been the worst contemporary culprits of judging a book by its cover.

Their obnoxious culture of takfir – declaring unbelief on all those who disagree with them – is the worst possible manifestation of this narrow mindset, one that naively thinks that all covers must be the same, and that the cover is actually the whole book of Islam.

Those who arrogantly reduce God (and May Allah forgive us for saying this) to ‘an old man sitting in a wooden chair’ really need to examine the tragic import of their literalism.

My first real experience of this reductionism – Islam caricatured in ritual and physical appearance – occurred during the apartheid era over twenty years ago at Nairobi airport. Like so many South Africans at the time, I’d been stranded. As apartheid’s personae non grata we would be confined to the airport. A group of Muslims landed on their way to Jeddah, and as they were about to pray, I innocently joined their congregation. I’d been travelling on my own and longed for human company. But it was only after the salah that I realised I’d upset their sensitivities.

“He didn’t even have a topi or wear a kurtah!” hissed one of the bearded elders loudly enough for me to hear.

I had not been Muslim for long, and his words really stung me. What had a hat and an oriental coat have to do with prayer? Only much later did I realise my huge sin – that I hadn’t worn a fez or Pakistani clothing. Appearance, it seemed, was far more important than what was in my heart.

Another such instance was when an eminent Egyptian scholar (who will have to remain nameless) visited our South African shores, and was prevented from leading the prayer in Durban because he did not have a beard.

A literalist misunderstanding of the Sunnah (the Prophet’s noble way) had led to a belief that the length of a person’s beard determined their piety for leading the prayer. Suffice it to say that the scholar was totally flabbergasted. He wrote a scathing article about the gross ignorance of South African Muslims when he got home.
Of course, the Prophet Muhammad (SAW) had said “trim your moustaches and grow your beards” but the context – ignored by those only interested in the cover of the book – was that the Prophet (SAW) had wanted Muslims to look different from the Persians who had shaved their chins and grown their moustaches into whiskers.

Applying this principle, the Egyptian scholar came from a country where Copts, and even Jews, wore long beards. To look ‘different’ in his environment was to be clean-shaven.

Then there was the ‘ruhsah’ (the legal relief) of the beard not having to be obligatory in the legal sense. The underlying wisdom was that people such as the Chinese or Indonesians, many of whom could not grow beards, would not be excluded from Islam.

Then there have been the recent historical examples of Bosnian Muslims. When your neighbourhoods are being ethnically cleansed, the wisdom of wearing a mullah-type beard is definitely questionable.

Even in holy places, one encounters those who can only see their universe in extremely limited terms. Once at al-Aqsa, where my Muslim-ness is challenged at every prayer time, I had asked one of the waqf guards how he actually decided people were Muslim.

“Zabiba”, he said, pointing to his forehead where some Muslims (mostly Salafis and Wahhabis) display what the Arabs call a ‘raisin’ from making prostration of the prayer.

When I showed him that most of those people he was letting through the gates had clear foreheads, and that Islam – according to Prophetic Tradition – was a matter of the heart, all he could do was become irritated. Luckily, he chased me into the Sanctuary, and not out of it.

Another instance of this shallowness, the judging of a book by its cover, occurred to me in a well-known Arab country. In a twist to the usual scenario, a person watched me intently make my prayer. After I’d finished, he approached me and asked me whether I was Muslim.

Perhaps one of Islam’s finest examples of ritual perfection was Imam Shafi’i, whose memory always humbles me every time I take wudu, and wash my limbs for ceremonial prayer.

Regarded as one of history’s greatest jurists, he taught that the ritual prayer was a sacrosanct act. His postures were so precise, his demeanour so focused that people used to watch him pray in amazement.

A literalist’s dream, it was said that if one poured water on his back during the ruku’, the bowing of the prayer movement, it would not run off. But for the great Imam Shafi’i, a Gazan by birth, the perfection of his ritual was a mirror of his inner condition.

Or as Imam Ghazali would say in later centuries: ritual without an understanding of its inner meaning would be pointless, and deeds without knowledge would be meaningless.
Of course, the biggest danger of us reducing God is God reducing us. Parables of this are legend. One such instance that springs immediately to mind is something that happened in Cape Town to a friend of mine some years ago.

There was a 'street person’ in his middle-class (non-Muslim) neighbourhood who had distinctly annoying habits. Smelly, often drunk and sometimes downright rude, he would often bang on the man’s door demanding food or money.

“One cold night he made a racket on my step, and I rebuked him for his poor manners. He looked a little sorry after that, so I heated him some soup. When I gave it to him, something amazing happened...something I'll remember for the rest of my life,” he said.

“As the man stood by my door a different, sober voice came from inside him that said: ‘Alhamdulillah, Praise Be to Allah!'”

“I got such a fright that I nearly jumped out of my skin,” he said, “and from that day on I've learnt to never judge a book by its cover. That man, whoever he was, taught me through my own pride never to judge others for what might, or might not be, in their hearts just because of their appearance.”
IT is my view that two of the most over-worn words in the English vocabulary today are "democracy" and "jihad". Democracy has gained currency through the aspirations of people everywhere, whether it be my home country, South Africa, or Egypt after the “Arab Spring”.

Most of us understand the theoretical objectives of democracy – responsible government and basic civil liberties. Most of us understand too, that jihad has something to do with a struggle.

With its literal meaning “to exert oneself to one’s utmost” – and its primary application the self – the modern perception of jihad has, unfortunately, been coloured by its worst examples.

No sane jurist, for example, would ever condone self-immolation or the blowing-up of civilians as justifiable in terms of its precepts, as some extremists tend to do. The Prophet Muhammad (SAW) expressly taught that soundness of reason, moderation and mercy had to underlie human behaviour.

Those who dislike Islam struggle to comprehend this. They often accuse academics such as Tariq Ramadan – who has openly addressed the issue on various platforms – of talking with a forked tongue.

However, in recent months I have come to the conclusion that another over-worn word is “Shari’ah”. Also served today by its worst examples, the word “Shari’ah” sends a collective shudder down the spine of those commentators whose inborn prejudices make them see Muslims as savage and uncivilised.

Even those who proclaim humanism, which I define here as those who support human rights secularly, will express aversion to the idea of Islamic Sacred Law – whose English term, curiously, seems to intimidate far less than the Arabic one.

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Shafiq is a journalist and a radio broadcaster from Cape Town. He recently launched his new book entitled “Surfing Behind the Wall: My Palestinian Journey.”
As a journalist who covers Muslim affairs daily, my opinion – after thousands of interviews across the Islamic world – is that most of us do not understand what Shari’ah, let alone Islamic rule, really is.

But let’s give some context as to why Shari’ah has become a critical part of the Muslim debate. For those communities suffering in places such as the sub-Sahara, Asia or the Middle East, their understanding of the Shari’ah – via its most drastic form of Hadd (or punishment) – offers a quick fix.

This is because unstable societies bedevilled by the failure of leadership and social justice, and by grinding poverty, IMF economics, institutionalised corruption and hopelessness, clutch onto desperate straws.

It is here that the hard line ideologies find fertile ground, brandishing their AK47’s (the modern sword or alif) and their crude flags of Shari’ah (the cure-all codicil). When you are the underdog, these jihadists can be a seductive group of ideological vigilantes.

But the problem here is that their understanding of Islam is ritualistic, literalistic, reductionist and politically primitive, if not despotic.

For not only is classical scholarship spurned in this model, but also the four schools of Islamic legal thought that inform Sacred Law. Diversity, paradoxically the cornerstone of social unity, is not tolerated at all.

And significantly, the claim of this camp that jihad should be the sixth pillar of Islam sets an unheard of precedent in the faith. This is a precedent regarded as an abominable innovation by the overwhelming majority of Islamic scholars.

However, a lack of classical Islamic learning in the Islamic world (a problem too complex to discuss here) ensures that the extremists can operate unchallenged, and sometimes with disastrous, tragi-comic effect. This is why the Taliban could blow-up the Bamiyan Buddhas in Afghanistan, or Al-Shabab could ban the consumption of three-cornered samoosas in Somalia.

With basic Islamic knowledge in the street withered and stunted, the world around us is seen in simplistic terms – “them” and “us”. It is a stark contrast to the embracing and inclusive outlook of the great Caliphs such as ‘Umar the Great’ and ‘Suleiman the Magnificent’.

This “them” and “us” mind-set is a legacy of 20th century thinkers such as Sayyid Qutb, who – reacting to secular imperialism – divided society into the saved Muslims and the unsaved ignorant, non-Muslims.

This saw concepts like Dar ul-Islam (the domain of Islam) and the Dar ul-Harb (the domain of war) taking root. For those in this school, the Dar ul-Harb is emphatically the West.

For those who see justice in society exclusively as Shari’ah under Islamic rule, the shoe does not fit here. There are significant Muslim minorities living peacefully in the West with a proud full-house of constitutional rights, as in South Africa. It could be argued that these communities exist in a state of Dar ul-Shahadah, a place where their belief can be freely expressed.

