

# ***Eubios Journal of Asian and International Bioethics***

***EJAIB*** Vol 18(6) November 2008 ISSN 1173-2571

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Official Journal of the Asian Bioethics Association (ABA)

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## **Editorial: Public engagement**

This issue of *EJAIB* begins with a reflective article on the process of community engagement by Eiko Suda, based on experiences gained in the Haplotype Mapping project in Japan. This has been the subject of several reflections some years ago in *EJAIB*. The process of community engagement, or public engagement, is now well established as a norm for ethical review and conduct of research projects. Although it has been said to be in contrast to the current state of lack of public discussion of scientific research in many countries, it is a natural extension of democratic principles of good governance. Public discourse in bioethics is also a foundation of the *EJAIB* as a free online resource.

There follows a review of hyperbole over the genetic influence of Chinggis Khan, and the fathering of children across Asia. The genetic histories of different communities are still being discussed. There is also some interesting reflection on these issues available on <http://gfbr9.hrc.govt.nz/> available as proceedings of the Global Forum on Ethics of Health Research, held in Auckland, New Zealand, 3-5 December, 2008. The forum focused on ethics for indigenous populations, and there are still many concerns that some communities wish to say no to research. I also convened a UNESCO Ethics Education Workshop 1-2 December, which saw active discussion and sharing of methods and examples for ethics education.

Also in this issue are contributions on the topic of ethics of energy technologies from a Joint UNESCO-MacQuarie University Conference held in May 2008.

There are several papers looking at medical ethics issues, from Bangladesh, India, and a substantive review of ethics of stigmatization of persons and mental illness. There is also the 2008 annual meeting report of the ABA, following a successful conference organised in Indonesia. As we end 2008 I wish all readers a happy new year, and also a reminder that if you wish to receive a hard copy of *EJAIB* renewal of subscription is required. The support given by subscribers ensures the continuation of this journal. *EJAIB* is online for all to read, so we also encourage more paper submissions as *EJAIB* continues to be one of few freely accessible online academic journals for cross-cultural bioethics dialogue – a type of public engagement.

-Darryl Macer

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# Causes of Communication Gaps between Science and Society: Discussion Based on Community Engagement in the Haplotype Mapping Project in Japan

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## 1. Public Engagement in Human Genome Research in Post Genome Era

After the discovery of the DNA double helix in 1953, almost every basic system of our life phenomena such as heredity, ontogenesis, cell proliferation, immune system and aging, have been reported at molecular level. Thanks to the Human Genome Project (1990-2003) the complete sequence of 3 billion base pairs of the human genome was determined and made public. Such developments have made an impact on our views of human beings or human life, and now in the post genome era human beings have become to be considered as physical substances which can be explained from a reductionist perspective. That view of human beings as a technically possible existence to be subject to future accurate mechanical intervention means they can be modified as subjects of the natural sciences. Based on such ideas, advanced medical technology and biotechnology have achieved significant status in society.

Meanwhile the growing concerns in society toward genetic modified (GM) foods developed the recognition that the loss of social trust for science or advanced technology might become a significant factor for human genome research. The understanding of citizens' social and bioethical interests has become to be considered essential recently. Through nationalistic arguments and its consequence regarding projects such as the Icelandic population database in the year 2000, the recognition that the process to respect the need for public consultation and social debate involving ordinary people in the society has become a norm in many countries. The ethical and social debates are becoming more heated in human genome research in the post genome era than they were before.

On the other hand the escalation of global competition in science and technology and its application and the high degree of specialization and segmentation of scientific disciplines have made the structural outline in which scientific activities are planned, carried out and evaluated among the experts' communities more solid. The specialized nature of science also makes it difficult for people outside of such communities to understand what is going on in science and technology.

Many studies on the human genome are phrased as probing the nature inside of human beings. This paper

will examine some of the arguments of how genetic information should be deal with from the perspective of protecting individual human rights, and at the same time the expectations over the generation of public value from scientific research as a social activity. Lessons from a range of efforts for public engagement in science and technology (PE) focusing on inclusion of citizens' views, interests, values and issues, and how they are framed into the social decision making process regarding science and technology will be discussed for Japan as well as the global society.

## 2. The International Haplotype Mapping Project (HapMap Project)<sup>1</sup>

The HapMap Project is an international collaborative project to determine the common patterns of DNA sequence variation across the human genome by genotyping four populations in the world including Japanese, Han Chinese, Northern and Western European (CEPH) and Yoruban ancestry<sup>2</sup>. The project was initiated by the International HapMap Consortium consisting of organizations and institutions in five countries, USA, Japan, United Kingdom, Canada and China, from October 2002 and mapped the regions of the genome inherited over the generations (haplotype blocks represented by the set of SNPs, single nucleotide polymorphisms) on the human genome (HapMap) This project is positioned as a post Human Genome Project (1990-2003), and the products of it have been enthusiastically expected to empower the progress in life science research in post genome era. The database including the developed HapMap and the cell bank of collected samples have been made freely available in the public domain to be utilized for life science research by researchers in the world.

In the project to determine human haplotypes, the patterns of common variation in DNA sequence across the human beings in the world, and to map them as HapMap, genotyping on the above four populations was conducted. Even if the project is focusing on building the HapMap on human beings in general rather than particular groups<sup>3</sup> and that no individual information was collected with the samples, a great amount of genetic information regarding involved populations became apparent through the process to develop and utilize the freely accessible map by anyone in the world. Also the samples collected for the project are stored in the central cell bank permanently and have already been made available for researchers in the world. Therefore, the impact upon the participating communities needed to be considered as both individuals and as groups, not only before but also after the project. A community engagement and sample-collection group was organized in every participating community to work out the best process to respect each

<sup>1</sup> <http://www.hapmap.org/>

<sup>2</sup> The International HapMap Consortium. The International HapMap Project. *Nature* 2003; 426: 789-796.

<sup>3</sup> Foster, Morris W. and Sharp, Richard R. Beyond race: towards a whole-genome perspective on human populations and genetic variation. *Nature Reviews Genetics* 2004; 5: 790-796.

community's social, cultural or historical background<sup>4</sup>. The mission of the groups was to provide the information about the HapMap Project including scientific background, ELSI issues regarding such kinds of research, risks and benefits of participating in the project for both individuals and the community, to provide opportunities of public debate on the significance of the Project to members of the community before being required of participation, and to collect the responses, questions, concerns or opinions from the community. Also based on the knowledge from the community engagement process, the groups developed culturally appropriate protocol modifications<sup>5</sup>. In the HapMap project the term "community engagement" was used instead of "public engagement" to make a point that the process intended to involve participating communities rather than entire public.

In Japanese community engagement the nationwide preliminary questionnaire survey, various types of meetings such as citizens' forums and explanatory meetings around the Kanto area in which samples were collected and the individual interviews were implemented. Detailed analysis of data from them can be shown in several publications<sup>5,6,7</sup> but in this paper I focus on discussion of some issues relating to the communication between experts' communities and the citizens in society which will be the focus of discussion based on the knowledge from the community engagement process in the HapMap project in Japan.

### 3. Experts in Japan lack confidence in public ability for Community Engagement

In the HapMap project community engagement particularly in its early stage ordinary people showed generally positive attitudes toward human genome research, DNA banking, and scientific or medical research. As has been found in opinion surveys earlier, the general public in Japan showed their opinion that science contributes to the progress of the quality of life or health and it has high public value. They were also willing to be involved in science as a social contribution or for helping others<sup>8</sup>. However, such attitudes changed gradually through the community engagement process toward more diversified aspects which are difficult to be simply classified into "Yes" or "No" categories. People showed a wide range of perspectives such as

understanding, interests or sympathy toward science at the same time as expressing distrust towards the scientific community or scientists, displeasure about potential utilization of their genetic information for industrial purposes, mistrust toward private industries, or concerns that their genetic information and blood samples should be either regarded as their own or Japanese property, and so on. It seemed that ordinary people participating in Japanese community engagement tried to put together the individuals' opinions in a hesitant way taking such various factors into their consideration.

In Japanese community engagement meetings in the HapMap project some experts participated from a broad range of disciplines such as genetics and medical science from the natural science field and also from social sciences including law, bioethics, sociology and so on. Some participants also came from clinical medical fields or pharmaceutical industries. Regardless of the discipline it seemed that members of experts' communities had a similar picture that the lay public lacked the ability to engage in discussion or dialogue on issues regarding science and technology. That is to say, they thought lay public are not necessarily capable and not appropriate to be involved in community engagement since they believed that they are not so interested in science and technology, and also that they cannot understand technical matter. Also some persistent concern was recognized among expert communities that such public discussion might just create fear among citizens or society, which might be an obstacle for research implementation to provide too detailed or highly technical information to lay public who are basically untrusting towards scientists or science.

### 4. What Discourages Communications between Science and Society?

Recently in Japan disinterest in society toward science among ordinary citizens, particularly among young generations, has been seen as a serious problem in context of science and technology policy and strategy as well as promoting science and technology in society as seen in the government's white papers repeatedly from 1990s, for instance<sup>9,10</sup>. And a lot of effort to progress scientific literacy or develop scientific communication in the society have been made. One method to develop public acceptance of science and technology is by providing scientific knowledge to the public, and the efforts to enhance public understanding are concentrated on providing expertise information rather than developing mutual communication, deliberation or cooperation in the society.

<sup>4</sup> The International HapMap Consortium. Integrating ethics and science in the International HapMap Project. *Nature Reviews Genetics* 2004; 5: 467-475.

<sup>5</sup> Charles Rotimi, et al. and The International HapMap Consortium. Community Engagement and Informed Consent in the International HapMap Project. *Community Genetics* 2007; 10: 186-198.

<sup>6</sup> Eiko Suda and Darryl Macer. Policy and Attitudes towards Collection of Personal DNA in genetic databases in Japan. *Journal of International Biotechnology Law* 2007; 04: 89-97.

<sup>7</sup> Eiko Suda, Darryl Macer and Ichiro Matsuda. Current Situation and Challenges in Public Engagement in Science and Technology in Japan: Experiences in the HapMap Project. *Genomics, Society and Policy*, In Press.

<sup>8</sup> Masakazu Inaba and Darryl Macer. Attitudes to biotechnology in Japan in 2003. *Eubios Journal of Asian and International Bioethics* 2003; 13: 78-90.

<sup>9</sup> Ministry of Education, Culture, Sports, Science and Technology. 1993. *White paper on science and technology for 1993*.

[http://www.mext.go.jp/b\\_menu/hakusho/html/hpaa199301/index.html](http://www.mext.go.jp/b_menu/hakusho/html/hpaa199301/index.html)

<sup>10</sup> Ministry of Education, Culture, Sports, Science and Technology. 2004. *White paper on science and technology for 2004*.

[http://www.mext.go.jp/b\\_menu/hakusho/html/hpaa200401/index.html](http://www.mext.go.jp/b_menu/hakusho/html/hpaa200401/index.html)

It will be a significant role of experts from a wide range of disciplines to activate social deliberation or to diversify public debate by providing information in various contexts or raising issues regarding topics of science and technology at the scenes of PE. Actually some experts who participated in the HapMap community engagement in Japan have contributed significantly to such a perspective. However, at the same moment, PE is the opportunity in which every social sector including experts' can learn about views, attitudes or issue awareness of other sectors through interactive activities of debate and/or cooperation. Such a view point however, might be less represented among Japanese current PE activities.

For instance, in life science research involving human subjects, human beings are treated as physical existences according to the scientific worldview. In contrast in society human beings are recognized as moral and social living existences. There is a significant distance between these ways to look human beings and it is not really recognized by people in scientific communities that such distance sometimes causes serious concerns among the lay public toward scientific community.

As was experienced in the HapMap project community engagement also, the issue framing of lay public is more widely extended than that of most experts. The lay public try to consider about each topic of science and technology as a broader issue framed by each standpoint, experience and interest, or in a wider social context. On one hand they show understanding or sympathy toward the significance and public value of research, and on the other hand they raise various concerns and require the explanations or correspondence to experts or decision makers. Then they endeavor to put together their opinions and attitudes toward research comprehensively. It might not be really recognized by experts either that the difference in the extent of issue framing between scientific communities and society often causes a sort of communication gap between them.

The above described picture of how the lay public is recognized among expert communities is based on few direct or indirect bad experiences or loose assumptions rather than understandings developed through continual and interactive communication efforts. Such stereotypes without an entity base, which seem to exist in every social sector, need to be addressed and resolved by mutual learning through interactive communication and cooperation in society.

##### **5. Necessity of Broad Public Engagement (PE)**

Science sometimes makes an impact on society beyond the further extent that the scientific side forecasted. If scientific activities also can be recognized as part of social activities, some scientific research programs involving human beings may become a method of broader social questioning of various existing values in our society. Even if the social introspection is not in the implementation phase but in just the conceptual phase, we can see discussions of questions such as the value of life. Especially in big projects for which considerable amount of taxpayers' money will be funded, the questionings may become a real possibility. At that time previously un-focused fear or vague

discomfort which were developed through images in science fiction, movies or experts' alarms can become substantial issues that suddenly threaten our real life. It is significant to develop communication and deliberation before such a reality emerges more in society. Also to extract, address and adjust various misunderstandings or variance which comes into existence in communication will require a lot of efforts and a long time. For this reason PE from an early stage of scientific research is significant.

PE may function as a social mechanism to contribute for consensus building and democratization of decision making regarding social issues of science and technology, and for complementing the adequacy or propriety of law and political decision making by including a wide range of values and people in social decision making process. Also PE provides the opportunities in which a range of social sectors interact each other to learn and share different value and different scope of issue awareness through mutual communication or deliberation. Such a process might be promoted inside sectors or each member to make their opinions and attitudes have greater social consideration. After that manner, PE might function as a mechanism to empower citizens to cooperate with members of other sectors as scientific citizens and to develop social self-determination.

It will be important for future scientific development in Japan and other countries that the scientific community recognizes the meaning of broad PE as a standard component mechanism in science and technology, and that policy makers move PE from specific target-oriented goals to a broader social involvement in science policy.

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## **In search of Chinggis Khan's genes: A strange case of science-based irreverence in the age of political correctness**

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Genetic investigations at a population scale aim to reveal for various purposes the distribution of certain determinants in human population. Specialists may look for genes responsible for various disease or just for alleles specific to a certain group in order to gather a picture of one or more persons' genealogy.

The usual ethical issue associated with type of investigation is thought to be the risk of discrimination that might arise for some subjects in certain contexts

due to the results of genetic analysis. E.g., people carrying "bad" genes might not be able to get employment or a health insurance in spite of the fact that the relationship between genes, predisposition conferred by them and actual manifestations of the corresponding disease is not that easy to specify as in "you- have- the- gene- that- means- you- will- get- ill". But, the absence of an algorithm adequate for quantification of the genetic risk might very well lead from the perspective of an insurance agent to a refusal of insurance. "Unknown risk" is prudent to be read as "risk" only and insurance agents should be prudent by nature and training.

