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Bangkok Statement on Human Gene Editing and Human Genetic Engineering

This Statement stems from the Intercontinental Summit on Human Gene Editing and Human Genetic Engineering held in Chulalongkorn University, Bangkok, Thailand from 30 January-2 February 2019.[1]

The Summit was organised under the auspices of American University of Sovereign Nations; the Center for Ethics of Science and Technology, Chulalongkorn University; Eubios Ethics Institute; Accredited Universities of Sovereign Nations; and United Nations Academic Impact. The participants included persons from Australia, Bangladesh, Belgium, Brazil, Canada, China, Democratic Republic of Congo, Ethiopia, India, Indonesia, Iraq, Iran, Israel, Japan, Micronesia, Mozambique, New Zealand, Nigeria, Pakistan, the Philippines, Spain, Tanzania, Thailand, United Kingdom, United States of America, Vietnam, who came together as individuals to contribute their reflections.

Context

We came together as geneticists, scientists, medical doctors, lawyers, bioethicists, philosophers, policy makers, youth, and civil society leaders to consider what both our future children and our future society should look like, to contribute to global reflection on the question of when and how ethical human germ-line gene editing should occur and how it should be regulated.

In concordance with the Statements of the Organizing Committee of the First (2015) and Second (2018) International Summit on Human Genome Editing,[2] we consider that "continued international discussion of potential benefits, risks, and oversight of this rapidly advancing technology" needs to involve persons from all around the world, including those at the margins, beyond the more formal limits of National Academies of Sciences and Governments, and should not be confined to academic elites. The participants at the Intercontinental Summit share the commitment of the International Summits, to fostering in-depth and international discussion about human genome editing.

Widen the Debate: Multiple Ongoing Forums and Discussion is Needed

Reflecting on the statement of the Second International Summit on Human Genome Editing, with focus on the organizing committee's call for "an ongoing international forum", we strongly recommend expanding the scope of the call to include international, national and private forums all around the globe to also take part in the discourse and combine efforts to cope with the multiple aspects of the subject of human gene editing. *These fora should happen in as* many sovereign nations, communities and societies comprised of persons of all occupations *and different point of views, positions and calling, from those who air on the side of caution against*

[1] http://www.ausn.info/human_gene_summit_2019

[2] http://www.nationalacademies.org/gene-editing/2nd_summit/index.htm

possible harm from unforeseen changes to DNA, and those who consider the potential benefits outweigh the risks. These *fora* should include those with eugenic goals of positive enhancement of human beings, and those who consider editing DNA counter to nature or "playing God".

We solemnly believe that the magnitude of the impact of human gene editing on the world's population justifies inclusion of all relevant voices in the process of enhancing peoples' health and wellbeing. Any human being, including those who are born after germ-line gene editing, like their parents, possess all inalienable human rights, regardless of any parental desire or technological intervention, and regardless the social and genetic lottery of life that each one of us finds ourselves. This includes freedom to travel the world, and reproduce freely in countries that may have bans on the birth of children who have germ-line gene editing at some point in their development.

Regarding the Second International Summit's proposed theme of the dialogue: "to foster broad public dialogue, develop strategies for increasing equitable access to meet the needs of underserved populations, speed the development of regulatory science, provide a clearinghouse for information about governance options, contribute to the development of common regulatory standards, and enhance coordination of research and clinical applications through an international registry of planned and ongoing experiments.", we strongly support these ideas. We also solicit the need for all publications on the ethical, social and legal aspects of gene editing and human genetic engineering, to be freely accessible to all individuals, associations and lawmakers throughout the world, so that knowledge, values, ethics and managements options will be broadly shared.[3]

Not only should scientific and technological knowledge, information and publications be freely accessed and used, it should also be independent of government and other interest groups' interventions. Hence, free and wide dialogue must be encouraged. History shows4 that problems can and will occur when such independence is not safeguarded. The democratizing of scientific knowledge and technology is very important, because it will enhance the understanding of such issues reasonably and allow all Peoples to prepare adequate contributions to broader policy related to science and technological development, with a balanced approach to the benefits and risks of research and practice. These kinds of factors should not be treated as political issues in the representative democracy forum whereby the parliament members discuss and decide the issues on behalf of the people belonging to their political party or state. The sensitive decisions related to human life need to be made in an inclusive manner, emphasizing the need for holistic contributions and integrated points of views.