In this case the Mardin fatwa of Ibn Taimiyah applies. He ruled that Muslim communities could live under peaceful, non-threatening non-Muslim governments.
Given the light of recent elections in the Arab world, the idea that justice can only exist in a Shari’ah-centric milieu needs further examination. Shari’ah ends up meaning different things to different people, especially in the highly-charged political arena.

Ibn Qayyim al-Jawziyyah, the 13th century Hanbali scholar, once stated that Shari’ah – based on Qur’an and the ways of the Prophet Muhammad (SAW) – had to be defined as a relief and a mercy to all people.

Imam al-Ghazali, the 12th century colossus, felt that Shari’ah – incandescent with Allah’s kindness preceding his anger – could only be effectively applied if it reflected compassion. This was something echoed by Salahuddin Ayyubi, the conqueror of Jerusalem in 1187.

The “Arab Spring” has already seen an Islamic, if not Shari’ah-centric ethos emerging through the ballot boxes. This is an inevitable consequence. The Arab world is, after all, predominantly Islamic. And if these new governments wish to define their future course in the light of Shari’ah, it will have to be in the context of a modern world.

Endemic social problems, the economy, jobs, the challenges of the military-industrial complex and rising expectations will loom like Mount Everest. Democracy, if it’s ultimately going to mean something, is a tough climb. This is a humbling lesson that we’ve learnt in South Africa.

In this respect I hope that the “Arab Spring” governments will embrace the idea that if Shari’ah is ever going to enjoy relevance, it will have to reflect even-handedness, mercy and empathy. It will have to be based solidly on the classical four legal schools of Islamic thought, and not the mediaeval whims of an obscurantist scholar.

Finally, I believe Shari’ah will not be able to stand on its own in a vacuum. It will need a solid, universal constitutional framework embracing all diverse citizens – Muslims and non-Muslims alike – based on the most common values dear to man such as freedom, equality and justice.
Energy is defined as the ability to do work. Work is the effort taken to produce or achieve something. In elementary physics we learn that work is described as the product of a force times the distance through which it acts. However, the calculation of work is based on the net force. Therefore if an object is pushed and friction also acts on the object, the conversion of kinetic energy are equal to the work done by the net force, which is friction subtracted from the push.

'Development' is the work done by humans to change his surroundings to suite his or her perceived needs, and sometimes to fulfil his greed. Thus, without energy we cannot have development. Just like the case with 'work', development is not necessarily directly proportional to the energy spent but more links with the net energy spent. So for example, the cost of a Malaysian eating a tropical fruit such as bananas is not the same as a person from Canada. This is because the work done to move the banana from warm Malaysia to cold Canada. However, the net effect is the same; both the Canadian and Malaysians are eating the same banana. This is something we must always keep in mind when we think about development.

The sources of energy can be many. Long time ago Moses met with the Pharaoh and asked for his people’s freedom. His people, the Israelites were slaves and they did all the hard work such as constructing the then ‘mega-projects’ of the government of the day. Thus the Pharaoh resisted the request of Moses. He resisted because if he lets the Israelites leave, his nation would be faced with an energy crisis. None of the local Egyptians wanted to do the work.

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Back in the ‘good’ old days, all ‘machines’ were powered by humans. During the time of the Pharaohs, when a block of stone had to be lifted, they used the ‘machine’ called a lever. However, the lever needs a person to push it to produce lift. Thus there were limits to how much energy one could produce to do work. The limits were the strength of the person(s) and the extent of leverage he can exploit with the help of the machine. Thus development had its limitations. The limitation was the human capacity to do work. However, today the situations have changed.

Before continuing, there are some key concepts that we have to understand even before we start talking about energy, be it energy production, energy conservation or even energy efficiency. This may seem trivial, but many of us seem to forget these basic concepts when we speak about this issue. They should be the foundational understanding that everyone should have. The first basic concept is the law of thermodynamics also called the law of conservation, which states that energy cannot be created or destroyed. They can only be changed in form. Thus when we eat food, our body changes the chemical energy present in our foods to many forms of energy such as the power to lift an object or to move from one place to another. We transfer our internal energy to the object in which our energy reacts. For example, the act of lifting creates kinetic energy which can then become potential energy within the object.

There are many forms of energy. Some examples are kinetic, potential, gravitational, thermal, sound, light, electromagnetic energy and many more. Often some forms of energy works against other form of energy. For example, if a rocket were to lift off from earth, the heat energy which is converted into kinetic energy (thrust) works against the gravitational energy of the Earth. These was of using energy is often very inefficient since we are using one form of energy to overcome another form. The way of using energy should be avoided or minimised when possible.

It is possible, in theory, to change any form of energy into another form with very good or even perfect efficiency except for thermal energy. This is due to the second law of thermodynamics called entropy. For example, fossil oil can be converted directly to electricity (such as fuel cell) with good efficiency. However, some of the thermal energy created in this conversion can no longer be used and is ‘lost’ into the Universe. So for a cycle of energy transformation, we should try to minimise the conversion into Thermal energy, i.e. to minimise the creation of thermal energy in the cycle. Thus in an efficient energy cycle, we should try to avoid combustion methods of energy conversion which results in lots of thermal energy being produced with much of it being lost when the thermal energy is converted to another form. However, this is the most used form of energy conversion by humans.

All energy forms are in constant flux, changing from one form to another. The Sun’s rays in the form of light are changed into chemical energy by the plants using chlorophyll. This chemical energy is either consumed by animals or they die and after many years of decomposition, are changed into fossil fuel (oil, coal or natural gas). The fuel is then burnt to produce heat and light energy. Therefore, when we barbeque our lamb chops, we are actually using power that was originally produced by the Sun millions of years ago and was stored on the Earth. Some Bedouins of the desert can use the sun directly to cook their meat or bread (e.g. by burying them in the hot desert sand). This is another key concept to understand when we think of energy. Energy which is not used immediately has to be stored in one way or the other. If it is not stored, it changes its form to something else which we cannot use. Our body also stores energy in the form of fat.

For manmade systems, storage of power is a very expensive process and is not efficient. Electrical power is stored using batteries or capacitors which are very expensive. Thus electricity produced in large amounts (like for a city) has to be used immediately. There are also ‘storage’ systems that can delay the conversion of energy into the form we want to use. For
example, when we build a Dam on a river, we can delay the conversion of the gravitational energy on the river into kinetic energy until we are ready to use it. These types of systems have a direct and immediate effect on the natural surroundings, most of the times negative because the backlog of water behind the dam.

With the advent of the industrial revolution, a machine powered by fossil fuel was invented. Fossil fuel is unique because it has the ability to do lots of work and comes in a compact form. In other words, a small volume of fuel has lost of energy stored in it. The natural process of fossil fuel production takes over millions of years which we use within minutes. It is pre-stored in its current form for our usage as and when we need it. For example, when we are ready to use the fuel in the car, we only need to start the energy transformation process in the car engine through a process called internal combustion. Fossil fuel is also easy to extract from the earth.

This makes fossil fuels a very popular source of energy and the usage of it as a source of energy has proliferated exponentially over the years although the production is very slow. It is also because of these factors, it is a non-renewable source. It has driven exponential economic development and also population growth in recent years. This is because we can do more work with less effort. More work means more development. For example, today, a plane with a load of tourists flying from California to visit the Pyramids of Egypt consumes as much energy as was used to build it!

Because of this sudden source of cheap and easy to use energy, our dependency on energy for survival and its ability to change our lives is very-very big.

One indicator of development developed called "the energy usage per capita" indicates the average consumption of energy per person in a country. The world average value toward the end of the last decade was 1.69 "tonnes of oil equivalent/capita". Qatar had the highest value of 24.35 followed by Bahrain (10.16), UAE (9.71), Kuwait (9.57) and Luxembourg (9.47). United States, what we assume to be a consumption society, has a value 7.84 (much lower than Qatar). Malaysia has a value of 2.29 and Eritrea a value of only 0.18. Some argue that this value is a better indicator of the standard of living in each country compared to other indicators such as the Gross domestic product (GDP) since energy usage is directly related to development. However, this energy usage per capita indicator also shows the dependency of each nation's need for power. Thus a country with a high value is vulnerable to energy price changes in the open market. It is in the best interest of each nation to keep this value low.

Another important indicator we should understand is the Energy Returned over Energy Invested ratio, (EROEI). It is defined as the ratio of the amount of usable energy produced from a particular energy resource to the amount of energy expended to obtain that energy resource (EROEI = Energy Returned/Energy Invested). It is a useful indicator to compare the economics of different sources of energy. An EROEI of more than 1 is an energy source (the higher the value, the better and often cheaper source it is) whilst an EROEI of less that 1 is an energy sink. Some of the examples are; oil and gas with an EROEI of 23.0 while coal being a little less than 30. Solar power (photovoltaics) can be anything from 1.7 to 10 depending on latitude, technology used etc. Nuclear power has an EROEI of only 4. No alternative energy has an EROEI as high, and is as 'net energy-dense' as oil. Thus based on the current technology available, there is no combination of any alternative energy production technology (solar, wave, wind, geothermal, nuclear) can equal the amount of net energy produced today by fossil fuel.