Apart from the above, two other classes of potential negative outcome can be listed - the simple, almost naïve risk of spending money on irrelevant testing and the more delicate risk of touching one's or a groups' cultural sensitivities.

The first category refers to the option of having your genealogy traced up to distant ancestors (or at least this is the claim of the proponents) for a fee. There are quite many such offers on the internet (we will not list links in order not to tempt anyone). Ignoring the fact that the simple use of certain chromosomal markers cannot really unveil kinship, the need for an actual DNA sample collected from the persons supposed to be one's relatives being decisive some "laboratories" keep discovering amazing connections between their clients and historical figures. "[A]s usual, there are those who simply want to make money out of it, those for whom it is part of serious science, and those who are extremely desperate to look for their famous ancestors and who will do anything to reach their target". "[There is] a lot of total rubbish on many of the Y-STR project sites [online], but it seems that those involved are perfectly happy with what they do". (Peter de Knijff, a geneticist at Leiden University, the Netherlands *apud* Wolinsky, 2006).

Of course there's no harm in dreaming but still when dreams tend to substitute reality we might have a (big) problem. And when, for a small fee, science gets to back on day-dreaming the whole society might have a problem.

On occasions such investigations leads to embarrassing situations such as the one observed by H. Wolinsky in *Genetic genealogy goes global*<sup>11</sup> (Wolinsky, 2006) when a person was told that he was a descendant of Chinggis Khan which granted him a reception in his honour at the Mongol embassy in the USA. The reception has never been held since another laboratory dismissed those first results. Therefore, the poor DNA-testing lab confident customer was - as Wolinsky put it- "booted out of the yurt". But, "Fortunately errors in paternal ancestry assignment are not life-threatening, as would be the case in blood typing prior to transfusion, for instance." (Peter Underhill, a senior research scientist at Stanford University, CA, USA, *apud* Wolinsky, 2006).

Speaking of the Khan's descendants gets us to the second category of negative consequences of genetic

investigations at a population scale in humans. Chinggisids became subject of many inadequate speculations and comments. The paper that elicited the whole mythology of Chinggis' descendants to be found to say so at every corner in Asia and only at every eighth corner in the rest of the world is *The Genetic Legacy of the Mongols*, by Zerjal et al. (2003).

The authors claim that a certain Y-chromosomal lineage highly frequent in Asian men originated from Chinggis Khan or an ancestor of him. The paper contains more than a few contradictions, illogical assertions and unfounded speculations that we will examine in the following.

"Increased reproductive fitness"<sup>12</sup>, transmitted socially from generation to generation, of males carrying the same Y chromosome would lead to the increase in frequency of their Y lineage, and this effect would be enhanced by the elimination of unrelated males. Within the last 1,000 years in this part of the world, these conditions are met by Genghis (Chinggis) Khan (c. 1162–1227) and his male relatives. He established the largest land empire in history and often slaughtered the conquered populations, and he and his close male relatives had many children." (Zerjal et al, 2003).

First (most embarrassing) Chinggisids married and had legitimate wives but did not walk around inseminating women and spreading their chromosomes as some suggest. To suggest that Chinggis "systematically inseminated the most attractive women"<sup>13</sup> is to go far over the top in such speculations. From the descriptions in *The Secret History of the Mongols*, he appears to have had far more respect of women than implied by such breeding-machine behaviour. While the Great Khan had a (should we say, natural) attraction to beautiful women, he was definitely not enjoying mass-proportion rape parties upon the conquered nations – quite the contrary, often he was accompanied in his campaigns by one or a few of his Mongol wives and concubines. Also, elite Mongol soldiers (and especially the ruling clan) were extremely unlikely to have taken part in war-time rape, that was a much disgraced act given the available testimonies on the Mongol moral code of the time (see, e.g., Khamaganova, 2003).

Second (most logical) the idea is absurd in itself, from a biological point of view. The spread of the Y

<sup>12</sup> What does "reproductive fitness" actually mean, in this context?...

<sup>13</sup> We will quote here the perplexing affirmations made by Brian Sykes, an Oxford researcher and professor of Genetics in an interview to The New York Times "Take Genghis Khan's Y chromosome, which is now found in 16 million men in Central Asia. It started as a single copy from the man himself in the 12th century. What drove this? Well, when he conquered a territory, he killed the men and systematically inseminated the most attractive women. A thousand years later, his Y chromosome has survived and proliferated, which is sexual selection on a very grand scale." (from A Conversation With Bryan Sykes, Is Genghis Khan an Ancestor? Mr. DNA Knows, by Claudia Dreifus, The New York Times, June 8, 2004, also available at <http://www.nytimes.com/2004/06/08/science/08conv.html?ex=1402027200&en=0a3548b6503d517e&ei=5007&partner=USERLAND>).

<sup>11</sup> Title followed by a brief but comprehensive comment: *Although useful in investigating ancestry, the application of genetics to traditional genealogy could be abused*

haplotypes does not occur in population following some algorithm and constantly increasing their frequency - unless genealogy is known from records one cannot make accurate affirmations with respect to the number of a person's male descendants throughout history. Any such affirmation is purely speculative. And, even if preferred and/or socially advantaged as a mate, a man cannot control the sex of his offspring, he might very well have more daughters than sons or even daughters only (and his Y lineage become extinct because of that). In fact, it is the case of one of the Chinggisid lineages that perished when the last male descendant had only female offspring - i.e. the Hulagid dynasty in Iran which became extinct with the death of Abu Said Baatar Khan (1305-1335); at his death he only left daughters, two collateral family members remaining in Iran were killed in a succession struggle and the prosperous Persian khanate collapsed (see Roux, 1993). The Chinggisid lineage in Mongolia itself was at one time in the late XV century reduced to only one male child, Batmunkh, the future Dayan Khan (see H. Howorth, and R. Grousset). This shows that extreme reduction can follow great expansion in an aristocratic bloodline, especially in conditions of intense warfare and competition for the throne, such as were prevalent in most of Central Asia following the collapse of the Mongol empire.

Third (most accurate) the lineage of the Great Khan is very well known up to our time, genealogical records being very strictly kept so that Mongolians know precisely who is and who is not a descendant from Chinggis<sup>14</sup>. Other Central Asian peoples which were ruled by Chinggisid lineages (such as the Kazakh and Tatar) also have such genealogical records. A very serious misgiving of the study of Zerjal et al. is that they did not consult any such Mongol, Kazakh or Tatar genealogical records (and very little historical data on the Chinggisid/Borjigid clan)<sup>15</sup> - and in spite of that claimed that the Khan and his male relatives had descendants in a rhythm more adequate to a fast reproducing small mammal than to humans.

Fourth (most evident) the only scientifically accurate way of proving genetic relatedness is to compare the genes of the people supposedly related, namely, in this case, the genes of the Khan to those of his presumed descendants. Zerjal et al admitted that themselves (and also that they were not able to do it) on a few occasions. In *The Genetic Legacy of the Mongols*: "We, therefore, wished to compare Genghis Khan's Y profile with the star cluster. It is not possible to examine his remains directly (...)." And also in an interview of one of Zerjal's co-authors, Chris Tyler-Smith who declared that "Of course, the ideal evidence would be a direct

analysis of DNA from his remains. Unfortunately, the location of his tomb is unknown."

Alas Zerjal et al. tried to compensate for the lack of scientific evidence with folklore: "We, therefore, wished to compare Genghis Khan's Y profile with the star cluster. It is not possible to examine his remains directly but history provides an alternative. The Hazaras of Pakistan have a Mongol origin (Qamar et al. 2002), and many consider themselves to be direct male-line descendants of Genghis Khan. A genealogy documenting these links has been constructed from their oral history (Mousavi 1998). A large proportion of the Hazara profiles do indeed lie in the star cluster, which is not otherwise seen in Pakistan (fig. 2), thus supporting their oral tradition and suggesting that Genghis Khan carried the star-cluster haplotype."

For the beginning, one may easily notice the inconsistency of the reasoning - what was to be demonstrated (by scientific evidence) namely that the Hazara are descending from Chinggis becomes a premise of the demonstration. The main link - a biological sample from the Khan, or at least from an uncontested male-line Chinggisid of to-day - is still missing but folkloric evidence "doubles" scientific evidence that in fact was needed to sustain the same folkloric claim.

Historically (not folklorically) speaking, the Hazara people are of a Mongol extraction but by no means of a Chinggisid one (and by no means a people where nearly one in three men is a direct descendant of the Great Khan, as the paper implies). On the contrary, "history provides an alternative" but it does not support Zerjal et al. In fact, the Hazara were included in the Mongol empire at Chinggis Khan's death, and their origins include Mongols but not of the Chinggisid clan - their local rulers, such as Negudar (from him the Mongols in Afghanistan were also called Nikudari), or military commanders such as Sali noyon, were not Chinggisids. Some descendants of Chinggis Khan (through the line of Chaghatai) were only appointed as governors of the Nikudari (future Hazara) area but apparently they all returned to the core areas of the Chaghatai khanate, most becoming khans (Morgan, 1986; Roux, 1993). All of this is quite unsuggestive of such a proportion of putatively Chinggisid blood in the Hazaras (a proportion larger than that in Mongolia, after Zerjal et al.), but of the contrary. To whoever might that ancestral Y chromosome have belonged, that male certainly was not Chinggis Khan.

Actually, male-line Chinggisid descendants, even those coming from concubines and not from legitimate wives, were not numerous in Central Asia. Many ruling groups (some Mongol in origin, such as the Timurids and the Oirat ruling families, of which the most important were the Choros, some of other ethnic origins such as the Manchus<sup>16</sup>) tried hard to acquire the prestige associated with Chinggisid filiation, but to no

<sup>14</sup> Communist rule in Mongolia has destroyed many genealogical records but others have been saved and now there is renewed interest in these - many coming to light in the later years, see "In search of sacred names", Mongolia Today (<http://www.mongoliatoday.com/issue/5/names.html>) illustrating a genealogical record of a Chinggisid nobleman. Sadly most of the Chinggisid nobility perished in the Stalinist-era persecutions.

<sup>15</sup> The literature is immense, covering anything from the Mongol law (the Yasa) and its provisions about marriage and sex to political marriage practices of the ruling clan - and countless other topics less interesting in this context.

<sup>16</sup> Manchus were sampled by Zerjal et al., but it is not stated if any persons from the ruling Aisin Gioro clan (i.e. the imperial family of the Qing dynasty) were included; if yes, there would have been the certitude of a witness line that definitely does not have male-line Chinggisid origin; if they have the Y haplotype, then the assumption of its association with Chinggisids is wrong.

avail. They married Chinggisid princesses but of course the male line (and most prestigious) Chinggisid filiation was out of their league.

The problem should be considered solved given the observations above but we will continue analyzing some more elements as the analysis pertains to research ethics (*How can such unfounded claims be published by a major science journal?* might very well be one of the main questions here).

Circular logic with the conclusion serving as a premise for its own demonstration occurs again in *The Genetic Legacy of the Mongols*: "(...) group selection has been much discussed (Wilson and Sober 1994) and is distinguished by the property that the increased fitness of the group is not reducible to the increased fitness of the individuals. It is unclear whether this is the case here. Our findings nevertheless demonstrate a novel form of selection in human populations on the basis of social prestige." In fact, the authors noticed the high incidence of a certain Y- haplotype among a number of sampled subjects and they *supposed* that the ancestral Y- chromosomes belonged to Chinggis Khan and his male relatives, having no uncontestable evidence for their claim.

As for the male dominance effect on Y- haplotypes propagation, this is another SF (with the initial standing for "science" and "folklore") scenario that has recently been deconstructed. Working on 12 short tandem repeats (Y-STRs) and on a battery of SNPs on the Y chromosomes with samples collected from 1269 subjects belonging to 41 Indonesian communities Lansing et al (2008) concluded that "patrilines seldom are dominant for more than a few generations, and thus traits or behaviors that are strictly paternally inherited are unlikely to be under strong cultural selection." The authors underline that "A central tenet of evolutionary social science holds that behaviors, such as those associated with social dominance, produce fitness effects that are subject to cultural selection. However, evidence for such selection is inconclusive because it is based on short-term statistical associations between behavior and fertility." They also provide an explanation for the "rarely skews" part from the title of the paper: "Even our non-neutral Indonesian communities may not necessarily reflect the action of male reproductive skew but rather the signature of a very recent or nonneutral founding group."

In spite of its scientific and historical inconsistency *The Genetic Legacy of the Mongols* served as a departure element for a long series of writing productions of a doubtful taste<sup>17</sup>. If their presence in some obscure publications should not be of concern, when such things get to be published by *National*

*Geographic* or *Science* then perhaps it is the time for science ethicists to explicitly disapprove such attitudes. As a bioethicist paying attention to cultural sensitivities and also as a woman being married into a family having distant Mongol origins<sup>18</sup> and as a person having Mongol roots<sup>19</sup>, respectively we would say that titles such as *Genghis Khan, a prolific lover, DNA data implies*

(see [http://news.nationalgeographic.com/news/2003/02/0214\\_030214\\_genghis.html](http://news.nationalgeographic.com/news/2003/02/0214_030214_genghis.html)) or *Mongolian Big Daddy* (from *Science*, 2003, vol 299, no 5610, p 1179) show very bad taste, as well as the journalistic fabrication published in *GEO* (No. 323, Jan 2006) in the paper entitled *Les fils afghans de Gengis Khan* ("The Afghan Sons of Chinggis Khan"). The last was a photograph with Afghan men holding next to their own face reproductions of an ancient portrait of the Khan so that the reader may notice some "resemblance". Indeed, for the Caucasian public the Afghans and the Khan might very well look alike and besides them at least half of Asia. What is the big (educative in sciences) idea here, besides another inadequate (not at all educative) appendix to things that certain populations (the Mongols) hold as almost sacred - i.e. the memory of the Great Khan? Note may be also taken that in Mongolia itself there has been much talk lately of abuse and overuse of the name of the great conqueror<sup>20</sup>. We think that such titles as published in the above-mentioned sources (and based on shaky, speculative, conjectural claims) may be felt as a not-so-proper use of the name of Chinggis Khan.

A few issues can be extracted from the above analysis. We started wondering about possible abuse or inadequate use of population genetics in humans and observed the classical topics - problems with health insurance and employment as well as the issue of spending money on useless (and worthless from a scientific viewpoint) genetic analysis. Then we moved to meta-personal abuse i.e. to the topic of offending cultural sensitivities.