Freedom of Research

Given the narrowing distinctions between clinical research and therapy, we do not share the view adopted by the 2018 Summit statement, that: "it would be irresponsible to proceed with <u>any</u> clinical use of heritable "germline" editing at that time." This statement is too rigid and too broad, even though we may reject some cases. Rather case-by-case review by scientific and ethical review bodies should be conducted in order to achieve and further implement the international consensus expressed in the 1997 Universal Declaration on the Human Genome and Human Rights, and in particular article 16: *"States should recognize the value of promoting, at various levels as appropriate, the establishment of independent, multidisciplinary and pluralist ethics committees to assess the ethical, legal and social issues raised by research on the human genome and its applications."*

A case-by-case approach is better than painting all the cases with the same rejection for five main reasons:

1. We will never assess properly the value of not to edit if we cannot compare the actual clinical value of doing so;
2. The casuistry and its results might help to create a constructive discourse in the global bioethics community to go beyond the moratorium approaches of the past several decades;
3. 'Not to edit' doesn't imply that techs like CRISPR couldn't be use in opaque ways or finding an alternative just around the corner; further than this;
4. it implies that we will be less ready to detect its misuse due to our practical inexperience with the new generation of gene editing tools (in addition to technological delays in translation of cutting-edge ones to clinical use);
5. The human right to share in the progress of science and reproductive liberty.

The reported clinical use of germline gene editing leading to the birth of two babies in 2018 has received, both applause and fierce ethical criticism. As we are, thus far, unfamiliar with the exact details of the case, we are unable to usefully comment on the decision to use germ-line gene therapy as an AIDS vaccine.[5] The vague details of the case do not allow for a responsible scientific reaction, but we conclude the issue by stressing the need to safeguard a positive, supportive, and collaborative atmosphere between scientific researchers, ethicists, regulators and law makers so that clinical interventions are always carried out in the most humane manner and only for enhancement of the wellbeing of the individuals involved. It may not be possible to gather a consensus among all persons on what is morally right in each case.

Promoting Research into Gene-Editing and Gene Therapy

The Summit heard some interesting and convincing evidence-based examples of the use of gene editing and

[3] All articles should be accessible through the Internet or other media without publication fees.

[4] For example, both positive and negative eugenic policies, and compulsory birth control.

[5] In order to further understand the newest technologies applied in gene editing, Dr. He, the scientist who has just recently claimed to have completed germ-line gene editing on two Chinese babies, was invited, to the 2019 Intercontinental Summit on Human Gene Editing and Human Genetic Engineering, Bangkok. Unfortunately he was unable to attend. The intention of the invitation was to help us in understanding the complexity of the issue considering the diversity of reaction to Dr. He's claims.

gene therapy. The Summit noted that there is an established international consensus, supported by ethical discourse since the 1970s, that research and clinical trials on the use of gene editing and gene therapy on individuals should be encouraged subject to case by case ethical review as clinical trials. Basic and preclinical research in base editing has produced significant increases in efficiency and precision while greatly reducing off-target events. At the Summit we heard of promising gene therapy trials of persons with beta-thalassemia, in Thailand and other countries, that have benefited individuals and even offer more cost-effective solutions than alternative therapies. This will help achieve the goals for greater health equity and alleviation of the burden of genetic disease and meet one of the earlier objections against gene therapy that it will only be available to the rich in a manner different to other therapies.

Five percent of the world population are carriers of globin gene mutations, and every human carries some genetic mutation that causes disease. Editing the DNA of embryos or gametes may allow parents who carry disease-causing mutations to have healthy, genetically related children. There is public support for germ-line therapeutic intervention, with several scholars also supporting this once it is reasonably safe. However, current European legal guidance prohibits trials of germ-line gene therapy. The Summit calls for a greater international discussion of such issues to avoid an unreasonable reality in which some regions of the world will embrace and conduct inheritable genetic therapy for the benefit of the babies, the community and the nation while others do not. Although we firmly support the notion that every nation has a sovereign right to regulate technology according to its own public choices, we still believe that the personal legitimate basic human right of all human beings is to have an unlimited therapeutic and reproductive choices so an international declaration that will confer such right to all needing individuals is in dire need.