So it is in the interest of all nations to be less dependent on energy for their developmental plans. The over dependency on energy intensive industry could be problematic if energy prices increase, especially when fossil fuel as a long term, sustainable source of energy is uncertain. It is also in their interest not to rely on a single source to meet their energy needs. For example, the current fuel mix in Malaysia is 62.6% gas, 20.9% coal, 9.5% hydro and 7% from other forms
of fuel. Thus Malaysia is still relatively highly dependent on fossil fuel. In 2007, Malaysia consumed 514 thousand barrels of oil daily against a Malaysia's production of 755 thousand barrels per day. If some projections are correct, Malaysia would join the majority of nations in the world to become a net energy importer before the end of the decade.

Having covered some of the basics principles above, we can look at Malaysia and its current energy policy as a case study. To start, like the Egypt of the past, Malaysia has many foreign workers (but only working under slightly better conditions) in almost all sectors such as manufacturing, construction, plantation, agricultural, services and domestic help. They form almost 20 percent of Malaysia's workforce equivalent to about 2.3 million people. If the Malaysian government wants to reduce its dependency on its foreign workforce, which they do, then it has to do so by either getting Malaysians, or machines to replace the work done by the foreigners. If Malaysians were to replace the foreign workforce, then it is the responsibility of the Ministry of Human Resource, but if government wants the machine to do the work, it is the responsibility of the respective Ministry of that industry (e.g. Ministry of Plantation Industries and Commodities, for Palm Oil Plantation workers etc.).

How is the Malaysian Ministry of Green Technology, Energy and Water related to the Ministry of Human resource? Machines have the ability to replace human labour and machines require energy. Energy needed has to be accounted for in future projections. Therein is the first and fundamental problem in developing a comprehensive policy of any kind in Malaysia - the fragmentation of decision making and responsibility within government. Then there is also the problem of the loss of livelihood for peoples of the world (be it Malaysian and non-Malaysian). This is one of the problems of the nation state which we will not discuss here.

We shall now explore the Malaysian Energy policy (which is typical of most nations) can be divided into 3 main thrusts which are;

1) To ensure the adequate and cost-effective energy supplies from both renewable and non-renewable. However, we know as stated above, there is no such thing as a cost effective energy supply outside fossil fuel (see EROEI), so although cost effective is a nice thing to have, it is not that easy to do, except by reducing internal demand. Recently there has been suggestion of ‘going nuclear’. This option although many argue is cost effective; one should also consider the real cost. For example, some of the consideration that has to be taken into account includes the cost of retraining Malaysia’s emergency and health services for potential nuclear accidents. Malaysia’s neighbours would also be very nervous with such options. Furthermore, a nuclear plant needs a culture of maintenance for which Malaysia is certainly not ready for. There are also people who argue, based on the concept of conservation, for Malaysia to stop exploring new fossil fuel sites. This is in order for Malaysia to keep some of its oil untapped for future usage when the cost of energy becomes very high throughout the world. This is something never explored in oil producing nations such as Malaysia.

2) To promote the efficient utilization of energy whilst discouraging wasteful & non-productive patterns of energy consumption. This is relatively easy to accomplish but only in theory since there is this nuisance called ‘political will’ that always gets in the way. One example contradiction in this thrust is when the government tries to encourage the construction of the ‘energy hungry’ Aluminium smelting plant in the state of Sarawak to justify the over production of energy in the colossal Bakun dam project located nearby. Another example is that in 2009, there were 8.5 million registered cars in Malaysia. That means that there is 1 car for every 3 persons living in Malaysia. More than a third of Malaysia’s energy usage is for transport. However, Malaysian government has also produced the National Automobile Policy which does nothing to help reduce the usage of private car, but to do the opposite with no clear policy of public transport system being improved. The energy policy tries to reduce the number of
private car in the road whilst the National Automobile Policy tries to stimulate the opposite by helping car manufacturers.

(3) To minimize negative impacts of energy production, transportation, conversion, utilization and consumption on the environment. This is probably the most difficult thrust of the policy for the government to implement. This is because of too many vested interests that will lobby otherwise. For example, it will be difficult to force the national car manufacturers to produce car which are more efficient in fuel usage since they are protected under the national car policy. Although the government has announce various grants for Green Energy, one still waits to observe how it will be implemented and if so, how effectively it would be implemented. The proposed subsidised energy production from renewable sources (e.g. increase electricity buy-back tariffs) will have to be implemented carefully since the government has to justify why it is subsidising one type of fuel whilst removing subsidy for another.

To conclude, modern societies all around the world have continued heavy reliance on fossil fuels. We have depleted this resource at an alarming rate. The physical limits of the Earth to meet our demand for cheap energy are under threat. There has to be a time when the demand side and supply side of energy curve meet, and when that happens, we would be faced with a humanitarian crisis unprecedented in human history. This is because so much of our modern living is dependent on cheap energy. We grow our food with cheap energy. We get our food and water sent to our homes with cheap energy. We travel the world with cheap energy. We have to look towards a time when energy will no longer be cheap. And so, an accurate accounting of all nations’ energy dependency is urgently needed before developing public policies for the sustainable development of our future. When this has been done, a comprehensive and holistic policy should be developed along with a ‘policy-of-policy’ document, a document that strings together all policies already present. Then depending on our priorities as a society, we should maintain, modify and/or drop the many-many policies we have. The next question is - What are our priorities?
**INFLECTION 9**

Inflection is a section in Constellations where we engage in self-criticism. We believe that the first step in improving ourselves is by accepting our own faults instead of just blaming others for all our problems. In this edition, we reflect on the story of being judgmental and argumentative. If you would like to share your own experiences in future editions of this section, please write to us.

‘You Wanna Fight?’

Moses (PBUH) had just saved his people from a tyrant, the Pharaoh. He was leading them. He was confident with their faith. He was confident with his people’s loyalty to his leadership for he had just ‘defeated’ the most powerful man on Earth and freed his people from a life of servitude. So Moses was happy and left his people and walk ahead of them to ‘meet’ with Allah to say he had completed the task given to him. He left his brother, Aaron (PBUH) in charge. After all Aaron was a Prophet as well; surely he could handle this job for the short period he would be away.

Quran - 20: 83. (When Moses was up on the Mount, Allah said:) "What made thee hasten in advance of thy people, O Moses?" 84. He replied: "Behold, they are close on my footsteps: I hastened to thee, O my Lord, to please thee."

But, Alas! Moses was over confident. This is mistake we all make, all the time. But Allah had bad news for him.

20: 85. ((Allah)) said: "We have tested thy people in thy absence: the Samiri has led them astray."

So Moses was not happy.

20: 86. So Moses returned to his people in a state of indignation and sorrow. He said: "O my people! did not your Lord make a handsome promise to you? Did then the promise seem to you long (in coming)? Or did ye desire that Wrath should descend from your Lord on you, and so ye broke your promise to me?"

So the beginning of the act of idolizing is when they broke their promises made, i.e. they were not trustworthy people. The people of Israel in their hurry to get out of Egypt, had taken everything they could get their hands on – mostly valuable metal items, things like Gold (always a good thing to have). They had lots of them. It was very heavy. But how did a nation of slaves become so rich? Well, they actually stole it. Surely they felt guilty.

20: 87. They said: "We broke not the promise to thee, as far as lay in our power: but we were made to carry the weight of the ornaments of the (whole) people, and we threw them (into the fire), and that was what the Samiri suggested. 88. "Then he brought out (of the fire) before the (people) the image of a calf: It seemed to low: so they said: This is your god, and the god of Moses, but (Moses) has forgotten!"

They try to justify that they did not break the promise although they did. They also tried to justify their ill-gotten gains (stolen gold) by turning it into something eke and calling it Godly (some may say like ‘Islamic Banking’ today). They also do not want to take any
responsibility for their action by blaming someone else like most Muslims today too. All these are acts of Idol worship. Idol worship is giving power to that which does not have any power of its own. So if you blame others for your own fault, it is a type of Idol worship.

The Quran now continues, which one could take to be the definition of an Idol.

20:89. Could they not see that it could not return them a word (for answer), and that it had no power either to harm them or to do them good?

This is important for Muslims today for we have become experts of getting rid of Idols but keeping the act of Idolizing very much alive. The late Syed Hussein Alatas once said that “Shirk is the act of putting something in the wrong place” aka it is like forcing something into the wrong place in a large jigsaw puzzle when it does not fit.

So Moses is still not happy. He started taking it out on his brother, poor Aaron.