In the course of analysis we discovered that other aspects of science ethics are also involved - concern about the scientific quality of published papers arises. Perhaps when human genealogy makes the subject historians should also get to review papers in human genetics as it seems geneticists are not able to assure the coalescence (to use a term in Genetics) of the two domains - genetics and history. After all it is the universal problem of multidisciplinary issues, there is no shame and no guilt in a human geneticist asking a historian's opinion on his or her speculations on genealogies. Objectively speaking, those speculations fall in fact in the attention of history, not biology.

We also saw unfounded scientific claims getting to feed the sensational in media with this taste for cheap thrills contaminating pop science publications (see the

<sup>17</sup> Visit for reference: <http://www.encyclopedia.com/doc/1G1-163653180.html> (Genghis Khan has 16 million offspring); [http://findarticles.com/p/articles/mi\\_m1200/is\\_6\\_163/ai\\_97997816](http://findarticles.com/p/articles/mi_m1200/is_6_163/ai_97997816) (Genghis Khan's legacy? The Mongol warlord may have left his imprint on the world's DNA); <http://www.freerepublic.com/focus/f-news/1158027/posts> (Genghis Khan: Father to Millions?); [http://www.digitaljournal.com/article/216355/One\\_in\\_200\\_men\\_alive\\_today\\_is\\_a\\_relative\\_of\\_Genghis\\_Khan](http://www.digitaljournal.com/article/216355/One_in_200_men_alive_today_is_a_relative_of_Genghis_Khan) (One in 200 men alive today is a relative of Genghis Khan)

<sup>18</sup> Oana Iftime

<sup>19</sup> Alexandru Iftime

<sup>20</sup> See,

e.g., <http://www.foxnews.com/story/0,2933,202695,00.html> - where the discussion on „frivolous exploitation” of the Khan's legacy comes right after the mention of DNA studies, presumably based upon Zerjal et al., once again.

case of the title in National Geographic or the photograph in GEO) and this is the most painful, as science should not become popular in the sense of vulgar.

What can and/or should be done? Educating scientists, educating lay people? This is one of the most common and easiest answers to give and one of the most difficult enterprises to conduct in real life. Still, it is part of the bioethicist's vocation.

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## The Biocosmology of Konstantin S. Khroutski: A Philosopher's Reflections on Biology

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No scientific or philosophical view of the universe can be all-encompassing. In different domains, physical sciences have made major contributions improving the life of human beings and increasing their understanding of the functioning of the universe, but science cannot answer any questions of a metaphysical nature. One of the rare thinkers to develop an all-embracing view of the cosmos is Konstantin Khroutski whose biocosmology is founded on the Aristotelian

concept of "immanent teleological essentialism" (Khroutski, 2008, A and B) set in a single and concrete context.

A single concept can embrace shared and general evolutionary mechanisms – Khroutski's *pan-unity*, or organicism, cosmism or holism – which can be found in the cosmos at a physical or organic level, and also at an intellectual level, and both can coexist in a cosmic continuum. This is the approach which I, as a biologist and philosopher of biology, have been working on (Chapouthier, 2001), and have applied to the selected area of living beings, as will be reported here in a summarised version.

### 1. Complexity in living organisms: Mosaic structures

The challenge is to explain the developmental trend to greater complexity in the evolution of species, although there are cases where complexity has been simplified in the course of evolution; see, for example, S.J. Gould (1980). The thesis presented here is compatible with Darwin's theory of evolution, but seeks to include explanations that are not purely Darwinian. The working hypothesis is that there are two main principles operating in any evolutionary development towards complexity: "juxtaposition" and "integration" (Chapouthier, 2001).

Juxtaposition is the accumulation of identical entities, e.g. beads on a necklace. Integration is the action which alters these original entities, producing other entities that are specialised and/or on a higher level, while still containing the original component entities as units (e.g. a string of "beads" may be shaped to become a container, or form a sheet, which is then more complex in structure). And so the process can go on, juxtaposing and then integrating new identical entities at a higher level (e.g. starting with beads, moving to a single string necklace, and then a multiple rope necklace).

The repeated exercising of these two principles can gradually produce complex structures, over various levels, each one using the initial components as units which still maintain their autonomous functioning. In metaphorical terms, the mosaic structure can provide a practical model to depict both the result and the process. A mosaic is a work of art that portrays a figure made to appear by juxtaposing and integrating small ceramic elements which retain their individual features (size, shape, colour and texture). In philosophical terms, a mosaic has properties as a whole, yet leaves a degree of intrinsic autonomy to the properties of the component parts. A living organism, whether relatively simple or with the complexity of a human being, can be said to comply with this mosaic process.

### Unity – genetic, anatomical and on higher levels

Genetic expression entails silent duplication of introns which can be seen as identical units being juxtaposed. It has been argued (Ohno, 1970) that juxtaposed introns undergo a large number of mutations over long periods of time, forming organised patterns that integrate the original units, developing exons and coding for new organs and functions. Such a process might be presented as a genetic hypothesis explaining the complexity of organs.

In unicellular organisms, the anatomical expression of the two principles is seen with “juxtaposed organisms” such as the *Gonium*, and “integrated organisms” such as the *Volvox*. With increasing complexity, for example in didermic species, colonies of polyps are formed from juxtaposed identical polyps which, when integrated, develop into complex colonies containing non-identical organisms such as siphonophores, with defensive, floating, digestive and reproductive polyps. One step further, in tridermic organisms, metamers, when juxtaposed, will develop into animals such as the earthworm, and with integration, the developmental path leads to animals such as the bee, octopus or chimpanzee. But integration is not always a neat and complete process: vestiges of prior juxtaposition may sometimes be found in the integrated organisms: segments in the bee abdomen, and the segmentation of ribs and vertebrae in the chimpanzee are vestiges of prior stages of juxtaposition.

With complexity greater than in an individual organism, or even groups of organisms, there is invariably autonomy of movement, as with animals, which is then an obstacle to development by juxtaposition alone (although it does not completely disappear, as can be seen, for example, with Siamese twins).

Looking beyond physical development, juxtaposition and integration have social manifestations: identical individuals gather together, forming crowds and communities. Identical animals can then acquire explicit social duties, e.g. in colonies of bees and societies of primates, and it is integration which endows specialised functions on some of these identical animals.

Regardless of the structure and the level, integration at a given level does not eradicate the state of autonomy of the lower level units: genes have a certain autonomy within the genome, and the cell within the organism; bees have a degree autonomy within the colony, and so on. The integrity of the whole and its characteristics do not require the autonomy of the component parts to be sacrificed. The mosaic metaphor as defined (Chapouthier, 2001) can offer a parallel here. In human societies, the individual has autonomy while being a component part of that society, and this independence of the individual components, their autonomy in relation to society as a whole, is free will.

### Brain and Mind

The most complex structure known to science is the human brain/mind (the distinction and/or equivalence being accepted but not discussed here) and similar processes can be observed in it. The human brain has a number of organs that are definitely mosaic in construction: the brain is comprised of five encephalic vesicles, juxtaposed in the course of embryonic development, then integrated, producing the complex adult brain. The neocortex contains many mosaic structures forming different areas, and with more than one in control of any given function; for example, sensory perception, motor function and language (in all forms, oral and written, passive comprehension and active speech). Each area features functional specificity

and a degree of autonomy while operating concordantly as an integral part of the neocortex. The two hemispheres of the brain form a simple two-part mosaic, but each with different functions: analytical and discrete functions in the left hemisphere (for right-handed persons), and inclusive, holistic functions in the right hemisphere. Each hemisphere is both functionally specific and simultaneously autonomous, being part of the congruent and concordant functioning of the whole brain, with no conflict arising from the autonomy of the parts (except for rare split-brain patients).

Looking beyond the physical level, into the functioning of the mind, investigations studying consciousness have shown that while consciousness may appear to be a whole, it is, in fact, a mosaic of diverse states of consciousness. In “split-brain” subjects, two conscious decision centres co-exist and may come into conflict; a similar situation can occur when dream states distort normal consciousness in normal subjects.

The study of language shows that ordered semantic units, arranged as the component parts of a sentence, combine to express meaning – an idea formulated as a whole and perceived as such by the end of the sentence. One example is the haiku by the French poet Jean Monod (Antonini, 2003) : *The absent of all / bouquets here she is / says the appearing dawn*. The first line, when read without any further context, suggests that the subject is a person (in French, the feminine gender suggests a woman). The second line then leads the reader to conclude that it is a flower (the flower being a feminine noun). Then the final verse provides the key, presenting the meaning (the whole) – the subject is sunrise – yet also includes, retroactively, the separate allusions to a woman and a flower.

Human memory is often considered to be a single entity, but it too is a mosaic of different memories (e.g. habituation, conditioning, spatial memory and cognitive memory), each having been developed through different evolutionary stages, and each retaining a degree of autonomy within the whole.

Consciousness, language and memory are separate psychological functions that also combine as mosaics, forming a whole and with their own features in that whole which cannot cancel the autonomy of the component parts.

Genetic and anatomical observations, together with descriptions of the brain and mental processes support the hypothesis that complex living beings are basically mosaic structures, as shaped through and by their development in the course of evolution through the iterative and incremental exercise of two principles – juxtaposition and integration.

### Conclusion: The Mosaic Model and Konstantin Khroustski’s Biocosmology

The proposed model of complexity, based on the two principles of juxtaposition and integration, is consistent with the model proposed by Konstantin Khroustski. In the field of biology, Khroustski speaks of “fundamental universalism”, as illustrated by DNA, discovered by Watson and Crick, which “proved the oneness of basic physical-chemical elements and

demonstrated the psychosomatic unity of any organism" (Khroutski, 2008 B). Khroutski further argues for fundamental self-(macro)evolutionism whereby every subject of life is in the self-(macro)evolutionary process (including all biological evolution and social history) and every subject's ontogenesis is a self-dependent emergent development (Khroutski, 2008 B).

The mosaic model proposed here has two general principles suited to such "emergent evolution", covering all levels of complexity, from genes to brain and thought, and could therefore offer an approach to fundamental universalism in the specific area of biology and an example of Konstantin Khroutski's hypothesis in practice.

Finally, and perhaps most importantly, both Khroutski's model and mine are careful to exclude any options for evolution focused solely on humans only, arguments such as the notorious "anthropic principle" (Carter, 1974), an approach which would restrict the field of complexity to humans only, in their human world. Both models refer to universal "anthropocosmism" and categorically refute the "anthropic principle", dismissed as being anthropocentric instead of "cosmocentric".

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**Contributions are encouraged to the UNESCO Ethics of Energy Technologies in Asia-Pacific project – updated report outlines and other details are on:**

<http://www.unescobkk.org/rushsap/energyethics/>

## Stakeholders in the Energy Debate – Identities, Responsibilities and the Future

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#### Abstract

The issue of energy has become a controversial topic of economic, scientific and policy debate amongst the Australian public. Rapid population increase, particularly in coastal areas, is putting increasing pressure on the natural environment through habitat loss, waste disposal and excessive wastage. This has led to the acceptance that all dimensions of society are affected by decisions pertaining to the environment and natural resources. This paper will address the identities of some of the major stakeholders, including the government, the public, and vulnerable groups such as indigenous groups and future generations.

Serious discussion around the energy debate requires a balancing act between the competing interests of various stakeholders and varied interest groups. On one hand there is the desire to reverse the impact of environmental damage caused by energy consumption and production; on the other hand, this interest must be weighed up against the strong economic growth needed to maintain living standards and reduce poverty.

#### The Role of Government

The problems associated with the creation and use of energy are not going to be handled or affectively addressed through one single stakeholder but involve the cooperation and coordination of multiple stakeholders driven by strong governmental leadership (Pittock, 2003). This is the common thread through all individual stakeholder discussions. The public will look to the government to prepare our economy for a future with a finite level of fossil fuel and to invest in alternative fuel sources. This will involve a commitment to getting the new energy mix right; reducing the burning of fossil fuels, and increasing the production of non-renewable energy sources at an economically sensitive rate (Allen Consulting Group, 2005). Central governments need to provide the legal decision-making tools to assist local government, the private sector and households to integrate climate risks into key decisions. Local council and state governments in particular have a pivotal role in overseeing public infrastructure, health policy and land use planning and control. During the 2005 G8 Climate Conference held in London it was acknowledged that:

"Major investment is needed in energy infrastructure to meet energy needs and to tackle climate change. The majority of this investment will come from the

private sector. Clear policy signals are needed to channel it towards lower carbon technologies. The challenge is to create the incentives for the private sector investment, including through market-based instruments and carbon finance.”

Statements such as the above reflect the global desire for governments to steer the energy debate and pressure the private sector to engage in macroeconomic management, monitor climate risk and appreciate the seriousness of this issue (Weiss, 2002). Much of the private sector is subject to price regulation. It is not clear whether regulators are sensitive to the pressures placed on infrastructure by climate change. Despite a number of initiatives, governments are generally not seen to be doing enough to monitor the private sector and rally the major firms to be accountable for their contributions to global emissions.

Support for research and development is an established function of government, primarily associated with ‘spin off’ benefits of new knowledge creation and dissemination’ (Allen’s Consulting Group, 2002). For example, in Australia a range of rural research and development corporations have been established to begin to address the production technology needs for a range of agriculture activities. These agencies can play an important role in assisting the adaptation response and flexibility of agricultural producers through the development of drought and improved production methods. An example of this was The Managing Climate Variability Program (MCVP) which ran between 2002 and 2006. It was a joint initiative between Land and Water Australia, Rural Industries RDC, Sugar RDC, Grains RDC, Meat and Livestock Australia, Australian Wool Innovation and several non-rural RDC agencies. The objective of the program was to create new tools for improving climate risk management for farmers and resource management in long term seasonal forecasts. As a result seasonal climate forecasts are now taken into account by half of Australian primary producers. It is still too early to state decisive results; however, there are indicators that the results of the program have captured an increase in medium to long-term farm cash incomes.

Climate change will have a serious impact on Australia’s economy and international competitiveness affecting in particular Australia’s leading export earners, agriculture and tourism. This will have flow-on effects for the whole economy particularly affecting future generations and those closest to the poverty line. In the report *Deep Cuts in Greenhouse Gas Emissions: Economic, Social and Environmental Impacts for Australia* two trajectories were presented as alternate pathways; an early action scenario with a carbon signal introduced in 2013, and a delayed action scenario which assumed that the carbon signal would be delayed until 2022. The result was 2050 greenhouse gas emission levels in Australia being 80% higher than current levels.

The government – at international, national, state and local scales – and business and industry are major stakeholders on the environmental stage and in the energy debate. However, faced with resource limitations, short-term politically motivated planning

and/or the dominance of commercial and financial interests, the public and private sectors cannot adequately address environmental issues as they can not and are often unwilling to, meet all demands necessary. Therefore, the emergence of non-government organisations has created a new form of ‘check and balance’ on both the public and private sectors, and can also work in partnership with these sectors to ensure that decision-making accounts more effectively for environmental concerns.