Ethically we concluded that the primary reason to reject the choice of parents to apply germ-line gene therapy to a serious disease is significant risk of harm to the future baby. Regarding the "Proposed Translational Pathway" of the Second Gene-editing Summit, we agree that there should be dialogue for "establishing standards for preclinical evidence and accuracy of gene modification, assessment of competency for practitioners of clinical trials, enforceable standards of professional behavior, and strong partnerships with patients and patient advocacy groups."

Pursuit of Progress and Medical Technology

One of the underlying philosophical ideas of society is to pursue progress, the principle of beneficence. Research shows there is high support for use of gene therapy to cure disease, both as somatic cell therapy (for fatal, and late onset diseases) or inheritable therapy (for fatal, and non-fatal diseases); and high support for gene therapy approaches to an AIDS vaccine.[6]

Currently around the world there is ubiquitous use of cosmetic surgery. Already some physical enhancement is accepted, whether it be vaccination, vitamins, cosmetics, or cosmetic surgery. We also accept enhancement of other species to make better foods, and even to adapt our diet to our personal genetic traits (nutrigenomics). The ethics of hard work and reward for studying hard is widespread. One can expect enhancement tourism to expand in countries that are marketing to persons who live in countries with more restrictive or expensive options.

While improving human capacity such as health and intelligence through any means including gene therapy may be desirable, the danger of social injustice and discrimination looms in the background. The creation of unnecessary gaps between the genetic "haves" and genetic "have nots" would affect employment preferences and retention, academic placing, social benefits, political influence and power concentration, social division and alienation, unreasonable and unjust entitlements, and so on. We also need to ensure actively the involvement in discussion, and access to therapies, of vulnerable persons including indigenous persons and people of different abilities. On the otherhand, the "only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others."[7] Although we can argue that there is a precedent in international customary law against reproductive cloning of human beings, there is not such a precedent against human germline gene therapy.

The attitudes towards use of gene therapy to improve intelligence, or even make a person more ethical, are positive. It is difficult to argue that improved intelligence is a harm against anyone. If genetic enhancement is feasible, it is likely that there will be demand for it because parents compete to produce able children and nations compete to accumulate human capital in skilled workers. If some parents or nations begin using genetic enhancement, this will change these competitions in ways that increase the incentives for others to use it. People in many indigenous communities have a range of value systems which are often neglected in global ethical discourse, but self-determination is a central human right.

Maybe we can only become complete moral beings when we also love our own life, pursuing our capabilities, gifts and desires to achieve more of the potential that we have. To be responsive to the needs of persons with disability, society should possess the fundamental sense of justice that is meant to value the dignity of each person. We do not believe that an international law that prohibits development of technology is ethical, nor will it protect society and individuals from making choices to enhance themselves. History has shown that people reject stringent laws or legalistic religions. Education of mature and tolerant citizens is a more effective and longer-term solution.

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[6] Macer, DRJ., Akiyama, S., Alora, A.T., Asada, Y., Azariah, J., Azariah, H., Boost, M.V., Chatwachirawong, P., Kato, Y., Kaushik, V., Leavitt, F.J., Macer, N.Y., Ong, C.C., Srinives, P. & Tsuzuki, M. (1995), "International perceptions and approval of gene therapy", *Human Gene Therapy* 6, 791-803; Macer, DRJ. (2012) "Ethical consequences of the positive views of enhancement in Asia", *Health Care Analysis*. 20 (4), 385-397.

[7] John Stuart Mill, *On Liberty*.

In our deliberations during the Summit we conducted a broad discussion on balancing the pursuit of improvement, transhumanism, questions of causation, alleviation of suffering, and broader ideas of the pursuit of human desire. Our new biotechnological capabilities have brought us to the frontier of the meaning and integrity of birth and personhood. To be accused of playing God is to be accused of doing something morally wrong. The wrongness might not derive from harms caused but might rather come from the fact that something is being done that has no business to be done by humans. Playing God is expanding the sphere over which we have control, to the extent that we no longer have the knowledge or capacity to competently make decisions in that expanded sphere. All of life is independent and intertwined.