20:90. Aaron had already, before this said to them: “O my people! ye are being tested in this: for verily your Lord is ((Allah)) Most Gracious; so follow me and obey my command.” 91. They had said: “We will not abandon this cult, but we will devote ourselves to it until Moses returns to us.” 92. (Moses) said: “O Aaron! what kept thee back, when thou sawest them going wrong, 93. “From following me? Didst thou then disobey my order?” 94. (Aaron) replied: “O son of my mother! Seize (me) not by my beard nor by (the hair of) my head! Truly I feared lest thou shouldst say, ‘Thou has caused a division among the children of Israel, and thou didst not respect my word!’”

Here is something most interesting. Idol worship, most Muslims claim to be the biggest sin - the biggest of all sins. And yet Aaron, a prophet in his own right said he did not want be forceful to stop it for fear of it causing division. This Muslims simply have forgotten completely. We fight for the smallest of things, size of beard, length of trousers, etc. you name it, even if we do not have any reason to fight, we find ways to create an issue and fight. Moses accepted Aaron arguments and now turns to Samiri the instigator of the whole thing. Moses did not say to Aaron he did wrong.
SPECIAL IMASE REFLECTION 15

 Choices in Life

“Knowledge is best transmitted through rational means, speaking directly to the mind, but wisdom strikes to the heart when it is carried in a tale” - Daniel Goleman

Adam was born to a humble but proud family in rural Ecuador. His father was a farmer, and so was his father's father, and even his father's grandfather. As a child he used to see his father leave for the fields at the break of dawn. His mother used to prepare breakfast for the family and his father normally eats his breakfast hastily, and after giving Adam his morning kiss and hug, leaves for work. Adam used to watch his father walk towards the morning sun until he disappears into the green fields filled with spring flowers.

Adam is then dragged back into the house by his dear mother, washed and clothed to be ready for school. “Education is the key to success”, his father always tells Adam, and Adam who was so much in love with his dear old dad that he believed in his dad more than he did in education. Alas, as such, he did believe education is the key to success simply because his father said so.

As his mother used to prepare his breakfast, Adam took a simple old comb and used it to brush his thick black hair. His mother used to prepare the most nourishing and wholesome breakfast. Ahh! it was so simple yet so delicious, especially when he ate it out of his mother’s tender and beautiful hands. And so, he used to leave for school after giving his mother a kiss and began his long yet wonderful walk to school. He used to walk along beautiful fields watching farmers plough their lands. Truly this was one of the high points of his day. On the way to school, he always stopped at his friend’s and classmate's house, Antonio, and then, they walked together to school.

Adam and Antonio were the best of friends. They used to do everything together, especially playing their favourite game, football. Adam was the best defender in the district, and Antonio, was the best striker. However they normally ended up in the opposing team, and thus played against each other. For them, it was like they were playing against each other. It was as if their team mates did not exist. Adam and Antonio always had, as they said, a healthy competitive spirit.

The years passed, Adam and Antonio became more than the best of friends. Once they pricked their fingers until blood oozed out of their fingers and then touched each others, finger to finger. On that day onwards, they made a pact that they were now blood brothers never to be separated by anyone or anything.

It was the twenty first birthday of Adam and his dad, being so proud of his son, had a small party to celebrate his only child's important day. Many came for the party, but Adam was so pleased to see Antonio present. As the day progressed, Adam and Antonio sneaked out of the party to a lake situated nearby. As they lay close to the lake watching the full moon, Adam said “Antonio, I am finally an adult and it is time for me to decide what I want to do with my life, it is time for me to make a choice.” Antonio being rather confused asked for further clarification. Adam replied, “I am thinking of moving to the
city, I want to be successful, I want to be rich, and I want to see the world." Adam then asked Antonio to follow him, to leave the place they had grown to love.

Alas Antonio replied that he could not just leave since he had two other younger sisters. Antonio also added, "My father has a debt to pay off, the money he borrowed from the middle man when our crops failed last year", "I cannot leave my family, Adam, as they need me to work in the farm since my father is also sick and is not as strong as he used to be."

Adam spent the whole of the following day trying to convince his best friend, his blood brother to follow him, but it did not work. So, Adam decided to leave to the city on his own. Finally the day came when Adam had to leave. Antonio followed him to the train station, and as the train arrived, he witnessed his best friend get into the train as he waived to his family. The train started to move, the friends' eyes met and they just watched each other as the train, having no emotion of its own chugged on, separating the friends, not a single drop of tear that was swelling in both the friends' eyes seemed to have an effect on the train as it continued its journey to the city.

The train journey took five days, traversing the steepest of mountains and going through the longest of tunnels. But it finally did arrive in the city. As Adam stepped out of the train he was first struck by the noises that seemed to engulf him, coming from every direction. It was almost deafening and it did not seem to stop. Adam then headed to the bus station to make his way towards his father's friend's house, situated on the outskirts of the city. As he walked to the bus station, he noticed the faces of the city folks; it seemed like their faces were hassled, stressed and in a hurry. "Why are these people in such a hurry?", Adam thought to himself.

After a long journey on the bus, he finally arrived at the locale he was to stay. Again, he was stunned by what he was seeing around him. He noticed houses in shambles. The stenches of rotting garbage first caught his attention. He then noticed the dreadful condition of the houses, all situated along a reclining slope. "Why would anyone want to stay in a place like this?", Adam wondered to himself.

He then arrived at the house which was to be his first home in the city, which seemed like some wooden planks held together by some rusty nails. He then knocked on the door softly as one would knock a room in a hospital. He was greeted by an old man who seemed irritated, shouting "we do not need anything!". When Adam explained his identity, the house owner, Claudio, was happy and invited the young lad in. Claudio asked his wife to prepare dinner and they sat and chatted for hours. Claudio was Adam's dad's childhood friend, and they grew up together. At a young age, Cludio apparently decided to leave his village in search of a better life and moved to the city. After dinner, Adam was shown to an area at the rear of the house and a place for him to sleep. He had to share the floor with Claudio's two other sons.

The next day, Adam went in search of work in the city. As he was leaving, he felt that it was to be his lucky day. After searching high and low, he found a vacancy notice on a placard outside a coffee trader's office. Since he had been a coffee farmer all his life and that he had done well in school, he went in to meet the manager, a large burly character named Jose. Jose was immediately impressed with Adam and gave him a job as an
assistant trader. He was to be in charge of exporting coffee to the Middle East, a region where coffee is consumed by many almost all people.

As the years passed, Adam became very good at what he did. Adam was always a very hardworking and diligent lad. He seemed to be able to buy the harvest for the best prices from the farmers and sell it at good prices. He moved up the ladder very fast and within ten years he was the general manager. Adam had moved to a more upmarket neighbourhood in the city. He had bought himself a nice car and his boss was so pleased with his ability and honourable character that he married his only daughter to him. Back home, he was the talk of the village, the young man who had made it big. He was sending lots of money home and his now old and frail mum was living a rather comfortable life. However his father had died some years back, but he always remembered his father’s last advice to him “Son”, he said on his dead bed, “Always remember where you came from”. “My dear son, never eat from other people’s pain and difficulty, be fair and just in all your dealings.”

Antonio, on the other hand, was not so ‘lucky’. He was unable to pay off his father’s debt and had to sell off his farm when his father had died. As he sold his ancestral land, he remembered thinking to himself, “One day I will buy back this land”. The farm was bought by a big multinational company which were selling coffee to corporations in big cities like London and New York. Antonio who once owned the farm was now working for someone else in what was once ‘his’ land. “Ahh! The poor only own their flesh wrapped around their frail bones, but alas even that, when they die, are buried and become part of the land which is owned by someone else”, Antonio remembered thinking to himself.

Then one day, his pregnant wife became very sick and he did not have enough money to buy her any medicine. Antonio realised that it was close to the time for his first child to be born. Antonio was a proud man and did not want to go begging to anyone for help. Then he remembered of a traditional midwife in the next village who could help his wife, who was rather inexpensive and a capable woman. Thus, he travelled to the village. As he arrived, he enquired about the midwife. The locals told him that the village now had a government clinic funded by some large aid agency and no longer had a need for a midwife. However, as he had imagined, the clinic was not free and was still rather expensive for a poor farmer like him. Nevertheless, since he did not have a choice he returned home and took his wife to the clinic. Despite this, his wife’s condition only got worst. The clinic was ill-equipped and was not all that clean. Her situation only deteriorated until one day she died in Antonio’s hand with his unborn child. In many ways, he was happy that his wife and child did not have to suffer anymore. Nonetheless, after his wife’s death, his life seemed unbearable. He could not continue to live in his village, and left the land he had once grown to love, walking into the sunset not ever looking back once.

Adam, on the other hand, was having, as many would define, ‘the good life’. He had become a respected businessman. He helped bring in millions of dollars in foreign investments to the nation. Business seemed to be looking very good. However, something was not right in his mind for no matter how rich Adam had become, he had no control over the world market. Then, one day, the price of coffee dropped to a value below the cost of production and it stayed that way for a long time. Adam now had a choice, either
he forced the farmers to sell at the new market value or he continued to pay them a more just price. This was a choice that was too difficult to make especially since he had convinced many vegetable farmers to grow coffee due to its apparent profitability at one time. One day as he was considering his options, he fell asleep and in his dream, he remembered his father's last advice to him.