### **The Role of Non-Government Organisations**

Non-government organisations (NGOs) are generally motivated by and pursue public interests agendas rather than individual or commercial interests. Further, they are often independent of government, free from political affiliation and have a high degree of public trust. Considering their relative freedom, public support, and specialist knowledge, NGOs may be better placed to identify, and redress, remedy threats to the environment than government groups. NGOs also may better articulate the needs of groups marginalised in environmental decision-making processes and those most adversely affected by environmental degradation; such as, generally local community members (particularly those who are non-experts in environmental issues are those of low socio-economic status); or ethnic minorities including indigenous populations. With this capacity and ability comes an obligation and responsibility. NGOs have a responsibility to play an intermediary role between government and the private sector. NGOs take a variety of forms they may be large or small with agendas ranging from local to transnational issues and may be private, corporate, religious, Indigenous, community or international institutions. Some are highly sophisticated with a well established public image such as ‘Friends of the Earth’ (FOE) while others are grassroots collectives which are unlikely to become household names but provide critical support at a local level. NGOs can perform a number of functions critical in the environmental arena. Their diversity in experiences, expertise and capacity makes NGOs a valuable national and international stakeholder on the environmental stage.

Historically, the greatest influence of NGOs has been on regional and international environmental cooperation: playing a major role in influencing international policy and agreement formulation and pushing for sustainable development as a key agenda at the international level. Many environmental treaties formed within the last 20 years demonstrate a movement towards NGO participation in international law, for example, *The Convention on International Trade in Endangered Species*, *The Montreal Protocol* and *The Framework Convention on Climate Change*. NGOs have also served as a watchdog monitoring the compliance and behaviour of States against their international obligations (Hunter, 2002).

In recent years the range of activities of NGOs has expanded significantly and they have a wider role than simply raising environmental awareness or acting as pressure groups. Activities also include environmental

monitoring, environmental education, training and capacity-building, practical management of conservation areas, the promotion of community and individual action and campaigning for greater accountability on the part of the government, business and industry (UNESCP, 2001). The role and activities of NGOs at national and community levels are increasingly being realised. NGOs work on two levels: at a national level, they focus primarily on policy and legal frameworks and play a vital role in identifying weaknesses and gaps in policy and legal frameworks, information gathering and education of the public and private sectors. At a community level they take on responsibility for identifying issues, raising awareness and providing grass roots information.

NGOs are becoming increasingly prominent in environmental affairs<sup>1</sup> and as the world's environmental issues increase and become more complex, NGOs will play a stronger more influential role and will offer a global network which should be tapped into to facilitate and support environmental efforts. The importance of NGOs as a stakeholder on the environmental stage and their ever increasing role is recognised in International Agreements such as *Agenda 21* which outlines the role of NGOs as key partners for sustainable development.

### The Role of the Public

The public is obviously one of the key stakeholders on the environmental stage and crucial in the energy debate. Although the government is involved in the systemic causes of climate change or the emissions from business and industry; individual action is certainly a contributing factor (Weiss, 2002). A report released on April 14, 2008, by the Climate Institute, found that 94% of Australians now accept they need to make changes in their own lives to prevent further detrimental effects of climate change (Weiss, 2002). Increased public awareness and concern about environmental issues means the public now have the knowledge and motivation to demand greater participation in environmental decision-making. Collectively, the public also constitutes the largest stakeholder group involved in the energy debate, and therefore has great potential to make an impact on the management of environmental issues, especially as consumers.

The energy-ethics debate contains two key components which are interrelated: the ethical production of energy and the ethical consumption of energy. Individuals are important stakeholders with a responsibility as consumers. Individual action can help instigate widespread awareness of the depth of environmental issues and is crucial to a paradigmatic change in our environmental consciousness. Given the interconnected dependency of natural resources with human society, environmental issues have implications that affect all dimensions and members of society including future generations.

Our ethical responsibility as individuals in environmental issues involves a number of elements: first we have a responsibility to examine and reflect on our personal commitment to sustainability, we also have an expectation of other stakeholders in the energy debate, in particular the Government, to address pressing environmental concerns. Individuals must also take responsibility for their actions particularly in

democracies where political pressure can have a good reaction (Kaplan, 2000). Further, if citizens are to support administrative decisions affecting the environment, then they need to know that these decisions are based on reliable information, have canvassed all the issues and have been the product of to a methodical, transparent and accountable decision-making process (EDOSA, 2006). Attempting to understand the impacts of our resource use and curb unnecessary consumption is a personal obligation we each have.

As consumers we also have a responsibility which arises from the powerful level of influence the public has in environmental issues and the energy debate which arises from people exercising the power of choice in the products and services they use and buy. By using this purchasing power, individuals can greatly influence business and industry behaviour (World Business Council, 2007). The influence of this can be seen in the rise of the 'green market'. The range of products and services that identify themselves as sustainably produced has rapidly expanded since the 1990s when the sustainable development mantra was gaining significant traction; choosing goods which are recycled, organic and/or environmentally sensitive is now easier. We can see these trends in the rise of energy efficient labeling on electrical appliances, biodegradable and recyclable products, even green beers such as the Cascade Green Carbon Neutral Beer are being marketed. Technological adaptation is only one solution. As consumption of material goods and energy is one of the largest pressures we exert on the environment, the best response environmentally remains to reduced consumption.

### Stakeholders and Intra-Generational Equity

Under the principle of intra-generational equity, the interests of people affected in the current generation from a range of socio-economic backgrounds must be considered, with relative equality to be encouraged across backgrounds, within the same generation.

In environmental decision-making, indigenous people have often been marginalised from decisions that impact on their livelihood and traditional way of life, thus violating the principle of inter-generational equity.

Indigenous groups are also stakeholders in the energy debate, and are often directly impacted by decisions regarding energy. A key example is the increasing pressure on traditional owners and indigenous groups in Australia in isolated rural areas regarding the discovery of valuable minerals or pressure for the use of land for dumping nuclear waste. The role of indigenous people in relation to the environment is extremely important, as they retain not only stakeholder interests, but significant stakeholder responsibilities. Indigenous people often have stakeholder responsibilities as custodians of the environment, wherein educating future generations about the land, protecting and caring for the land, and 'speaking for' – advocating for – the land, ensure its protection for future generations. This custodian role therefore incorporates responsibilities that have endured for generations, and thousands of years. Indigenous people are also unique stakeholders in environmental decision-making, as they have incredible

knowledge of the intricate nature of ecosystems, and have been able to live in a sustainable relationship with the environment for centuries. They are valuable in the battle for sustainable development, as they focus on the irreplaceable value of the environment itself in its entirety. Yet there have been inadequate measures to ensure that the indigenous stakeholder voice is heard in the debate. For example, the Nam Theun II Dam in Laos, currently under construction, held information meetings with indigenous groups after the project had been approved, to show them what the impact of the project would be, rather than involving them in negotiations prior to creation of the concept plan, or prior to approval. Despite the lack of electricity in Laos, the dam will provide electricity to Thailand. The Lao people will therefore bear the social and environmental burden of the energy project, while enlivening the Thai economy. The abuse of such power inequalities in energy decisions is against the principle of intra-generational equity.

Although there has been progress made; particularly, with the World Bank's adoption of a formal policy relating to indigenous people, and the Declaration on the Rights of Indigenous People in 2007, which connected the rights of indigenous people with the environment, it is clear that this progress needs to be more than aspirational. Indigenous groups should not bear the burden of energy, and their vulnerability should not become a magnet for exploitation, but instead, a cause to amplify their voice, as advocates for the protection of the environment.

### Inter-Generational Equity and Stakeholders

The principle of inter-generational equity encapsulates the idea that future generations retain an equitable interest in decision-making today; it implies that they are stakeholders today.

Future generations are substantial stakeholders in energy debates and decisions, as the implications from these decisions will fully resound on future generations. However, this interest in energy decisions is not legally enforceable, and future generations do not have a legal personality by which they may be represented or sue. The exception to this appeared to be the *Minors Oposa* case, which was hailed internationally as a success for the enforceability of intergenerational equity in the Filipino courts. In this case, a lawyer, Oposa, filed a claim for his children on behalf of the future generations, against the fast-paced logging commissioned by the Filipino government. While hailed as a success, this case has been 'critiqued not as a hallmark case of intergenerational rights, but instead a mere application of already progressive Philippine law' (Yeh, 2007).

The principle of inter-generational equity is often referred to in legislation. This is evidenced in the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth), which states one of the objects of the act is to 'to promote ecologically sustainable development'. The explicit incorporation of these equitable principles into Australian law represents a step forward; however it is clear that these principles retain only aspirational significance. New frameworks

need to be developed wherein the interests of future generations in decision-making regarding energy are properly regarded.

### Conclusion

We are beginning to understand environmental issues and energy concerns as transcending geographical and institutional boundaries. Each sector of society has a valuable and necessary contribution to make and environmental concerns can only be addressed through a holistic, multi-disciplinary and multi-divisional approach. This is where the transdisciplinary subject bioscience ethics can assist as it bridges the gap between applied science and applied ethics and plays an important educational role in making people appreciate the scientific issues such as climate change. The portal <http://www.bioscience-bioethics.org/> provides free access to publications and educational materials in the area of bioscience ethics and bioethics.

Future generations are continuing to bear the burden of the impacts of decision-making today in regards to the environment, and in regards to energy. While there has been much discussion about sustainable development, and the potential for major stakeholders, such as government, business, NGOs and the public to work together towards sustainable development, more action is needed to ensure that this actually occurs in practice. As yet, vulnerable groups such as indigenous people are enduring the burden of energy decisions, and future generations, with their fragile, unenforceable interests will simply have to work with the fractured environment we are currently leaving behind for them.

### Acknowledgements

*This paper is based on a presentation at the Joint UNESCO-Macquarie University Forum on the Ethics of Energy Technologies, held 4 May 2008 in Sydney, Australia.*

We wish to thank Professor Darryl Macer (Regional Advisor in Asia and the Pacific UNESCO Office in Bangkok) for giving us the opportunity to publish our conference contributions in *EJAIB* and for giving us the opportunity to participate in the UNESCO-Macquarie Energy of Ethics Forum. We also wish to thank Associate Professor Irina Pollard (Dept. of Biological Sciences) and Dr Erika Techera (Dept. of Environmental Law), Macquarie University, for organizing this event across our disciplines and for reviewing and editing early drafts of our paper.

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## Global Warming, Ozone Depletion and Water Politics: Political Realist and Liberal Institutional perspectives at the state level

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### Abstract

It is without a doubt that environmental issues such as global warming, ozone depletion and water politics will have major implications on individuals and their way of life. However more important are the implications such issues are having on nation states (countries), their international relations and security. This paper examines the role of global warming, ozone depletion and water politics from political perspectives of Realism and Liberal Institutionalism in the context of international relations. Both perspectives reveal different approaches of nation states to deal with these environmental issues in ways that maximize their own security and welfare.

### Realist and Liberal Institutionalism: Overview

Nothing is ever black and white. Shades of grey always exist within issues relating to global politics and as a consequence, a duality of perspective is observed.

It is without a doubt that environmental issues; such as global warming and water politics, will have major implications upon the individual and their way of life. It is however necessary to examine these issues at state levels, more specifically the implications of these issues on bi- and multi-lateral relations between countries. At present, many environmental issues have impacted the security of international states creating political conflict and hence, requiring a major need for co-operation. Two schools of political thought can be applied to the examination of environmental issues at the state level. The first is political Realism (herein Realism/Realist), which focuses on the autonomy of each nation state and their quest for power, due to the concept of national interest (Sens and Stoett, 2005). The second is political Liberal Institutionalism (here in Liberal Institutionalism/Institutionalist), which focuses on the co-operation (as opposed to autonomy) of international states to resolve conflict and encourage peace (Sens and Stoett, 2005).

Both Realism and Liberal Institutionalism are appropriate political schools of analysis when examining environmental issues governing nation states. International states will exemplify the conventions of both theories depending on the nature of the environmental issues and their situational context. Ultimately, no matter what school of analysis is used, what is evident is that when states respond to global environmental issues, they do so as to maximize their security and welfare. Most environmental issues that result in conflict amongst nation states and environmental problems are the result of both the overuse and misuse of resources. In this context, the topic of global warming and ozone depletion as a problem existing because of the overuse of resources will be discussed from both the Realist and Liberal Institutional perspectives. The topic of water politics as a problem existing because of the misuse of resources will also be discussed from both Realist and Liberal Institutional perspectives.

### Global Warming: The Law, Politics and Ethics

The issue associated with Global Warming, due to the overuse of resources has created conflict amongst nation states. The term Global Warming originates from a concept known as the "greenhouse effect" proposed by Swedish chemist, Svante Arrhenius who used the term to explain the effect of the Earth's atmosphere upon its surface. Global Warming occurs when greenhouse gasses such as carbon dioxide absorb infra-red radiation from the atmosphere and prevent the dissipation of this infra-red radiation back into the atmosphere. As a result, the absorbed infra-red radiation results in an increase of the Earth's temperature, up to 30 degrees Celsius. The consequences of this include changes in precipitation and wind patterns, increases in sea levels and changes in seasons – essentially the effects of global warming most commonly result in climate change (Davenport, 2006).

In order to reduce global warming by one means through the reduction of carbon dioxide emissions, international states have been eager to find solutions, especially through international agreements. One such agreement is the Kyoto Protocol. The Kyoto Protocol

was set up under the United Nations Framework Convention on Climate Change in 1997 as a text agreement, but was officially entered into force on the 16<sup>th</sup> of February 2005. The primary feature of the protocol includes mandate targets on the reduction of greenhouse gases (primarily carbon dioxide) for the leading economies (UNFCCC, 2007). The treaty has proven to be successful in meeting its aims as exemplified by countries in the European Union such as Germany whose emissions have declined by 2.3% between 2004 and 2005 (EU greenhouse gas emissions decrease in 2005, 2007). However, a recent examination indicates that the behaviour of international states, when examined under a realist conception, reveals a disintegration of the Kyoto Protocol as a result of various issues.

One specific issue is that developing countries such as India and China while required to take measures to limit greenhouse gas emissions and promote adaptation to future climate changes are exempt from the stringent emission demands of the protocol. More specifically, stated exemptions in meeting greenhouse gas reduction targets within a specific time frame (UNFCCC, 2007). To the USA, this exemption was seen as problematic. According to USA Senator Loft, such exemptions of a legally binding treaty would require the United States to reduce carbon dioxide and greenhouse gas emissions to that of 1990 levels by 2010, whereas developing countries would be exempt from doing so (Davenport, 2006). With regards to the political behaviour of the developing countries, Realists would argue that such behaviour is an attempt to exercise autonomy by means of 'soft power' (power without military means) on the developed countries to carry the burden of the emission cuts set by Kyoto. This also results in economic benefits to the developing countries, thus a major advantage to national interest.