Humanity must decide how best to use the astonishing power we are gaining through major advances in such fields as genetic engineering, cloning, medicine, robotics, neuroscience and ICTs. We're today potentially able to re-engineer our very existence and how we share it with the others. In many ways we are being called to rethink what it is to be human. Just how far should we go in modifying ourselves, and our children, in the quest for intelligence, health, beauty, strength and entrepreneurial ability? Is there a risk of future conflicts between those persons born with enhancements and those who are not? Previous generations have opened the door to widespread use of genetic selection in the control of which babies will be born, which have enhanced the choices of parents and allowed some reduction in the frequency of children born with genetic disease. Should this or the next generation open the door to germ-line genetic modification in the process of human reproduction, a door that may not be closed?

These issues need to also be considered in the context of broader issues of the age of the Anthropocene, when we may consider the ethics of control of human population growth, and the associated environmental pollution that affects not only the health of human beings. We also note that there are so many enhancements without risk, such as a basic healthy diet for all persons, and especially pregnant women and children, that we are still far from realizing. Promoting public health, bioethical literacy, and bioethically mature choices is a responsibility of all of us.

There are various ways that governments can infringe on human rights through coercive restrictions on reproductive liberty, yet the cumulated individual choices of the current generation also affect our collective destiny. Let us develop a bioethically mature society where all people have a say and develop responsibility.

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International Approaches to Regulation of Human Genetic Modification

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Pursuit of Progress and Medical Technology

Humanity must decide how best to use the astonishing power we are gaining – through major advances in such fields as genetic engineering, cloning, medicine, robotics and neuroscience – potentially to re-engineer our very existence. In many ways we are being called to rethink what it is to be human. Just how far should we go in modifying ourselves, and our children, in the quest for intelligence, health, beauty, strength and entrepreneurial ability? Many people reach the conclusion that if we allow cosmetic surgery than some types of genetic enhancement without medical reason may also be ethical.

There are a great variety of views about the prospects of changing humanity, and the associated attitudes to the use of science and technology to enable this (Parens, 1998). Although there has been a generally negative attitude towards genetic enhancement expressed in academic literature in Europe, there are academics who assume varying perspectives. However, the practices that shape medical advancement and cosmetic fads are determined more by the views of consumers as shaped by industrial marketing. Positive attitudes to use of science and technology and enhancement in Asia may lead to different outcomes in the future (Macer, HCA).

The public in Asia has a relatively high level of interest in science, and a high level of awareness of specific developments of science and technology (Macer, 1994a; Macer & Chen Ng, 2000). The International Bioethics Survey conducted in 1993 in ten countries in Asia and the Pacific (Macer, 1994) found positive views towards genetic enhancement in China, India and Thailand, with less approval in the Philippines, Singapore, and a majority rejection of this in Japan, Australia and New Zealand. Less than 10% in all countries in the International Bioethics Survey saw science and technology as doing more harm than good. Overall, most people in industrialised countries around the world perceive more benefit than harm from science. Most people also believe that improved quality of life depends on scientific knowledge.

Eugenic ideas found both positive support in some countries, for example for improving genes by genetic screening, with less negative reaction, for example a few people cited social eugenics programs, or many being against gene therapy for enhancement. The questions regarding genetic screening and gene therapy suggest positive support for eugenics among a significant portion of the population, especially in China (Lo et al., 1994), as well as India and Thailand (Macer, 1994a). Subsequent research has also supported this conclusion that there is

significant support for enhancement in the most populous countries in the world, China and India.

Germ-line enhancement is also supported by many persons in these surveys. The acceptance of eugenic arguments linked to use of genetic screening is widespread in interviews conducted in China (Su and Macer, 2003). The Chinese concept of "Yousheng" (healthy birth) is more appropriate than eugenics as an expression of Chinese social policy and public attitudes. The Chinese word "Yousheng" is similar to the Greek work eugenes meaning "good in birth." It is consistent with Galton's eugenics core doctrine of improving the stock of humankind by application of the science of human heredity. In this sense, the Chinese word "Yousheng" can be translated to eugenics.

The actual practices of use of sex selection of children supports this conclusion, with higher frequencies in China and India, and growing tendencies in Vietnam (Macer, 2009). Despite laws to prohibit female feticide the practices continue in these countries, which raises questions on how laws can be implemented. It suggests that in the future there may also be difficulty to have effective laws.