The next day, Adam decided to go to work as usual and continued to pay the farmers their due, the price that he deemed fair. As time passed, his company, which he was actually administering on behalf of his father-in-law, Jose, suffered major losses. Jose was not happy and advised him not to continue his way of doing business. Adam refused to listen and Jose then fired him. Things were no longer looking as good as it had been only months before. At home, his wife was furious with Adam's attitude in business and they fought almost every day. Then one day, his wife, whom he loved, divorced him. Adam saw his entire life disintegrating before his very own eyes. He had lost everything he had worked for since moving to the city.

After sometime, Adam decided that he should move back to his village, for at least there, he owned a small piece of land which he inherited, which was once proudly owned by his dear father. As he embarked on the train leaving the city, he bid it farewell, and he had no regrets leaving that place, for indeed, his entire life in the city seemed to have little meaning. “Goodbye you big city”, he said, “I hope someday you will find your soul, for indeed today, I have found mine.”

Finally, after a journey that seemed to take forever, Adam arrived home, greeted by his mother. He spent many hours then just lying on his mother's lap, his final place of refuge from the world when he was a child, growing up in an ever changing world. The days passed and Adam remembered his old friend Antonio and he was thinking that he should visit his old blood brother, his only other living 'relative'. He made his way to his friend's home and he remembered when he was young when he used to walk to school. However this time, he was greeted by miles of crops being harvested by loud noisy machines spewing dark clouds of smoke into the sky. Truly, this was a menacing site.

As he reached the place where his old friend's home was situated, he did not find his friend's home but instead a large factory, it seemed to be processing coffee at an expeditious pace. He inquired with some people there of his friend's whereabouts. They told him that his friend had moved away to the mountains and lived there in total solitude. Adam was totally vexed and made his way to the mountain as he wanted to see his friend whom he had so loved many years ago, but had also forgotten due to his past so-called busy life.

As Adam almost reached the base of the mountain, he remembered a waterfall where he used to play with Antonio when they were teenagers. So, Adam started his journey towards the river passing through thick vegetation. As he reached the river, he noticed that the river had remained as he remembered as a young person. It was still pristine and clear; the sound of water hitting the solid rock was so restful to his heart and soul. Adam decided to just lay back and listen to this wonderful music of nature. As time passed he noticed some birds, chirping as they flew past. What started as simple music then turn into a symphony, filling his heart with tranquility.
Hours passed which seemed like minutes. He then noticed a man drinking water downstream. He seemed like a rather old and gawky man with a large beard. Looking closer, he noticed that it looked like Antonio, alas, it was Antonio. Adam shouted as loud as he could, calling his name. Antonio immediately noticed Adam, recognising him like he recognised his own face and began running towards Adam, and when they finally reached close to each other, they hugged closely not wanting to let go for what seemed to be hours. 

After many hours of catching up on lost time, they sat down next to the river and began a lengthy discussion. They remembered how once when they were young, both of them were full of aspiration and hope. "What went wrong?", Antonio sighed. Adam quickly interjected and said "My dear friend, we all have choices, you made yours and I made mine, you could have been rich like me, but you choose to stay behind, and that is your choice and now you face the consequence of your own choice."

Antonio quickly interrupted saying that he did not have any choices. "The poor have no or little choices, they either have to carry on working or die of starvation." "We cannot just leave our families behind, especially when we are imprisoned to debt caused not by any faults of our own." Antonio continued saying the poor farmers had little choice over market or the price of their crops. He said he still did not understand how there were people out there who could justify buying something for such an unjust price. "My dear Adam, don't those folks out there know that what they drink is not coffee but our blood?" "Don't they feel any emotions?", "Don't they know the price others pay for their cheap morning fix?", "I remember once, the time of harvesting was a time of happiness and festivities, but now it is only a time of sadness and pain, for after reaping the result of our sweat and blood, we have to pay off all our debts, after which, we do not have anything left to eat and we have to borrow again."

Adam, rather sad hearing this, said "My dear Antonio, my father was also a farmer once, I remember he never had to take any debt, why did you have to position yourself in debt, that was your choice was it not?" Antonio continued and held on to his previous argument saying the Adam's father lived when the price of coffee was sustainable for a simple person, with a single child. However Antonio had two other sisters, and he was duped by a company that he could increase his production with the use of chemical fertilizers. However they 'forgot' to tell him that this fertilizer would kill the land, making it forever dependant on this rather vulgar substance. "The worms was once considered the jewels of the land", Antonio continued, "But now even they seem to have lost their rights to the land, the same land that sustained our ancestors, for it seems that the fertilizer has taken over their job – killing the land." "Now the land is nothing but a lifeless being, nothing but a factory that mass produces food, for a people who have no respect for what they eat."

Antonio then informed Adam of the prices of fertilizer, which was now needed to 'give' life to the land, was also very unjust, costing too much for the farmers to able to sustain. Adam then said, "Antonio, this is still your choice, you could have left, didn't I tell you to follow me when I left for the city?", "You could have left with me, and your life would have been much better, depending more on your own hard work." Antonio unrelentingly said, "I did not have a choice, I had responsibilities to stay back, besides why should I have to go to the city?" Antonio argued, "Why do I have to leave what I do best, what I enjoy doing?"
What my ancestors were doing for hundreds of years? Surely this is not a choice. All I ask is a fair price for my work."

Adam cynically argued that Antonio was not ‘living’ in the real world but an idealised one. His opinion was that for one to be successful, one would need to know how the world works and make the necessary changes in order to adapt to a fast changing world. "Antonio, because of your so-called responsibility, you now have nothing left to be responsible for, only this forest is left, which may not last much longer in an ever expanding civilised world", Adam added. "So, what do you have?" Antonio just kept still, gazing into the beautiful late evening sky and said "Well at least I still have you as a friend, a brother." Adam just smiled and they continued gazing into the night sky.

And so the story is closed here but does not end here. Who is right and who is wrong? Will the world change for the better? Do we change the world or does the world change us? What is better and what is worst? How do we define a better life? Humans seem to be moving ahead without even stopping for a minute to think of the consequences of our action. Should we not ask these and other important questions before just moving ahead, only being driven by dead emotions and the so-called market? Who invented this beast anyway? Can anyone control it or should we just learn to manipulate it to our ‘advantage’, whatever that is? What is the relation of money to this beast, or is it just relation in order for the beast to survive? However, one thing is for sure, the world of the humans is not impartial.
Power, Responsibility & Wisdom: Exploring the issues at the core of Ethical Decision-Making and Leadership

Dr Bruce Lloyd

Introduction

The objective is simple: ‘Better decision-making’. The only issue is that there are so many different views over what we mean by ‘better’. At the core of all decision-making is the need to balance power with responsibility, as the vehicle for resolving the ‘better’ question. This article explains why that is so difficult, it also argues that exploring the concept of wisdom can provide invaluable insights into how to achieve the most effective balance between power and responsibility. This is central to what our values mean in practice, as well as to how we incorporate ethics into our decision-making.

Wise decision-making also, inevitably, involves moral / ethical choices and this occurs every time we take a decision. Hence it is not surprising that we find comments we might define as wisdom to be essentially comments about the relationship between people, or their relationship with society and the universe as a whole. These statements are generally globally recognised as relatively timeless and they are insights that help us provide meaning to the world about us. Yet this often seems to be almost totally ignored in Futurist, Strategy, Knowledge Management, and even Ethical literatures. We also appear to spend more and more time focused on learning knowledge, or facts, that have a relatively short shelf life, and less and less time on knowledge that overlaps with wisdom, that has a long shelf life. Why is this, and what can we do about it?

Power and Responsibility

Western sociological and management/leadership literature is full of references to power. How to get it, how to keep it and how to prevent it being taken away. In parallel, but rarely in the same studies, there is also an enormous amount of literature on the concept of responsibility.

While power is the ability to make things happen, responsibility is driven by the question: ‘In whose interest is the power being used?’ The two concepts of power and responsibility are simply different sides of the same coin; they are the ying and yang of our behaviour; they are how we balance our relations with ourselves with the interests of others, which is at the core of what we mean by our values. Power makes things happen, but it is the exercise of an appropriate balance between power and responsibility that helps ensure as many ‘good’ things happen as possible.

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This critical relationship between power and responsibility is reinforced by examining how these two concepts interact in practice, through a variety of different management dimensions.

First, it is useful to visualise a two-by-two Boston box (see Figure 1 below) with power along the horizontal axis, and responsibility along the vertical. In the bottom left square, where there is a strong power-driven (+) culture combined with little sense of responsibility (-), there is a high probability of megalomaniac or dictatorial behaviour. The complementary square combining a high degree of Responsibility (+) with little power (-) is a classic recipe for stress. In fact, this is a major cause of relatively unaddressed individual, organizational and societal stress, reinforced by many empowerment programmes, that are more concerned with giving individuals more responsibility than giving them more real authority (i.e.: power).