As a result of the aforementioned dilemma, President Bush made a decision in 2001 to withdraw from the Kyoto Protocol (Davenport, 2006). He did this for two main reasons. Firstly, he claimed that countries such as India and China act as "free-riders" in the international realm governing Kyoto. Although their own industrialization resulted in increased greenhouse emissions, they leave the solutions of reduction targets to developed countries (Chow and Leong, 2006). The second reason has an economic dimension. According to the US Council of Economic Advisors, the cost of cutting carbon emissions by 20% by the year 2010 would range from 800 billion to 3.6 trillion dollars. However, pursuing the goals of Kyoto without actual affiliation to the treaty and at one's own pace would cost a mere 250 billion dollars (Davenport, 2006). Hence realists would argue that at a time when sovereign states fail to cope with issues affecting the planet, they seek to resort to national goals, as seen in the second reason above (Holden, 2002). The USA accounts for 25% of all global Greenhouse gases (Davenport, 2006). Withdrawing from the Kyoto Protocol is likely to provide economic stability to the USA, but yet instability to the economies of other nation states that are left to manage the global emission target with the omission of a significant contributor to the

issue. In this case, realists would argue the existence of an economic security dilemma, in which the economic stability of one country leads to the economic instability of another.

Another issue relating to the problematic nature of the Kyoto Protocol is inability of certain developed countries to meet the prescribed targets associated with the Kyoto Protocol. Statistical data indicates that many countries will not meet their prescribed emission targets by 2010. Countries such as Denmark, Portugal, Canada and Japan have actually exceeded rather than reduced gas emissions by 18%, 49%, 8% and 8% respectively (Bolin, 1998). All these countries however have remained within the Kyoto Protocol. A realist would argue that that it is in a state's best interest to co-operate in order to attack issues affecting the entire planet (Sens and Stoett, 2005), thus this may account for the reasons as to why each state has remained part of the protocol. However, the reason for not reaching targets maybe the result of a lack of co-operation. According to philosopher, Jean Jacques Rousseau, there is often much difficulty in establishing co-operation in an anarchic environment (Sens and Stoett, 2005). In this context, the anarchic environment refers to the varying increases and decreases of gas emissions depending on the country. It also reinforces issues related to collective security and lack of a centralized authority controlling each country's emissions, since the agreement allows states to manage their emissions in a manner they see fit. A realist would, correctly, argue that this situation encourages a greater pursuit of national interest away from co-ordination and co-operation.

### **Ozone Depletion: State Politics and Ethics**

While the Kyoto Protocol reveals realist perspectives of states compromising co-operation in order to purport national interests, liberal institutionalists suggest that the desire for institutions to facilitate global co-operation still exists when dealing with environmental issues (Sens and Stoett, 2005). An example of this was commonly seen in the Montreal Protocol on Substances that deplete the Ozone layer. The Montreal Protocol was established in 1987 with aim of reducing calculated consumption and costs associated with the use of Chlorofluorocarbons (CFC's) by 50% by the end of 1998. Also implemented was a freeze on halons (another ozone depleting substance) by 1992. At the time of signing, there were only 24 nations that ratified the agreement; however in its 20 years of existence, it has attracted more than 191 nations on a global scale. In the initial agreement, developed countries were given a specified time in which to reduce ozone-depleting substances from the atmosphere. Developing countries on the other hand were given a 10-year grace period so they could accumulate sufficient economic growth to meet the needs of such reductions (Davenport, 2006). This was why Kofi Annan (Secretary-General of the United Nations from 1997 to 2007) suggests that the Montreal Protocol is probably the most successful international agreement to date (UNDP, 2007). The treaty was developed on the premise of scientific discoveries of the depleting ozone layer in Antarctica,

concluding the presence of an “ozone hole” (Montreal Protocol MP20-Key Points, 2007). This hole occurs when a large use of ozone depleting substances (CFC’s, halons, freons, carbon tetrachloride etc...) are used in the environment. As a result, UV radiation, normally shielded by the ozone layer is absorbed more frequently and hence like global warming generates similar climatic effects. The first attempt to ban non-essential aerosols was undertaken by the United States in a unilateral (one country only) manner. However more interesting, is the effect of the USA as a veto power in influencing other developed countries in the world to ratify the Montreal Protocol. An example of this was unilateral legislation with the addition of trade sanctions against countries that were not inclined to participate. Such use of this legislation was observed against the European Council, which after pressure from the United States as well as scientific discoveries on ozone depletion in Europe decided to sign the protocol in 1987 (Davenport, 2006).

Perhaps one of the most inaugural aspects of the treaty was the inclusion of developing countries in the agreement. Although CFC production of developing countries accounted for only 15% of the global CFC production, future emission rates were predicted at a 7-10% increase, particular in China (Davenport, 2006). As a result, developed countries recognized the need for global participation and thus through the protocol provided financial funding to these developing countries. Statistics indicate that the 50% reduction has been obtained as well a reduction in greenhouse gases by 8900 million tones (Montreal Protocol MP20-Key Points, 2007).

Perhaps the most plausible means of examining the success of the Montreal Protocol is through the Machiavellian phrase of the ends justifying the means. Although the actions of the USA may parallel Realist ideologies, that is, an attempt to maintain power through domination of other countries; the outcome of the Protocol was better achieved through this behaviour. Furthermore, the ideologies of Liberalism Institutionalism are reflected in the support given to developing countries. Although the Montreal Protocol was rather successful, the outcome still reveals that states will simply respond to environmental issues depending on the situation, in order to maximize security and wellbeing. For developing countries signing the agreement resulted in funding that increased their security and wellbeing to efficiently reduce CFC’s. For developed countries, the threat of ozone depletion proposed by scientists instigated the need of the protocol to protect their own environment (security) and people (wellbeing).

### **Water Politics: Cause, State Behaviour and Solutions**

As exemplified above, environmental issues of Global Warming and Ozone Depletion have large impacts at the state level. Also evident are environmental implications that arise from the acquisition of energy and water through construction of hydroelectric dams, resulting in the competitive side of states to misuse water for this purpose. A classic example of this and one that influences the global environment is known as “water politics”. The Law of

conservation of energy, which states that energy, can neither be created nor destroyed, but rather flows from one place to another, can be applied to water. However, this flow of water has posed numerous problems amongst nation states, especially those sharing a common river. Globally 47% of land falls within international river basins and close to 50 countries in over 4 continents have three-quarters of their land in international basins. With over 40% of the world’s population living within some type of international basin, there is an increasing need to obtain water of consistent quality and that of increasing stability, hence why conflict instigated by realist motives have resulted, with regards to water competition (Clarke, 1991). According to Dr Mostafa Tolba (Executive Director of the United Nations Environment Programme) and in a realist sense, freshwater shortages contribute to an unstable perception of national security as such shortages increase economic and political differences between countries. In addition to this, most water crisis issues have a geopolitical dimension in which “upstream” countries pass wastes and other pollutants to “downstream” countries. Many water crises and conflicts among states arise primarily because of two main reasons. The first involves a large rapid change that occurs in the physical setting, for example the building of a dam or the break-up of a nation resulting in new international basins. The second reason occurs when individual states are unable to effectively manage and absorb these changes, generally where there is a lack of treaties governing the rights and responsibilities of the two nations on the issue (McDonald and Jehl, 2003).

The first reason is noted in Brazil’s decision to build the Itaipu Dam on the Parana River (part of the Kiodela Plateau). The Dam stretching over 200 km in length would present a major source of flooding into neighboring Argentina, wiping out all of north-east Argentina. While the Brazilians saw the building of the dam as a potential to increase energy needs, the Argentineans saw this as “military posturing” (Clarke, 1991). Realists would argue that the primary objective of all states in such an environment is to follow their own efforts to ensure their own security. (Sens and Stoett, 2005) In this case, Brazil exemplifies this, as its interests ensure that the creation of a dam will maximize its own security and thus wellbeing. A realist would also argue the selfishness associated with Brazil and its concern being primarily on a uni-axial basis, that is, actions that revolve only around benefiting one country.

An example of the second reason is identified by Israel’s use of water in the Arab states. In 1965, Israel attempted to carry out a unilateral diversion of its water into the country. In response, the Arab states also diverted the water originating from their countries into rivers within the Arab states. As a consequence and threat to its security, Israel launched a pre-emptive strike on Syrian construction sites with military aircraft. Israel also attempted to dissolve salinity issues by pumping water from the Mediterranean Sea into the Dead Sea and construct a dam above Jordan. However, Jordan believes that such an act will waterlog areas of agriculture in the East Ghor canal region (Clarke, 1991). The water crisis in the Middle East acts

as “domino-effect” as each state’s actions have reprehensible and continuing affects on the other. Application of Thomas Hobb’s theory from the Leviathan reveals a “water arms race” in which the actions of one state are mimicked by another in a plot of revenge (i.e. by diverting rivers). This occurs when there is lack of treaties regarding the sharing of water. Hence, Realists would argue that in this situation, nation states take advantage of the opportunity to maximize security and wellbeing through the use of hard power (gaining power by military means). This was clearly seen in the situation in the Middle East as exemplified by Israel.

A study by Oregon State University suggests an obvious trend relating issues surround water politics. As the level at which state conflict is resolved decreases, the likelihood of state violence and conflict increases (McDonald and Jehl, 2003). Given this trend, a Liberal Institutional would suggest, there needs to be a treaty that results in the co-operation of states to manage scarce water resources and avoid competition for these resources. Currently, the Middle East and areas of Africa and South America have a limited number of treaties compared to the 175 in Europe dealing with the same issue (Clarke, 1991). There is some evidence of a Liberal Institutional approach to the water crisis. Currently, in the Middle East, Turkey has implemented two “peace lines” responsible for providing water to Jordan and Western Saudi Arabia as well as Syria, Eastern Saudi Arabia and the Gulf States. In 1986, the United Nations launched the Environmentally Sound Management of Inland Water Resources (EMINWA) in the Zambezi River. The program now serves eight African countries in assisting with the management of water pollution and as an overseeing power, creates strategies to increase water efficiency and equitable distribution (Clarke, 2005). From the perspective of a Liberal Institutional, co-ordination is imperative to preventing water disputes. Liberal Intuitionists would argue that the management strategy implemented by Turkey as mentioned above would be the most plausible option to states in maximizing security (ensuring at least some supply of clean water) and ensuring wellbeing (fresh water to the state’s populations).

The environment is a complex and controversial element in international relations as exemplified throughout this essay. Both the use of resources and the misuse of resources have adverse effects upon the environment including the security, peace and freedom of states. The political schools of Realism and Liberal Institutionalism are just two political lenses through which issues of global warming, ozone depletion and water politics can be examined. Neither one provides a definitive explanation for the way in which states behave with regard to the environment. While a liberal institutionalist approach may be more favourable as explained by Barry Holden in his suggestion of the necessity for international collective action (Holden, 2002), one cannot be assured that this will occur. Essentially, the ethical behaviour of states is unpredictable; as standards of sovereignty, they choose to make their own decisions that maximize security and

wellbeing whether this is with realist or liberal institutionalist ideologies.

### Acknowledgments

*This paper is based on a presentation at the Joint UNESCO-Macquarie University Forum on the Ethics of Energy Technologies, held 4 May 2008 in Sydney, Australia.*

Professor Darryl Macer (Regional Advisor in Asia and the Pacific, UNESCO Bangkok) for giving me the opportunity and experience to publish this paper in *EJAIB* and for giving me the opportunity to participate in the UNESCO-Macquarie Energy of Ethics Forum. Associate Professor Irina Pollard (Professor of Biological Science, Macquarie University, Sydney, Australia) for giving me the opportunity to participate in the Forum and for thoroughly reviewing and editing this paper. Dr Culum Brown (Professor of Biological Science, Macquarie University, Sydney, Australia) for supporting the Advanced Biology Students of Macquarie University in the Forum and this publication.

Professor Arnd Jurgensen and Teaching Assistant Hannah Moosa (University of Toronto, Mississauga, Canada) for providing teaching assistance and knowledge in the first year course of Global Politics POL114H5F.

My Parents: Dr. Christopher and Mrs Suzanna Farias, for providing me with the technological and educational opportunities and resources involved with writing this paper. To the many authors and organizations whose resources/works have enabled this paper to become a concrete reality from its abstract conception.

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## The Ecological Costs of Hydroelectricity

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The construction of large-scale hydroelectric dams has fragmented and altered the world's rivers, resulting in a wide range of ecological impacts with varying degrees of reversibility and scale. Ecosystem services, such as water purification, nutrient cycling and flood and drought mitigation, are being negatively affected. The physical barrier of a dam creates an obstruction in migratory routes for some fish species, which can result in changes in species composition or even species losses. Moreover, changes in flow regime caused by the damming of rivers can lead to further disruption in fish and invertebrate migration, changes in water chemistry and temperature and algal blooms. Downstream annual flooding is subsequently reduced, resulting in decreased fertility and productivity of riparian zones, floodplains and deltas. This reduction of sediments and nutrients in downstream regions results in habitat loss and degradation, directly affecting biota. Modified habitats are often more conducive to the proliferation of exotic species rather than native species. The severity of these impacts is a growing threat. The world's watersheds are habitat to over 9000 fresh water fish species, comprising 40% of the world's total fish species. In recent years at least 20% of these fresh water species have become threatened, endangered or extinct. Negative externalities produced by hydroelectric dams in downstream regions, such as wetlands and river estuaries, includes degradation, flooding and salt intrusion. The range and severity of impacts on all adjacent ecosystems to hydroelectric dams are too great to ignore.

Moreover, hydroelectric dams can actually contribute to greenhouse gas emissions. After clearing, the vegetation left within the reservoir decays, creating anoxic environments. This subsequently leads to conditions conducive to the formation of methane gas, which is then released into the atmosphere when water is passed through the turbines. Although the scientists have some ideas, it is still unclear what processes are responsible for the formation of methane in plants; however, its increasing environmental importance has stimulated research into its production in decomposed vegetation. Methane (CH<sub>4</sub>) is 21 times more powerful in trapping solar heat (effective as a greenhouse gas) than carbon dioxide. Thus, the creation and release of methane caused by dams is significant. Carbon is also released into the atmosphere by the initial clearing of forest for the creation of a reservoir. As water depth

fluctuates with seasonal changes, there is a continuous supply of decaying material. During periods of low water depth, plants colonise the banks of the reservoir, which subsequently are covered and drowned as the water rises, perpetuating the cycle of methane production. These areas are known as "drawdown" regions, and in dams that have shallow shelving, can extend for many kilometres. In some cases greenhouse gas emissions far outstrip emissions from equivalent sized fossil fuel powered plants. The Curu'a-Una Dam in Brazil is one such example, with greenhouse gas emissions 3.6 times higher than the fossil fuel plants that it displaced. Thus, the further construction of hydroelectric dams needs to be carefully considered in the face of human-induced climate change. It is time we recognise the significant negative impacts of hydroelectric dams and put a stop to the continual construction of these dams.

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## Energy Equity and Human Security: Where Does the Solution Lie?

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Security can be defined as freedom from danger and risk, and it encompasses water, food, shelter and a place to call home. The growing problem of the environment and climate change directly affects human security, and it affects developing nations to a far greater degree than developed nations. Environmental degradation brings natural disasters, droughts, famines, floods, landslides, disease, ill health and forced migration. Those affected most are those that cannot help themselves. Water is a critical resource but we see glaciers on the Qinghai-Tibet plateau melting rapidly, and these glaciers provide water to half the world's population in China and South East Asia. Coastal low-lying nations like Bangladesh are at extreme risk of rising sea levels, as well as increasing monsoon rains causing flooding and prolonged periods of drought. The world is on the brink of a food shortage as rice, the staple food for over 3 billion people, doubled in price in several months in 2008. Asia is struggling to feed itself yet huge tracts of land once devoted to food production,

are now being used to grow biofuels for the European Union (EU), and people are being pushed off their land to make way for the plantations, creating forced migration. Asia is being used to fund the industrialized world's fuel consumption patterns, but perhaps the developed world needs to look at fuel consumption *reduction* rather than finding a solution that only brings about another set of problems.

Climate change and its effects are creating more insecurity in the world for many of its people and the impact of development and industrialization on the environment is a problem that cannot be ignored. However the idea of equity equates to one of 'fairness', and is it fair to say to developing nations that they cannot develop? The problem of the environment was originally created by industrialized nations, so the bulk of the responsibility for the solution also needs to come from them. China insists that poverty reduction for its people must be prioritized over meeting energy reduction targets, and that they have a right to industrialize and to have a better quality of life. The Chinese economy is growing at a rate of 10-11% annually, with no signs of slowing down. Their energy needs are increasing exponentially and the primary source of energy is coal. This is the most detrimental to the environment, causing effects that can undo years of poverty reduction schemes and improvements in quality of life.

Much of the energy fueling China's economic boom is used to produce goods that the industrialized world consumes. The ubiquitous "Made in China" stamp is known all over the world. China is criticized for its increasing output but much of it is generated producing *our* goods, so should China reign in its growth, or should *we* reign in our consumption patterns? The environment is a problem that requires cooperation from all parties. The industrialized world needs to collaborate with the industrializing world to help them develop in a way that is sustainable, good for the environment and meets their growing energy needs. The developed world also needs to consume less and use less energy. Our world consists of a finite supply of materials and resources and these simply cannot meet our insatiable consumption patterns for much longer.

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*This paper is based on a presentation at the Joint UNESCO-MacQuarie University Forum on the Ethics of Energy Technologies, held 4 May 2008 in Sydney, Australia.*

<http://www.globalissues.org/EnvIssues/GlobalWarming/Justice.asp>  
<http://www.infochangeindia.org>

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New book on participatory exercises (free to download from [www.unescobkk.org/rushsap](http://www.unescobkk.org/rushsap))

<http://www.unescobkk.org/rushsap/ethics-resources/multilingual-material/>

**Darryl Macer, *Moral Games for Teaching Bioethics* (UNESCO Chair in Bioethics, Haifa, 2008).**

## The space has been ill – the humans' fault

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Life's supposed to be merely a process  
 In the original innate space.  
 The Space is in fact not at all a dead vase.  
 It's indeed the life-hugging continuance.  
 Unfortunately, somehow,  
 Financial assets, for now,  
 Along with the marketplaces, grow.  
 Behold! It takes the sources  
 As the despatialized artifacts.

It was idyllic on all the sites:  
 The lake's hemmed in by the weeping willow.  
 Fish appeared to be too hard to rouse.  
 At the bay, fish and shellfish used to flow.  
 They swarmed in the waters.  
 White-fish used to be so copious  
 That they were strained in by the human's nets,  
 Then distributed for manure on the lands.

But now new suburbs're burgeoning all  
 Around the space of the original.  
 The space and sites bear the crash of the throw-  
 away culture of the human fellow,  
 Who're coming to set up and to dwell.  
 The sites're in a trice well  
 Sprouted by the mansion and the wall.

Behold! How grasses were paved  
 Over with cement, while oils' recollected  
 On the capacious pavement;  
 Oils then dripped from the gilsonite.

The selfish people are really domineering,  
 While the forceful wind is overbearing;  
 Alike, both throw trash arbitrarily.  
 For the mansion by the beach and bay,  
 They need to build storm sewers, for which  
 They grind away at digging the ditch!  
 There is indeed the need for new notions,  
 For which re-allocation will show how;

Over where citizens on the planet should ally  
 To corroborate, as well as, to grow  
 An ethical longing for belonging now.  
 Or, the same old selfish ruse'll soon follow.

Imagine! How it derives from the sources of  
 environments, as well as of humans

Who have accepted as 'true' for their sake

In the power of cash -- hard to conquer?  
 Soon more mansions will grow enormous!  
 Why not now be kind to the space  
 And work to wake **up humans**; save our space.

# Teaching of bioethics in medical schools in Bangladesh

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## Introduction

In Bangladesh, medical doctors usually have enjoyed the utmost respect among all other professionals. Medical practice is governed by legislation and medical laws which are enforced by the Ministry of Health and Family Welfare. Hospitals clinics and diagnostic centres are also governed by government regulations. Physicians should perform their professional work in consistency with these regulations, but malpractice and misconduct by medical practitioners are the most common public concern in Bangladesh. Moreover, there is huge gap in teaching of ethics in undergraduate medical study. On the other hand, demand for health research in this country is constantly increasing. A large number of researchers do not possess sufficient knowledge about the basic elements and fundamental characteristics of research ethics. Strengthening the teaching of bioethics in medical colleges in Bangladesh is essential.

## Existing Ethical Problems in the Health Sector

The standard of public health service is gradually deteriorating. There is increasing a tendency of government doctors to practice in the private sector during office hours. Government consultants also give much time and labour in private practice rather than in government hospitals. There is an increasing tendency of doctors from rural government hospitals to remain in the capital city taking long leave from duties. As a consequence, villages, hill and tribal areas and urban slums suffer from lacking of their presence. Doctors are taking a percentage financial cut from each investigation. Thus the tendency among doctors for advising many investigations and even high technology are increasing exponentially. Unnecessary investigations not only raise direct ethical issues and increase the cost of health but also undermine the humanistic aspect of medicine.

The emerging private sector in health care has commercialized the profession and raised many ethical concerns, such as: self advertisement, overcharging, indiscriminate use of drugs, unnecessary surgical operations, recruitment of agents to draw patients away from government hospitals, and providing false and fabricated medical certificates.

Government hospitals provide reasonably good quality health care free of cost but these are overcrowded, have long waiting lists, and often lack cleanliness and courtesy. Sick patients are often refused admission in government hospitals due to lack of beds. Many times, doctors in these hospitals have to

rely on the second or third line of therapy, as the best may not be affordable by the patients. The physicians thus constantly face ethical dilemmas in the choice of treatment, and in the choice of which patient should receive the available treatment. The costs of procurement and use of life-support systems are significant. These issues as compounded by the inability of legal systems to adapt to modern situations.

Ethical issues related to HIV/AIDS are also becoming important. Some doctors refuse to provide treatment to AIDS patients and many private hospitals have been discharging patients who test positive for HIV. HIV/AIDS patients still do not receive good care. They may be placed at the corner of the unit because of tuberculosis complications. In this situation these patients feel social isolation.

## Teaching on Ethics in Medical Schools

Bangladesh has at present a Medical University, 17 medical colleges and three dental units in the government sector and 43 non government medical colleges and 8 dental colleges in the private sector. All but eight of the medical and dental schools only conduct the undergraduate course. Another eight medical schools have a post graduate course along with undergraduate courses, also having research options. The research facilities of these medical colleges are still in their infancy.

Among them, three have institutional ethical review committees to oversee the ethical aspects of research but not all research is brought for ethical clearance by the board. Research projects are approved by the department. Informed consent papers are maintained with signatures in some cases. Furthermore, these ethical review committees have limited numbers of people trained in research ethics, despite the efforts of the Bangladesh Medical Research Council to train persons in medical ethics. Most researchers are not well exposed to the principles of research ethics.

Medical ethics is taught in the 3rd year of the MBBS course and 2<sup>nd</sup> year of the BDS course at the departments of Forensic Medicine and Preventive Dental Medicine respectively in all medical schools in Bangladesh. There is a defined course and curriculum which includes professional misconduct and other ethical issues relevant to medical practice in Bangladesh. Graduate doctors have to signed an oath before registering themselves as physicians.

In the past, there was an informal method of learning and practicing other aspects of medical ethics and professional codes of conduct through discussion in the clinical classes. However, the medical students were also encouraged to respect patient's rights and to be aware of the moral and ethical responsibilities involved in patient care. Students learned about ethics and etiquette by following their teachers as role models as well. Nowadays due to the emergence of private medical schools and introduction of larger numbers of medical students in a class, the above approach may be replaced by classroom teaching only.

Moreover, the main problem in the teaching of ethics is that teachers have little knowledge about medical ethics and medical etiquette as well as medical codes of conduct. In addition they are engaged to finish the syllabus rather than to allow the student to devote much

time on the issues of medical ethics. Also, medical students do not have much interest in learning about medical ethics as they consider other subjects and other parts of forensic medicine to be more important for passing the examination. Moreover, professional conduct and etiquette are learnt by observation from senior doctors rather than reading of books. The students rarely find a good role model among their teachers for ethical practice. Also little teaching is effectively conveyed during pre-clinical teaching sessions when the students have not been exposed to patients.

In post graduate level there is no syllabus to teach bioethics in any discipline of medicine. A study showed that a large number of researchers enrolled in postgraduate study did not possess sufficient knowledge about basic elements and fundamental characteristics of informed consent. They had to conduct studies among patients/human subjects to complete their thesis/ dissertation as a part of their course. So prior to starting a study or thesis, it is important to be trained in research ethics. Medical law and bioethics is presently taught in law schools but these courses are more adjusted to law than to medical ethics. At present, the teaching curriculum is being revised and behavioral science has been included in the 1st year course giving special emphasis to legal and ethical aspects of medical practice.

#### Initiatives Taken to Teach Bioethics

Few initiatives are undertaken to incorporate the teaching of ethics among health professionals. A 4-day intensive structured course on the teaching and practice of health ethics for teachers of few medical colleges and allied sciences was organized by Centre for Medical Education (CME) in 2003-2004.

To improve the ethical practice in conducting health research and to prepare experts in ethical review of research proposals in Bangladesh, the Bangladesh Medical Research Council (BMRC) conducted five days workshops in 1999-2000 and 2000- 2001. BMRC has also conducted a bioethics education programme from 2003 to 2006 for six courses these includes certificate and advanced courses on research bioethics. Under training on Research Bioethics programme two certificate courses are being conducted from 2003-2005. BMRC is facing the challenge of providing this training due to limited resources.

#### Conclusions and Recommendations

Bangladesh has enormous health problems with significant ethical concerns. There is large need for more teaching of ethics at the undergraduate level. Only some proposals for post graduate research are brought before an ethical review committee for ethical clearance. Although a few training programmes on research ethics have been conducted these are still not enough to meet the growing need for research and an ethical review process.

A structured curriculum for the teaching of bioethics is needed for preparing health professionals, including medical students and doctors. Integrated teaching of bioethics in clinical years can be a better setting.

Implementation of research ethics at a post graduate level is desirable. Strengthening capacity building in research ethics is needed through holding conferences, seminars, and training.

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## To Err is Human: The Need for Patient Safety

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#### O' Health Professionals

Take care to elicit findings and history always and at emergency:

Assess patients thoroughly and interpret data meticulously:

Arrange and analyse the details serially arrive at conclusions reasonably:

Explain the status clearly for decisions involving patient and family:

Prescribe in generic name clearly remembering adverse effects consciously:

Highlight the situation and outcome genuinely with evidence and probability:

Show empathy and manage ethically and communicate the constraints gracefully:

Maintain records satisfactorily for patients, professionals and payers properly:

Understand hidden aspects of human science, a mystery despite doctor, device, diagnosis, drug and daily diet:

Avoid confusions, as disease has uncertainty but eliminate ignorance, innocence and misinformation mostly:

Ask again relevant questions and listen carefully to know the disease status and stage, need more money

For patients do services and procedures without delay as well as fear or wrath from public, patients, press and judiciary

Get consent for procedures, if any to avoid consequences legally:

Help sick and suffering kindly as well pray to Almighty silently:

Serve better with clarity and keep away from benefits and biases, O'Almighty:

Anticipate errors, mishaps or mistakes carefully as "to err is human" everyday:

Document and monitor medical errors regularly demand for a national policy for quality and safety:

Issue certificates and reports timely upholding the tradition professionally:

Face socio-medical challenges amicably and train students and professionals in science and spirituality:

Discourage profiteering health centre[s] in village or city but respect professional integrity:

Learn from books, journals and CME constantly to gain confidence and skills definitely

Solve problems smoothly  
accepting limitations honestly

Educate on follow-up and preventive measures surely also undertake research on patient safety:

Introduce patient safety programme everywhere early as professionals too suffer from sickness certainly:

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## Stigmatization of the Mentally Ill and an Ethical Framework of Cultural Contexts, Psychosocial Development, and Moral Development.

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### Abstract

This article describes stigmatization and its impact on the mentally ill and on the advancement of psychiatry. The article highlights an ethical review of stigmatization establishing a link between the psychosocial factors, culture and moral development. This paper offers an examination of studies conducted in Turkey and the Western world, and socio-cultural frameworks for dealing with ethical values and psychosocial development. The paper then argues for the need to discuss moral, psychosocial and cultural meanings embedded in various ethical issues in arriving at conclusions and suggestions to prevent stigmatization.

The paper concludes by emphasizing the importance of ethical training, cultural diversity and moral development giving reasons and examples why these are important against stigmatization and suggesting ways of handling mentally ill.

**Keywords:** Stigmatization, Mentally ill, Culture, Ethics, Moral values, Psychosocial development.

### Introduction

Stigmatization is a way of discrimination based on labeling. It usually shows up when an item becomes different from the generally accepted norms or chronically normal situations (1). Stigmatization is a major factor that inhibits developing healthier societies with sound interpersonal relationships and respect for others. It is one social attitude that keeps societies susceptible for discrimination (2, 3).

Stigmatization is a problem in healthcare. Mental illnesses are accepted as being susceptible to be stigmatized more than, for instance, cancer and physical disabilities. Studies have shown that the

stigma of mental illness adversely affects the course and prognosis of illness (4). The most important adverse effect of stigmatization of the mentally ill is that the fear of being stigmatized forces patients not to apply for care. Stigmatization is a social concept, because stigmatized patients are judged as dissimilar and kept away from almost all of the societal networks (5, 6), and the irreversibility of labeling and stigma are very important in psychiatric diagnosis (7). Prevention of stigmatization might even be accepted necessary for social peace as families of mentally ill and anybody responsible for them suffers from the process, as well. Stigmatization might create diminished liberty for the mentally ill even after they are successfully treated and this can be accepted against civil rights.