The bottom right square has low levels of both power (-) and responsibility (-) and produces the net result of ‘drop-outs’, whether individual, organisational or societal. This category is often viewed as an attractive option when considered relative to the alternative of stress, which is all too often associated with situations where the feeling of impotence is associated with the feeling of responsibility. The ideal is to work towards the final square on the top left, where there is an appropriate balance between power and responsibility (+/+). Although this compartmentalisation is an inevitable simplification, it does show how the underlying pattern of power <-> responsibility relationships influence individual behaviour, which is particularly critical in areas related to ethical decision making.

![Figure 1 – Boston diagram of Power and Responsibility](image-url)
This basic relationship between Power and Responsibility is confirmed from experience in several other organisation/societal dimensions, of which four are outlined below.

1. Organisational culture can be considered to encourage the sharing of information, or work as a ‘knowledge/information is power’ culture. Almost all management techniques; Total Quality Management, Learning Organisations, and Knowledge Management, to name but three, are based on the assumption of a sharing knowledge culture. These techniques are unlikely to be effective within a ‘knowledge is power’ culture. Teams, and virtually all other management techniques, flourish best under a responsibility-driven culture. In addition, as we move further into a knowledge economy, the effective sharing of information/knowledge will become even more critical for all our decision-making whether as individuals, within organisations, or for society as a whole.

2. It is often argued that people oppose change, when the underlying problem is, in fact, that there is a difference of opinion on how to define progress - or what we mean by ‘better’. In a culture where those affected by change are either in control, or they trust those driving the change, there is usually general agreement on how progress is defined, and there is little opposition to any change initiatives. The greater the trust levels, the easier it will be to undertake change, simply because there is general agreement that the change will be equated with progress. Despite all the talk of the need for change in many situations, what is really required is the need for greater emphasis on the concept of progress. Unfortunately, it is very rarely the case that all change can be equated with progress. This difference between change and progress is at the heart of most organisational difficulties in this area, partly because the vast majority of change is still top-down driven, and this is, unfortunately, combined with the widespread existence of a power-driven culture, which has fostered a breakdown in trust in far too many situations.

3. Another important dimension of the power-responsibility relationship arises in many organisations where they experience the damaging effects of bullying, corruption, as well as sexism and racism. These problem behaviours are, essentially, in the vast majority of cases, essentially little more than abuses of power. If individuals took a more responsibility-driven ‘others focused’ approach to their personal relationships, there would be an enormous reduction in these harmful anti-social behaviours.

4. The issues considered above are also reflected in the language we use to discuss them. Phrases, such as ‘Corridors of Power’, ‘Power Struggles’, even ‘Lusting after Power’, are widely used, but would not attitudes and behaviours be different if the language used was more focused on using phrases such as ‘Corridors of Responsibility’. Why do we never hear about ‘Responsibility Struggles’? There are very few, if any, examples of people being accused of ‘Lusting after Responsibility’. Why not? If Power
and Responsibility are two sides of the same coin, should not the words Power and Responsibility be virtually interchangeable?

The greater the level of a responsibility-driven decision-making culture, the more effective and sustainable will be the consequences of that process; and the less regulation will be required to manage the inter-relationship between the various stakeholders. In contrast, more and more regulations will be needed in an attempt to regulate power-driven cultures, where those regulations are designed, in theory, as an attempt to make the decision-making processes more accountable, and so encourage more responsible behaviour. If we all behaved more responsibly in our relationship with each other, there would be much less pressure for more and more regulation and legislation.

**Rights and Responsibilities**

In addition, it can be argued that it was a pity that there has been such an emphasis on ‘Rights’ during the twentieth century (The UN Universal Declaration of Human Rights, the European Declaration of Human Rights, etc.), rather than emphasising a combination of rights with responsibilities. In almost all current ethical debates (as well as legal and other regulatory structures), the ultimate objective is to try to achieve the appropriate balance of rights and responsibilities. If individuals behaved more responsibly and ethically towards each other, it would be much more likely that the net result would be a higher standard of ethical decision making overall. This is a classic case where the outcome and process are closely inter-linked.

In the context of the above comments, it is worth mentioning that probably 90% of violent behaviour arises because there is an imbalance, or discontinuity, between power (self-focused), and our sense of responsibility (others-focused), which leads to a breakdown in the ability to communicate effectively between those involved. This breakdown becomes even more acute, and problematic, if it is combined with an inability to undertake a constructive dialogue in the first place.

Leadership is nothing more than the ‘well informed, responsible, use of power’. The more that leadership related decisions are responsibility-drive, the more they are genuinely concerned with the wider interest. Not only will these decisions be better informed, but the results of them are much more likely to genuinely reflect the long term interests of all concerned. This is also a sound foundation for improving the decision’s ethical quality.

**Wisdom**
In essence, the above leadership definition is exactly what could also be called 'Wise Leadership'. In this context the concepts of leader, leading and leadership are used interchangeably, although it could be argued that leaders are individuals (including their intentions, beliefs, assumptions, etc.), while leading is the leader's actions in relation to others, and leadership is the whole system of individual and social relationships that results in efforts to create change/progress. The above definition can also be used to cover the integrated inter-relationship of these three dimensions.

There is an enormous amount of literature that explores wisdom, which can provide useful insights into what works and what does not. However, partly because, for various reasons, the word wisdom has been widely misused and misunderstood, it might be useful to explain how I got involved in exploring this generally neglected dimension of thinking about how people, organisations and society work well in practice.

My background is science, with engineering and business degrees, and a career in industry and finance that ended up with my writing and lecturing on strategy. I consider strategy to be about ‘understanding what makes organisations, people and societies work’, and what helps them work ‘better’, whilst recognising that ‘better’ is a value-driven word. In other words, I have a very practical approach to these issues.

It is worth emphasising that I did not have a classical education and, perhaps I should also mention that in this journey and discussion, I have no religious agenda.

Reflecting on these earlier experiences led to exploration of the questions of, what we mean by wisdom, and why it is an important subject for organisations and society. This interest arose particularly from two directions. First my interest in strategy in the early 1990s was very influenced by the widespread discovery (or more strictly re-discovery) of the importance of Organisational Learning. This is largely thanks to the work of Peter Senge and his book *The Fifth Discipline* and reflected in two relevant wise quotes:

‘Effective learning is the only sustainable competitive advantage.’

And,

‘Only if the rate of learning is greater than the amount of change are we likely to find change equated with progress.’

The net result of this emphasis on learning naturally leads to the question, what is it important to learn? Trying to answer this question partly led to the massive growth of the Knowledge Management industry. I was brought up on the Data/Information/Knowledge pyramid, which put wisdom at the top. Yet most Knowledge Management books, with a few notable exceptions, do not discuss the role and importance of wisdom.

The second direction of interest arose in the late 1990s, when I was involved in a number of ‘Futures’ related activities in the run up to the Millennium. In fact, the recent
move into the new Millennium was probably the most focused point in human history for exploring these questions. In these discussions there was an enormous emphasis on technology. But I found that almost nobody had looked at what had we really learned over the past two or three thousand years that was really important to pass onto the next generation – wisdom. This lead to a project for the World Future Society, ‘Messages for the New Millennium’ - http://wfs.org.

Wisdom is something everybody seems to talk about. We all appear to want more of it, yet few people appear to reflect on what it really is, especially in management and leadership literature. There is little consideration of how we might learn wisdom more effectively. An over-riding objective of these brief comments is simply to state that it would be very useful for us to try to rehabilitate the concept of wisdom.

**Wisdom: Definition**

But what do we really mean by wisdom?

According to the Wikipedia (5/8/05) entry for wisdom:

“Wisdom is often meant as the ability and desire to make choices that can gain approval in a long-term examination by many people. In this sense, to label a choice ‘wise’ implies that the action or inaction was strategically correct when judged by widely-held values ….

... Insights and acts that many people agree are wise tend to:

- arise from a viewpoint compatible with many ethical systems,
- serve life, public goods or other impersonal values, not narrow self-interest
- be grounded in but not limited by past experience or history and yet anticipate future likely consequences
- be informed by multiple forms of intelligence – reason, intuition, heart, spirit, etc.”

More briefly wisdom can be considered as: ‘Making the best use of knowledge ... by exercising good judgement’ .... ‘the capacity to realise what is of value in life for oneself and others’ .... or as, ‘the end point of a process that encompasses the idea of making sound judgements in the face of uncertainty.’

Of course, wisdom is one thing, ‘being wise’ is quite another. Being wise is certainly more than the ability to recycle wisdom. It involves the ability to apply wisdom effectively in practice.

**Wisdom Statements**
Wisdom statements are those that appear to be useful in helping us all make the world a better place in the future. They are not absolute statements; they are simply statements that reflect our understanding of behaviour patterns that appear to work in a positive, sustainable, direction. But a statement of wisdom is only useful if it also checks out with our own experience.