Stigmatization of the mentally ill has been subject to historical evaluations which show that its roots take place in the days not very far from the modern times when "madness" was associated with poverty, vagabondage, social dissidence, criminality, and the potential for uprising and violence and the mentally ill were segregated officially (8, 9, 10). Mentally ill were handled in crowded and unsanitary conditions. In the modern ages in the West, the handling of mad persons as a distinct social category took place in asylums, which is thought to be an important factor in promoting psychiatric stigma in the modern era. Psychiatric stigma is present in non-Western societies such as India and especially China, as ordinarily studied by anthropologists and social historians (10). Studies suggest that social stigma is less prevalent in Islamic societies. In all societies where the Great Traditions dominate, there exist more supernatural, religious, moralistic, and magical approaches to illness and behavior.

There are studies on various cognitive and behavioral factors that comprise stigma; designing strategies to reduce stigma and improve access to care (11). The origins of stigmatizing seem related to shared culture, morality and psychosocial development of individuals (12 - 16).

This paper offers an examination of studies conducted in Turkey and in some other cultures. Socio-cultural framed ways and ethical issues surrounding stigmatization are discussed, Suggestions to prevent stigmatization are proposed from different perspectives.

### Evaluation of the Social and Cultural Roots of the Problem

It is prejudice or stigma that brings with it negative judgment, action and generalization. In most cases, stigmas are based on invalid and poorly justified knowledge (2). Defined 'knowledge structures' that are learned by most members of a social group are an efficient means of categorizing information about social groups. Nevertheless, stereotypes do not always lead people to negative judgments, or to act on them in a discriminatory manner.

When it comes to mental illness, society has not caught up to science. Mental problems are still believed to be related with character and self-discipline. Mentally ill persons might point out to things that individuals are scared of in themselves. It is proposed that when something about human nature is not understood, there are different defense mechanisms such as embracing

and making a career out of it, investigating it, avoiding it, laughing at it or to believing it is very different and fight it. (3) The concept of mentally ill comprises a wide range of disorders, which are different from each other in terms of prognosis, treatment, side effects of drugs and job performances. Mental illness needs to be evaluated from different points of view such as the real organic nature of the disease, the possibility of treatment, public approach and stigmatization, susceptibility to violence, and relation with ethics in terms of reflections of the disease to behaviors (5). It is related to cultural, sociological, and economic factors that a theory of psychiatric stigma will ultimately have to address (10).

### Observations of Studies in Turkey and Other Cultures

A study carried out by the Department of Consultation-Liaison Psychiatry at the Cerrahpasa Medical Faculty, University of Istanbul, Turkey showed that part of public who believe that it is possible to treat the mentally ill, tend to stigmatize them less (1). It is also the case that, there have been tremendous advances of treatment in psychiatry in the last century (17) and with increasing chances of treatment; public fear of mentally ill people has decreased not only in Turkey but also in other countries (1). One universal factor in the stigmatization of mentally ill people is indeed related to advances in therapy. Giving mental health care opportunities to the public and a healthy approach from health care professionals would convince them of the therapeutic possibilities of mental illness. Darrel Regier, the director of research for the American Psychiatric Association (18), pointed out that it is the time to end legal insurance discrimination because it is the time of triumph of science over stigma and ignorance. Norman Dain claims that recent advances in biological treatments have rekindled optimism about recovery that may go far in eliminating stigma (19).

On the other hand, fear of stigma is an important factor in the resistance to treatment. The tremendous impact of this unresolved aspect of the problem prevents the treatment from being widely effective in many societies in which a majority of the patients refuse even being referred for treatment because of the fear of being stigmatized. Sometimes health care professionals are involved in the process of stigmatization, as well (20). The stigma associated with mental illness is a major factor in the resistance of rural residents to mental health services (21). Lower socioeconomic classes who tend to have less education might show discrepancies in terms of negative attitudes. In another study, it was reported that chances of availing treatment facilities for mental diseases were better in cases of educated, economically independent and non-agricultural workers than the illiterate, economically dependent and agricultural workers (22). Research results from the Epidemiological Catchments Area (ECA) study illustrate that many people with mental illness never access treatment. Results from this study showed that less than 30% of people with psychiatric disorders seek treatment where the nature of the

problem is the stigma (23). One might think that this ratio represents those with relatively minor adjustment disorders who choose to withstand relatively brief psychiatric discomfort rather than to be immersed in mental health treatment. However, findings from the ECA study showed that only 60% of people with schizophrenia participated in treatment. The U.S. Surgeon General 1999 Report classifies Mental Health Barriers as (a) failure to recognize the disease, (b) failure to access to the sick, (c) because of stigmatization, failure to access to treatment (d) capability of paying for the services, etc (24).

Fink proposes that the stigma associated with psychiatry is the most critical problem facing the profession. He identifies additional sources of stigma as psychiatrists' internal conflicts over treatment ideas and stigmatization of the patients by the physicians themselves (25). The criteria for involuntary hospitalization, involuntary medication, restriction of liberty of the patients, outpatient commitment, the monitoring of medication compliance might need to be revised to decrease the stigma associated with serious mental illness (26). According to McCullough (27, 28, 29), since medicine is a social institution, and was laid open to conviction in the late 20<sup>th</sup> century for social, moral and economic integrity, it might be of great importance for the prevention of stigmatization to establish a multidisciplinary approach to patients, for the evaluation of patients for their best interests during the rehabilitation process, as well (27 - 31).

Certain empirical studies in Turkey show that the threat of possible danger from the mentally ill patients is one of the most important factors that lead to stigmatization by others. One study (32) reports that interviews with the public show that the public concept of '*being crazy*' is related to a group of mentally ill who are aggressive and have to be treated through hospitalization. The perceived association between violent behavior and serious mental illness was explored by Torrey et al to determine the validity that individuals with serious mental illness are no more dangerous than members of the general population. It is likely that more persons are killed and seriously injured by drunken drivers during the course of a single week than by all combined categories of psychotic individuals over an entire year—perhaps even several years. However, the society demonstrates a truly astonishing tolerance for this group of demonstrably dangerous persons. The labeling of the mentally ill as dangerous could in itself be regarded as a rather dangerous activity (33). Bruce Link, a psychiatric epidemiologist at the Columbia University School of Public Health in New York presents in Baltimore at a recent meeting of the American Association for the Advancement of Science that mental illness is a very small contributor to overall levels of violence. Link and colleagues recently conducted a large-scale study of mental disorders and violent behavior in Israel, findings of which were similar to those in a previous study in urban areas of the United States. The study found rates of violence for people with mental illness to be about three to four times the rate for the general public. Therefore, it is not a rational basis for rejecting or

discriminating against people with mental illness (34). It is also reported that the portrayal of mentally ill persons in movies and television programs has an important and underestimated influence on public perceptions of their condition and care. Mentally ill are usually presented as rebellious free spirit, homicidal maniac, and narcissist parasite (35).

According to a study carried out in Turkey (36), the lack of public awareness of the social-role-taking ability of a mentally ill patient has a crucial role in stigmatization in Turkey. This strategy of providing patients with a social role and maintaining their social contacts is expected to keep them productive. In addition, families should be convinced about the success of the mentally ill in the housework. In this way, patients might be kept away from demoralization, losing self-confidence, and relating all their personality traits with their illness. Greenberg et al conducted a related study (37) and underline that the above precautions are not satisfactory alone. Establishing a methodology to keep these measures alive and functional in the society is also very important. It is strongly emphasized that providing patients with a social role does not minimize the stresses and burdens that families experience in coping with mental illness nor imply that all clients with mental illness make contributions to their families. It is important to balance the often-held view that families experience only burden with the mentally ill. One of the consequences of the diminution of stigmatization would be the reduction of the many social, judicial, economic and cultural obstacles standing in the way of people with mental disorders (37).

It is important to note the cultural differences regarding the attitudes towards the mentally ill in cultural contexts (38). In the contemporary cultures, (39) the tendency to perceive and report distress in psychological or somatic terms is influenced by an array of social and cultural factors, one of which is the relative degree of stigma attached to each. Depressive symptoms are considered to be private and even dangerous, according to research in South-India, Taiwan and China, which sharply contrast with reports from the West (39). In China, diagnoses of depression are less common than in the West and one of the relevant factors is that patients avoid seeking help because of the stigma of mental disorder (40). In Norway inadequate treatment of mood disorders is related to disinformation about methods of treatment and the stigma of psychiatry (41). In Laos, a predominantly peasant society, the individual's self-labeling is a more critical factor than social labeling for the social disability associated with chronic psychosis (42). As an example to the situation in the United States, Frederick Frese who was diagnosed with schizophrenia at age 25 emphasizes in his work (43) that learning to cope with a disability is a function of experience and guidance from others. The author is now a psychologist who works with persons hospitalized with mental illness. He claims that those who were struck with mental illness were ejected from society and isolated as asylums and until thirty years ago not expected to return to society. Some precautions and protocols for patients to cope with the disease are observed in the new health care pattern of

the United States that are thought to be some of the effective and practical precautions to cope with stigmatization (43):

- Recently, the National Mental Health Consumer's Association adopted a six-part national agenda. For discrimination, the following is stated: "Discrimination, abuse, ostracism, stigmatization and other forms of social prejudice must be identified, and vigorously opposed at every opportunity."
- A National Stigma Clearinghouse has been established in Albany, New York, with monitors, which challenges media stereotypes of the mentally ill.
- Mike Jaffe and his family (1993) have produced and widely distributed posters highlighting "People with mental illness (who) enrich our lives." They point out that such persons as Robert Schumann, the composer, Vaslov Nijinski, the dancer, Eugene O'Neill, the playwright and many other accomplished individuals, suffered from serious mental illnesses.
- The Americans with Disabilities Act (ADA) is shown as a significant step forward in the area of employment opportunities.
- Networking self-help is also very important for destigmatization, in which people who had experienced the same disorders help each other.
- Hospitalization and diagnostic labeling are not advised because of their risk.
- Health care system is suggested to serve without letting any disruptions in the communication between the patients and the society.
- The words "crazy," "insane" and "nuts" must be avoided in the language of the mass media.
- The movies are pointed out to have an unfortunate tradition of portraying the mentally ill as monsters.

### **Socio-cultural Framed Ways of Ethical Values and Psychosocial Development**

An empirical study in Turkey was undertaken to show if personal acquaintance influenced positively the emotional reactions to the mentally ill. Two possible mechanisms were discussed (44). Past acquaintance with a mentally ill person may have an effect on the conscious level or if past acquaintance desensitizes prejudice, personal experience would be expected to show its positive effect on the unconscious level. Consciousness and unconsciousness at the individual and societal level might be two important elements of stigmatization. Unconsciousness is described as being out of experience which is subjective experience of being aware of a phenomenon (45). According to the Turkish perspective (44), interacting with a mentally ill person in the past possibly influences the unconscious feelings of the society. Thus, persons who were acquainted with a mentally ill person in their past are desensitized for their negative feelings that were produced by their false perceptions on mental illness. This shows, according to Arikan *et al.*, two points:

- 1) The society is readily sensitized emotionally against the mentally ill.
- 2) It is possible to be desensitized emotionally by acquaintances with the mentally ill.

Penn et al investigated what type of information reduces stigmatization of schizophrenia. Those individuals who had no previous contact perceived the

mentally ill as dangerous and chose to maintain a greater social distance from them. More information about the target individuals' post-treatment living arrangements decrease stigma (46).

Corrigan et al reported that contact with people with mental illness also yields significant improvements in attitudes about mental illness. Research shows that members of the general public who are familiar with mental illness are less likely to endorse prejudicial attitudes (47). Spiro et al have reported that different populations studied at different points in time by different investigators have shown a willingness to admit contact with the mentally ill. It has been concluded that the hypothesis the public will deny contact with the mentally ill is not supported and has not been supported for at least a decade by empirical evidence (Baltimore City field survey 1960, Kentucky State, rural North Carolina, and the City of New York) (48).

On the other hand, Black et al dealt with children, whose mothers were killed by their mentally ill fathers or vice-versa. These children had to cope with the trauma of violence, the grief associated with the loss of both parents simultaneously, stigma, secrecy, and often-massive conflicts of loyalty. These events are rare but very complicated. This type of possible stigma about past acquaintance, which is not related to desensitization, needs special handling (49). Fear and exclusion in respondents with children is not related to lack of knowledge of mental illness or sensitization but to the conscious belief that the mentally ill are actually more dangerous because of their children's vulnerability (50).

Arikan's empirical study in Turkey (44) proposes that acquaintance with mentally ill reduces stigma, especially the ones excluding stigma depending on violence (51). As we have discussed, when stigma occurs either because of the fear of violence or sometimes because of the acute phase symptoms of serious psychotic illnesses, past acquaintance might also have a negative impact on the contrary side of what we have presented. However in reality, fear of real danger or fear of real bad symptoms of mentally ill without treatment might be interpreted as rational fears or functions of the conscious world either created by past acquaintance or knowledge of possible danger rather than a stigma. In stigmatization, all mentally ill are considered as bad.

### Stages of Moral Development

In addition to the social, cultural and psychological factors, the moralists, according to moral theory, define stigmatization as a moral judgment (12). In science of psychiatry and psychology, according to Sigmund Freud and his followers, moral development of individuals have special conditional link with psychosocial development (13). Therefore, stigmatization might be both a psychosocial and a moral problem and might be placed at the intersection of moral and psychological development. If stigmatization gets very strong to the point of disturbing social peace or prevents an individual from being

treated, then it is worth to analyze the very mechanisms that contribute to stigma build up.

From a Freudian approach, for the concept of morality to develop, an analysis of the "character" is proposed to be necessary (13). Sins or virtues become more meaningful when they are interrelated with the character particularities of an individual. A virtue separated from the character might not be valuable at all (e.g. humbleness due to fear or repressed megalomania). In the same way, a sin might mean different issues when evaluated together with a character (as in the case of a high state of pride which is a result of low self-esteem or inferiority complex). The Freudian approach suggests that for an analysis of the concept of morality, it is essential to evaluate virtues and sins together with each individual character and not as separate and isolated features. Ego plays such a strong role to direct the action, which the research of morality cannot neglect (14, 15). Psychoanalytical theory has been very useful for us to recognize and understand "the moral values" scientifically, which have an important role during the process of stigmatization.

According to moralists, stigmatization is a type of moral judgment, which is made in the name of being a human and which tries to protect the values of individuals and general moral principles depending on those values.

Moral judgments show themselves as either directly by words expressing value as 'good-bad' or 'true-false' or by value-laden words such as 'insane', 'crazy', 'terrorist' without thinking about our actions (12). The latter implies an example to the stigmatization of mentally ill. Moral judgments might shape our behaviors about our society, our world, or us (12). As a result of healthy psychosocial development, it is believed that moral judgments are replaced with the "status of realizing and evaluating the conditions, just like realizing the conditions of mentally ill instead of stigmatizing them." (13). According to Kohlberg, the preeminent moral development theorist, value judgments are related to stages of moral development, as well (52). Kohlberg proposed that there are six stages of moral development that humans go through, the same way babies learn first to roll over, then to sit up, then to crawl, and finally to walk. It is important to know that, majority of the individuals according to the stage they have reached, designate the stages of the societies according to moral development theory and moral judgments at societal level (52). Those moral values or judgments or urges, which are embedded in stages at individual level, are reflected at the societal level to shape a pluralistic society. There are two essential correlates of Kohlberg's theory: First, everyone goes through the stages in the same order, but not everyone goes through all the stages; second, a person at one stage can understand the reasoning of any stage below him or her, but can understand no more than one stage above. These correlates, especially the latter one, are important when it comes to assessing the nature of disagreements about ethical and moral judgments one of which might be stigmatization (16). At stage 1, what is right is to avoid breaking rules and punishment. The person at this

stage does not consider the interests of others and actions are judged in terms of physical consequences rather than in terms of psychological interests of others. At stage 2 what is right is acting to meet one's own interests and needs and letting others do the same. A person at this stage separates own interests and points of view from those of authorities and others. A person at stage 3 is aware of shared feelings, agreements, and expectations, which take primacy over individual interests. The person might put oneself in the other person's shoes. In short, the person has empathy for others and gets rid of stigmatization. At stage 4 the right is doing one's duty in society, upholding the social order, and maintaining the welfare of society or the group. At stage 5, the right is, upholding the basic rights, values, and legal contracts of a society, even when they conflict with the concrete rules and laws. At stage 6, principles are the equality of human rights and respect for the dignity of human beings as individuals. The rational individual recognizes the basic moral premise of respect for other persons as ends, not means. Stigmatization might be overridden by respect for others.

### **Moral and Cultural Meanings Embedded in Ethical Issues**

Kohlberg (52) states that it can be so far connoted that, in a pluralistic society, every member of that society embraces a moral mechanism, totally or partially, while all ethical systems do not agree upon a single good; cultures, religions, institutions, and professions may each have a unique idea about what constitutes the good which is pursued by the right action that is achieved through the right decision, and which is accomplished over moral reasoning at the individual level. The source of this variation in ethical reasoning can also be linked to personal attainment of different stages of moral development and psychosocial development among individuals within that pluralistic society (52).

According to moral theory, the reasons of action or purpose of action should be sought (53, 54). Reasons for doing/not doing are critically important. The second point about actions is the power of the reason. When people react to mentally ill because they are afraid of violence, they might have some power of the reason. If one has to choose between stigmatizing a patient or not and if the latter is chosen, it is proposed by moralists that this eventually, is also the urge and wish of that person, by all means, because people eventually prefer to choose what they want most in that particular situation. This is seen to be the ethically right way of acting. The difference is mainly in the purpose of the act (53). Theory is true to a certain extent but there is no certain answer to the resolution of dilemmas.

There are interesting works about the link between consciousness and values. Steve Torrance of Middlesex University proposes that in both the areas of ethics and consciousness there are problematic gaps and it is proposed that empathy is a precondition for a science of consciousness in his presentation named 'Consciousness, inter-being, and value.' (55). Evan Thompson (56, 57) proposed to explore how concepts of mind and consciousness relate to concepts of value. He emphasizes that one's consciousness of oneself as

an embodied individual is accomplished in empathy with another. He suggested that the world of fact is not purely objective, neutral and values are not extrinsic to the world, imposed by arbitrary choice. Instead the world is seen as a lived world in which values are embedded and which can thus only be grasped evaluative or empathetically.

The science of psychology depends on ethics (58). Psychoanalytical knowledge is an ethical comprehension, at the same time. It is also proposed that the help of ethics explains preconditions that psychoanalysis depends on and ethics uses a concept of action. Ethics education compromises judgment through values and action depending on that judgment. There are only a few studies that have sought the psychology of stigma and to diminish self-stigma and based on the cognitive functions resembling our approach. Kingdon et al (59) used cognitive behavioral approach to help people reframe stigma as a normal event. The interventions were well received by patients and seemed to yield more acceptance of their illness. Self-stigma is weakened when people learn research-based information that counters it. Thus, educating individuals who self-stigmatize about mental illness can help them challenge their negative beliefs.

A very recent study from Malaysia (2008) also reports that Malaysians tended to favor social-environmental explanations for schizophrenia. Ethnic and sex differences played role in the comments. They agreed that schizophrenia has a social cause and schizophrenic behavior is sinful and hospitals do not provide effective treatment (60).

Another study (2007) proposed that about morality that civilian trained health professionals altered their views about mental illness during the First World War but initially the military imperatives inherent in a global conflict perpetuated the notion that mental illness was linked with defective morality (61). Kleinman also mentioned in his work (2006) that culture is crucial to medicine and culture is about the changing moral experiences of patients, families and practitioners and those experiences powerfully affect the doctor-patient relationship even to create stigma (62). Nelson emphasized one of the main points in this review article in his work that ethical issues associated with mental illness have been generally neglected in the literature and texts of the discipline of bioethics. Pervasive stigma attached to mental illness is a major reason for that. Attention of bioethicists would bring lots of benefit to the attitude towards mental health by emphasizing ethical significance in health care (63).

### **Conclusion**

It is widely appreciated that a social stigma surrounds psychiatric illness in contemporary society. Although psychiatric illness has some biological character, it also is socially constructed through development of the self. A significant barrier to engaging in mental health treatment or the restriction of the liberty of the patients is stigma associated.

There has been some research about stigmatization in Turkey one of which introduces the consequences of past acquaintance with the mentally ill and a probable unconscious dimension supported by other literature

findings either from West or East, although there are some contradictory findings, as well.

As we have reviewed, stigmatization is affected by social and cultural factors. We face socio-cultural framed ways that have connections with ethical values and psychosocial development. Furthermore, moral, psychosocial and cultural meanings embedded in various ethical issues are discussed to arrive conclusions. Moral development theories propose a mosaic structure of values, feelings and social impacts at different stages of life.

Stigmatization is a multifactorial topic. Again, there is need to acknowledge the fact that ethical issues carry with them social and cultural meanings that must be taken into consideration. Also, studies emphasize that psychology has connections with ethics and moral development. We observe that in different cultures, common ethical issues like social values, dignity, empathy, love for human beings, informing communication, respect for individuals might help to welcome mental diseases and prevent stigmatization.

Since ethics is a specific form and concept of medicine including psychology, cultural diversity, social values, and moral values, education of ethics and research of ethics about mental health might be a major challenge to stigmatization.

This paper has examined recent developments for stigmatization against mental illness. It offered an analysis and review of the framework of ethics, cultural approach, psychosocial and moral development. As a result of values, some cultures and societies might have positive memories about mental illness and stigmatization is not a problem.

The paper argued for the need of training and research of ethics, cultural diversity and moral development. I invite more research results and culture based comments to protect mentally ill against stigmatization.

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## Report of the Asian Bioethics Association (ABA) General Meeting (2008)

website for ABA <[www.eubios.info/ABA.htm](http://www.eubios.info/ABA.htm)>

Presided over by the President and Secretary [Jayapaul Azariah (India) and Darryl Macer (Thailand)]

Meeting held on 5 November, 2008 at the time of the Ninth Asian Bioethics Conference (ABC9): Healthy and productive life in harmony with nature / Third UNESCO Asia-Pacific School of Ethics Bioethics Roundtable, 3-7 November, 2008, Jogjakarta, Indonesia.

There was an explanation of ABA and appreciation to ABC2008 hosts, the Indonesian National Bioethics Commission. The results of the election of new board members whose term was expiring on 16 November 2008. The two successful candidates were:

President elect: Prof. Leonardo de Castro (the Philippines)

Vice-President for Korea: Prof. Young-Rhan Um (Republic of Korea)

Self-introductions of ABA Board Members present were made and appreciation was given to those whose terms were expiring.

*Asian Bioethics Association (ABA) Board of Directors (November 2008-2010)*

President: Leonardo de Castro

Vice President for China: Yanguang Wang

Vice President for India: Abnik Gupta

Vice President for Japan: Atsushi Asai

Vice President for West Asia: Aamir Jafarey

Vice-President for South Asia (East of India, excluding other named regions): Soraj Hongladarom

Vice President for Asian Ethnic and Religious Minorities: Alireza Bagheri

Vice President for Korea: Young Rhan Um

Secretary: Darryl Macer (Thailand/New Zealand)

Immediate Past President: Jayapaul Azariah (India)

The Secretary's report noted the website: <http://www.eubios.info/ABA.htm>

The Current ABA Membership was 151 members (of whom 20 have paid money for 2008). More members were encouraged today. The production and circulation of the ABA journal, EJAIB, continues to operate on an annual loss subsidized by Eubios Ethics Institute.

The Membership benefits are reduced conference admission and the journal, EJAIB. The journal can be downloaded by anyone from the website.

<http://www.eubios.info/EJAIB.htm>

There was distribution of 2008/2009 ABA renewal forms (and readers are encouraged to use the form on p. 191 of this issue for 2009).

### **Asian Bioethics Association Fees**

Membership fees are payable from October of the previous year to the completion of the following calendar year (e.g. at the time of renewal to EJAIB, the official journal of ABA).

A three tier system exists for annual fees:

a) Regular price (US\$50 Euro 40 Yen 5000).

This includes the *EJAIB* journal subscription and free associate membership of Eubios Ethics Institute.

b) Reduced contribution (the amount is up to the member, and is also suggested for students)

This includes the *EJAIB* journal subscription.

c) No fee, because the person is not in a position to pay the fee.

This does not include a hard copy of the *EJAIB* journal, but anyone can apply to Eubios Ethics Institute separately for a hard copy of the Journal, to be considered case by case.

The **ABC10 conference** will be held on **26-29 April 2009 in Teheran, Iran** (details below). Participants were encouraged to come and to propose sessions.

There was a proposal from the board for an additional article in the ABA Constitution. The background was a call for greater diversity of geographical representation and diversity (e.g. gender and other diversity) among ABA members. The benefit was that it would make the association open to more persons, in countries or regions that are not represented by vice-presidents. These persons help to promote ABA membership and goals in their area.

The proposed additional article was adopted by acclamation to the ABA Constitution, reading:

**“The board members present unanimously suggest to add an article: The board can co-opt, by consensus, associate non-voting members to increase the diversity and geographical representation of the board for the current term.”**

There was also a discussion that a growing number of activities were happening in South East Asia, and the may need to be increased representation from that region in the future. Current country representatives are:

Australia: Irina Pollard

Bangladesh: Shamina Lasker

Indonesia: Amru Hydari Nazif

Philippines: Leonardo de Castro

Sri Lanka: Anoja Fernando

Turkey: Sahin Aksoy

Further representatives in these and other countries are encouraged.

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### **News in Bioethics & Biotechnology**

<http://eubios.info/NBB.htm>

### **International Bioethics Education Project News**

<<http://groups.yahoo.com/group/Bioethicseducation/>>

**The international bioethics education network is now an official network of the IAB.**

### **IAB Genetics & Bioethics Network: On-line**

The complete address list is updated on the Internet. Send all changes to Darryl Macer. There was a session at the IAB World Congress of Bioethics in Croatia in September 2008.

### **UNESCO Asia-Pacific School of Ethics**

<http://www.unescobkk.org/index.php?id=apse>

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### **Conferences**

*Tenth Asian Bioethics Conference (ABC10)/Fourth UNESCO Asia-Pacific School of Ethics Bioethics Roundtable: Bioethics in Asia: Bringing Ethics into Practice*, 26-29 April, 2009, Tehran, Iran.

Hosts: Tehran University of Medical Sciences.

Abstract submissions of 300 words in English are welcome to email: [ABC10IRAN@TUMS.AC.IR](mailto:ABC10IRAN@TUMS.AC.IR)

Limited financial assistance is available, please send a covering letter if required. ABA members will have a 50USD discount for registration fee.

**ABC2009 Conference website:**

<http://abc10iran.tums.ac.ir/>

## Conferences

For a list of some ethics meetings in Asia and Pacific:  
[http://www.unescobkk.org/index.php?id=current\\_and\\_future\\_events](http://www.unescobkk.org/index.php?id=current_and_future_events)

For all below please contact: RUSHSAP,  
 Email: [rushsap@unescobkk.org](mailto:rushsap@unescobkk.org)

### UNESCO Gender Studies Network Conference

9-13 February 2009

Imperial Tara Hotel, Bangkok, Thailand

### UNESCO Youth Ethics Training Workshops. An Introduction to the ethics of science and technology through lectures.

5 February 2009; 20 March 2009

Bangkok, Thailand

### UNESCO Ethics Education Workshop

17-18 March 2009

Dhaka, Bangladesh

### Tenth Asian Bioethics Conference / Fourth UNESCO Asia-Pacific School of Ethics Roundtable

26-29 April 2009

Tehran, Iran

### High level Conference on Teaching of Philosophy in Asia and the Pacific, 25-26 May 2009

Manila, Philippines

### UNESCO Asia-Arab Inter-regional Philosophical Dialogues,

27-29 May 2009

Bangkok, Thailand

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### The goals of *EJAIB* include:

1. *EJAIB* is the official journal of the Asian Bioethics Association (ABA) and the IUBS Bioethics Program.
2. To review and update news and trends in bioethics from around the world. Bioethics is broadly defined as life ethics, including both medical and environmental ethics, and environmental, ethical, legal and social issues arising from biotechnology.
3. To pay particular attention to issues raised by genetic and reproductive technology, and other news for the International Association of Bioethics Genetics Network. To publish letters on such topics, promoting international debate.
4. To publish research papers, and relevant news, and letters, on topics within Asian Bioethics, promoting research in bioethics in the Asian region, and contributing to the interchange of ideas within and between Asia and global international bioethics. Asia is defined for the general purposes of this journal as the geographical area, including the Far East, China, South East Asia, Oceania, the Indian subcontinent, the Islamic world and Israel.
5. To promote scientific responsibility, in cooperation with the International Union of Biological Sciences (IUBS) Bioethics Program.

**Send papers to the editor in electronic form if possible.** Please use numbered reference style, do not use automatic footnotes or endnotes. Papers are peer reviewed.

*The journal is independent of UNESCO and the contents are not endorsed by either Eubios Ethics Institute or UNESCO, but are published in the spirit of academic freedom.*

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