Of course, that relatively simple objective is not quite as easy as it sounds, for at least two reasons:

Firstly, the word 'better' inevitably means that we are involved in considering the whole subject of values. A critical part of the content of any wisdom statement is the extent to which it incorporates judgments about values. In fact that is a critical part of the definition of what we mean by wisdom. That does not mean that all statements that reflect values can be defined as wisdom; the extra dimensions required are that they are widely accepted and have 'stood the test of time'. In addition, while all wisdom is reliable, useful, information, not all reliable information can be considered as wisdom; they are insights into values, people and relationships that work. They are not simply technical statements that have no human or relationship dimension.

Secondly, it is important to recognise that trying to 'make the world a better place for us all' can easily run into potential areas of conflict. For example, making things 'better' for some people can be at the expense of making it worse for others. Much of the conflict in this area is because different people use different time horizons when they talk about the future. Some people are obsessed with tomorrow, whilst others are primarily concerned with what they perceive to be the needs of the next hundred years. How, or whether, differences in perspectives are resolved is critically dependent on the quality of dialogue between the parties.

In my view, there are no absolute answers; consequently the only way to make progress is to try to ensure that the quality of the dialogue between all concerned stakeholders is as effective as possible. In the end, the quality of our decisions depends on the quality of our conversations and dialogue; that is not only dialogue about information but, perhaps even more important, it is about what is the best way to use that information. In other words it is about our values. Dialogue facilitates the transfer of technical knowledge, and is an invaluable part of personal development. Having a quality dialogue over values is not only the most important issue we need to address, but it is often the most difficult. In this area, there is a paradox with the concept of passion, the importance of which is emphasised in much current management literature. If this passion is exhibited by a power-driven person, who tends to think they have all the answers, and they are all too often not interested in listening, then holding a positive dialogue can easily become problematic!

The only way to ‘square that circle’ is to ensure that all the other people involved are convinced of their integrity, and that they are reflecting a genuine concern for the wider interest in the decisions that are taken. The greatest challenge that most organisations
face is how to effectively manage power-driven, passionate, people in such a way that their priority is encouraged to be consistent with the long term interests of the organisation as a whole, rather than just with their own personal interests. Incorporating this wider responsibility-driven interest into our decision-making at all levels, irrespective of whether they are personal, organisational or societal, is the ultimate test of both values and leadership.

Reinterpreting the Data-Information-Knowledge-Wisdom Relationship

The traditional approach to the data-information-knowledge-wisdom link sees a close relationship within a pyramid that starts with data at the bottom, moves through information and knowledge, to end with wisdom at the top, giving, in theory, greater ‘added value’ as we move up that pyramid. In my view, this progression has a fundamental flaw, arising from the fact that the relationship between these four items is not linear and there is no basic step-by-step movement up the pyramid from data to wisdom. The mechanistic view of that progression is partly a reflection of the Newtonian tradition, repackaged by the Management Science of Taylorism.

In practice, the integration of all four elements requires at least one, if not two, qualitative jumps. Information can certainly be considered a ‘higher’ form of data, as it provides greater context and so greater meaning. However, the transformation of information into knowledge requires the first jump. A book that describes how a jet engine works is an example of information. It is only when information is actually used that it is turned into knowledge. In a similar way science produces ‘value’ and ‘values’ free information. It is not until something is done with that information that we need to recognise that all our choices and decisions are concerned with ‘adding value’, as well as being values driven, and that these decisions are driven by our perception that one alternative is somehow ‘better’ than another.

In essence, knowledge is information in use and, of course, it is through its use, and through the feedback learning loop, that you gain further information, which then gets turned into even more legitimate knowledge based action. This is a perpetual and dynamic process.

But where does wisdom come in? Wisdom is the vehicle we use to integrate values into our decision-making processes. It is one thing to turn information into knowledge that makes things happen through its use, but it is quite another thing to make the ‘right’, ‘good’ or ‘better’ things happen. How we actually use information/knowledge depends on our values. Instead of moving up from data/information/knowledge to wisdom we are, in parallel, moving down from wisdom to knowledge -- and that is how we incorporate our values into our decision-making. Hence we can see the application and relevance of what is generally called wisdom. It is only justified to consider that decisions can be reduced to a cost/benefit analysis, if it is possible to quantify all the
'value' elements within the equation in monetary terms. In the past values have been included implicitly, however today this dimension needs to be made much more explicit. All decisions involve the integration of the economic dimensions of 'added value' with the ethical dimension of 'values'.

Of course, this is a dynamic process and there is continual feedback from the experience of our actions as to whether we need more information. But what and how much further information is required is also a value influenced decision. How values are assessed and applied, both as the ends and means, are critically important dimensions in all our decision-making.

Our values and wisdom define the limits of what are considered acceptable choices in the first place and these decisions determine our knowledge/action priorities. These priorities then determine what information is required in order to ensure that the decision is as well informed as possible. In turn it is this informational need that determines what further questions have to be asked about what additional data is required.

It also needs to be recognised that the way the concept of wisdom, has been used in the past has not always helped this process. We need to start with wisdom, our values, as our base, which provides the framework within which to manage knowledge, and so on through the pyramid to information and data. Without a sound base at one level, it is difficult to manage effectively the next layer up, or down. Knowledge is information in use, and wisdom is the integration of knowledge and values to produce wise action.

This insight is confirmed by the comments below,

"Wisdom is the power that enables us to use our knowledge for the benefit of ourselves and others."

Thomas J. Watson

"Knowledge is not wisdom, unless used wisely."

J.D. Anderson

"Knowledge without wisdom is a load of books on the back of an ass."

Japanese Proverb

"Knowledge is of no value unless you put it into practice."

Anton Chekhov (1860-1904)
Many of the important messages about the state and future of the human race were made over a thousand years ago, in China, the Middle East and other early sophisticated societies. In fact, wisdom insights are very similar irrespective of which part of the world is identified as their source. This is because they consist of statements about relationships between people, either individually or collectively in societal context, or about our relationship with the universe as a whole, that have ‘stood the test of time’.

Learning

Wisdom is by far the most sustainable dimension of the information/knowledge industry. But is it teachable? It is learned somehow, and as far as I know, there is no wisdom gene. Consequently, there are things that we can all do to help manage the learning processes more effectively, although detailed consideration of these are outside the scope of this paper.

We need to recognise that the more change that is going on in society, the more important it is that we make sure that our learning is as effective as possible. That is the only way we have any chance of being able to equate change with progress. If we want to have a better future the first - and most important - thing that we have to do is improve the quality and effectiveness of our learning.

We are trying to improve things. We are trying to make progress. Of course, the concepts behind the words: ‘improve’, 'better' and 'progress' are powerfully values-driven. Organisations and individuals do not have a problem with change, only with how they might perceive progress. Our success in this area is critically dependent on the quality of our dialogue as discussed earlier. Unfortunately, it is not easy to be optimistic about current trends, when the media is so focused on sensationalism and confrontation.

Wisdom Insights

Some examples of statements about wisdom that not only reflect the points made above, but provide additional insights into the meaning and usefulness of the word, are included below,

"Knowledge is a process of piling up facts; Wisdom lies in their simplification."

Martin H. Fisher

"Wisdom outweighs any wealth"

Sophocles
“Wisdom is the intelligence of the system as a whole.”
Anon

“Wise people through all laws were abolished would lead the same life.”
Aristophanes

Some of the general wisdom messages that we might like to pass onto future generations include,

“By doubting, we come to examine, and by examining, so we perceive the truth.”
Peter Abelard

“The price of greatness is responsibility”
Winston Churchill

“If you won’t be better tomorrow than you were today then what do you need tomorrow for?”
Rabbi Nachman of Bratslav (1772-1811)

“You must be the change you want to see in the world.”
Mahatma Gandhi (1869-1948)

“The purpose of studying history is not to deride human action, not to weep over it or to hate it, but to understand it -- and then to learn from it as we contemplate our future.”
Nelson Mandela

“Concern for others is the best form of self interest”
Desmond Tutu

What are the implications of these ideas for us all?

A Wise Society

In recent years we have seen considerable effort to move people from the idea of 'Working Harder' to 'Working Smarter'. But what is really needed is to move beyond 'Working Smarter' to 'Working Wiser'. We need to move from 'The Knowledge Society' to 'The Wise Society'. The more we move along that progression, the more we need to recognise that we are moving to a situation where the important issues primarily reflect the quality of our values, rather than the quantity of our physical effort. If we want to improve the quality of our decision-making, the focus needs not only to be on the
quality of our information but, perhaps even more importantly, on the ‘right’ use of that information, hence the importance of improving the dialogue related issues mentioned earlier.

Stakeholder analysis can help understand the map of the power and responsibility relationships within decision-making processes. All decisions require trade-offs and this involves judgement between the interests of the various stakeholders, within a framework of a genuine concern for the long term - and the wider interest. It is also the case that where there is no common agreement over objectives, values are invariably the dominant agenda in any discussion. It is here that wisdom reflected in both content, and process, can be critical. How often do we seem to be either obsessed with technology - or so focused on the experience of the here-and-now - that the issue of wisdom appears to be virtually ignored? Are we really focused on what is important, rather than on just what is easy to measure?

One reason for the recent obsession with an information based approach is that it provides a relatively easy framework within which to get agreement of decisions. Any focus on the values dimension can make decision-making much more problematic. There are two answers to such a view. Firstly, that values are implicitly involved in all decision-making and all we are doing is making the discussions about the values dimension more explicit, a process that is, after all, at the core of Knowledge Management. It is also through making information and knowledge more explicit that we can improve the effectiveness of our learning processes. Secondly, the evidence suggests that there is much more agreement across all cultures and religions about fundamental human values, and wisdom, than is generally recognised.

Finally I return to the point made at the beginning. Why are we interested in ethics and the future? The answer is, simply that we are concerned with trying to make the world a ‘better’ place.

But for whom? And how?

To answer both questions we need to re-ask fundamental questions.

- Why do we not spend more time ensuring that the important messages we have learned in the past, wisdom, can be passed on to future generations?
- How do we ensure these messages are learned more effectively?

These are critical strategy questions that cut to the foundations of anything we might call ‘The Knowledge Economy’, even though what is really needed is to focus a concept closer to ‘The Wise Economy’. This movement naturally overlaps with the greater attention recently being given to values and ethical related issues and ‘the search for meaning’ in management and leadership literatures.
Overall, wisdom is a very practical body of sustainable knowledge that has made an incredibly useful contribution to our understanding of our world. Such an approach would enable us all to take ‘better’ decisions, lead ‘better’ lives and experience wiser leadership. In particular in those areas that involve explicit, or implicit, ethics and values related issues which are themselves closely linked to establishing more appropriate relationships between power and responsibility.

If we cannot take wisdom seriously we will pay a very high price for this neglect. We need to foster greater respect for other people, particularly those who have views, or reflect values, that we do not agree with. This requires us to develop our capacity to have constructive conversations about the issues that divide us and that, of itself, would go a long way to ensuring that we improve the quality of our decision-making for the benefit of all in the long term.
Once upon a time in ancient Egypt, a king became terrified as a result of his dreams. The king had seen seven fat cows being swallowed by seven thin cows. He had also seen seven green wheat plants and seven dry ones. Nobody knew what those disturbing dreams meant. But someone by the name of Yusuf (Joseph) interpreted them very well: seven fertile years with rain and good crops, followed by seven years of drought. Our world today, like that of Joseph’s epoch, also faces multiple challenges with regard to food security - inflation, increases and volatility of oil prices, unjust food market, huge food wastage and global climate changes.

1. Inflation and Oil Prices

Some time ago, having $1 in the pocket would enable us to buy one full meal. Today $1 may allow us to buy only some peanuts and the packet gets smaller. Our purchasing power has been greatly reduced. Furthermore if we normally hang out at coffee bistros, we would realize that the shops would push up the price of their cup of coffee whenever oil prices go up. The price of 5% broken milled white rice in May 2012, for instance, was already about USD 610 per metric-ton as opposed to USD 305 per metric ton 5 years ago [1]. Escalation and volatility of world petroleum prices have indeed exacerbated global food security [2]. Surging oil prices have led to higher costs of production, transportation and handling of commodities.

2. Unequal Food Distribution

The modern world not only has to sustain injuring food prices, but also unequal distribution of food [3]. If the world had been properly managed, there should have been ample food to feed everyone on the planet. What we see, nevertheless, is rampant famine in one part of the world and thriving obesity in another section of the planet. Food has not been supplied, distributed and utilized in a fair manner. Although every human being has a right to the necessities of life such as food, clothing and shelter, accessibility to food supplies is influenced by political factors which affect trade and availability of nourishment [4].

Many developing and third world nations are still afflicted with poverty, hunger and conflict. Low-income countries are usually unable to respond to economic shocks and recover. The distribution of food must be in the interests of all. Otherwise, commodities that should be plentiful and affordable would turn out to be more expensive than necessary. Disruptions in food supplies do have political and security implications. Food riots, tensions and violence could sprawl, hence creating unstable global environment [5].
3. Dire Wastage

Population growth also means greater food consumption. Current world population has already exceeded 7 billion [6]. Third world countries are often blamed for having high population, even though industrialized nations waste tremendous amounts of food [7]. FAO reported that 1.3 billion tonnes of food, equivalent to about 1/3 of the amount of food produced for human diet, had been wasted every year. Whilst a person in sub-Saharan Africa, south Asia or south-east Asia wastes at most 11 kg of food annually, a European or North American wastes on average of up to 115 kg of food each year.

Countering shortages in food supply in the wake of booming global population is a grand challenge facing the international community. People in general need sustainable, safe, affordable and nutritious food. However, corrupt practices, poor governance, mediocre infrastructure and inefficiencies have caused serious wastage at points in the food supply chain from production to consumption.

4. Improving Food Productivity

With finite and diminishing resources, the world must still produce more food while, at the same time, minimize the use of more scarce and precious land, water, energy and other inputs. Enhancing food supply is not an easy task as many issues come into play. Sustainable food production will include better farming practices aimed at increasing productivity in crops, livestock and fishery, and effective investments in hard and soft infrastructure such as transportation, irrigation and human capital [8]. Nonetheless, most underdeveloped nations do not possess the necessary know-how and R&D to be able to meet these areas of need. In addition, punishing currency exchange rates will drive weak economies to have limited access to technology and sufficient nourishment from abroad [9]. With increased input costs such as the prices of fertilizer and energy, the capability to produce sufficient amounts of food by poorer countries will be severely curtailed as well.

5. Global Climate Changes

Not only are worldwide economic instability and inflation major concerns for humanity, global warming also adversely affects food production and supplies. Increased amounts of greenhouse gases in the atmosphere and global climate changes have resulted in poorer air quality, higher global temperatures, rising sea level, ocean acidification, changing rain patterns, more unpredictable and extreme weather such as storms, floods, acid rain, heat waves and droughts, and loss of biodiversity [10].
The prevalence of floods, as a consequence of altered climate, increases soil erosion, which then removes nutrients and valuable topsoil affecting soil quality [11], and releases even more greenhouse gases into the atmosphere, resulting in a negative vicious cycle for the environment [12]. Soil quality is also degraded by acid rain due largely to human activity [13]. As mentioned above, global climate change has increased the risk of droughts. Both floods and droughts themselves destroy crops and seed germination, and at the same time bring pests and diseases to surviving crops and livestock, hence threatening yields and food productivity. Furthermore, ocean acidification is seriously affecting our food coming from the sea. For the past 250 years, the acidity of our ocean has climbed by staggering 30%! [14] These disasters have caused and will cause huge amounts of losses in the ability of the Earth to produce.

6. The Need for Action

Tackling shortages in food supplies necessitates earnest addressing of current worldwide climate changes. Despite the on-going industrialization and modernization, pruning greenhouse gas emissions is a measure not to be taken lightly. Another significant action is forest conservation, as it neutralizes global warming via photosynthesis, averts soil erosion, helps maintain water cycle and provides protection to biodiversity, among other things [15]. Because of the long periods involved in tree growth, replanting of forests must take place without delay.

In addition, satisfying human nourishment needs in the light of global climate changes requires good soil management [16]. Proper management of soil would control emissions of greenhouse gases. Moreover, soil has the potential to become a storage place for carbon from atmosphere which would decelerate global warming [17]. Improved agronomy would also safeguard groundwater resources [18] and enhance the quality of soil which in turn increases land nutrients, fertility and arability. Practising good soil management today could indeed help bolster food production and reduce tomorrow’s unwanted risks and costs.

Better farming practices to multiply yields while minimizing losses will require investments in reliable infrastructure. Improved drainage systems would reduce soil erosion problems and permit better land use [19]. Regular soil testing would prove important in maintaining a healthy level of nutrients in the soil [20]. Investment in irrigation systems would allow fresh and clean water availability for crops and livestock during dry seasons. A study by Stanford University, for instance, discovered that solar-powered irrigation systems installed in arid sub-Saharan Africa provided cost-effective water supply for villagers and improved their nutritional needs in times of dry spell [21].

With unpredictable weather conditions, droughts could last longer and winter seasons could be warmer which would allow pests and diseases to survive and disturb crops
and livestock. Pest and disease management therefore is another area that needs due consideration to ensure our potential food supplies are not lost [22-23]. Furthermore, the welfare standards of livestock must not be overlooked [24]. Failure to maintain the health and reproductive efficiency of livestock animals would indeed endanger our future source of protein.

Food is not a luxury to which only a few could have access. If famine and malnutrition are to be mitigated, food politics and market must be just and ethical. Confronting food deficits would also require redressing the current global economic imbalance and enormous wastage in the food supply chain. Unless worldwide climate changes are halted, input costs such as energy and fertilizer are kept low, and the management standards of agriculture do not slip, the world would end up with an acute food crisis.

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