Whitening creams are widely used in East and South East Asia, and it is difficult to find cosmetics that do not contain whitening agents. Even the dowry prices for ladies to marry is lower for fairer skins in India, and conversely fairer skin tones in Thailand can raise a higher price for the ladies (where men pay the dowry).

There have been studies of attitudes to dental orthodontics which suggest Asian patients are more willing to tolerate discomfort and pain from realignment of teeth than Caucasian patients (Law, 1993). Improvement in dento-facial aesthetics following orthodontic treatment enhances the self-confidence and self-esteem of a majority of patients. The same could be said for hair styling and fashion accessories.

Macer et al. (1995) found that about three quarters of all samples in the International Bioethics Survey supported personal use of gene therapy, with higher support for children's use of gene therapy. Lo et al. (1994) found similar results in China with the same questions. Indians and Chinese were the most supportive, and Thais the least for personal use, but when asked about use on children, Thai respondents were among the most willing (Macer, 1994a; Macer et al., 1995). When compared to US results, we find a general tendency for Asians to be more accepting of gene therapy. The surveys did not find any significant differences dependent upon sex, age, education or religiosity. The major reasons given in open comments were to save life and increase the quality of life. Some respondents gave a reason like "improving genes", which will be discussed below under "enhancement". About 5-7% rejected gene therapy considering it to be playing God, or unnatural. There was very little concern about eugenics (0.5-2%). The most significant reason for disapproving of gene therapy was health risk, except in Thailand where more people gave a response that it was unnatural. About 10% of Thai respondents gave "improving gene" reasons for using gene therapy.

There was extremely high support for use of gene therapy to cure disease, both as somatic cell therapy (for fatal, and late onset diseases) or inheritable therapy (for fatal, and non-fatal diseases); and high support for gene therapy approaches to an AIDS vaccine. There was lower support for enhancement uses (improving physical characters, intelligence, making people more ethical) than for treating disease, suggesting some discretion in what people judge to be ethically good. In India and Thailand more than 50% of the 900+ total respondents in each country supported enhancement of physical characters, intelligence, or “making people more ethical”. There was no qualification of what to make people more ethical meant, and a few persons indicated they were aware of the complexity of setting standards for what might be psychologically considered to be a “good” person socially. It could suggest several things: that poor living standards and infectious disease make people more pragmatic about "improvement". It is interesting if this is still a general trend in developing countries, as it could have significant implications for international policy.

Positive attributes to be enhanced?

One of the underlying philosophical ideas of society is to pursue progress. The most common justification for this is the pursuit of improved medicines and health, which is doing good. A failure to attempt to do good, is a form of doing harm, the sin of omission. This is the principle of beneficence. This is a powerful impetus for further research into ways of improving health and agriculture and living standards.

The principle of beneficence asserts an obligation to help others further their important and legitimate interests. It means that if you see someone drowning, providing you can swim, you have to try to help them by jumping in the water with them. If you cannot swim, you have to try to find another way to save them. If you could give everyone the ability to swim, just in case they fell into the water, or had to struggle to survive in the wake of a tsunami, it would seem to be basically ethical. When we consider the thousands of persons who lost their lives in the 2004 Indian ocean tsunami simply because they could swim (not counting those who were killed by the force of the waves), it would have saved lives to simply give everyone the innate ability to be good swimmers and survive in water, rather than relying upon being taught.

Beauty

Beauty should be judged in the eyes of the beholder, and there are diverse views of who is beautiful. However, there are social pressures in many countries to conform to certain stereotypes of beauty (Bordo, 1993). People die due to the excesses of eating disorders, and these diseases are transmitted by stereotypes introduced in the Western media. In Fiji before Western television was portrayed there were reportedly no incidences of anorexia nervosa, but after the television these disorders arose.

Kung (2010) described reasons for increased cosmetic surgery in East Asia, especially in Republic of Korea, Taiwan, Thailand and Japan, saying “double eyelid (blepharoplasty) and nose (rhinoplasty) surgeries has become akin to getting braces.” There is less social stigma attached to the cosmetic surgery in those Asian countries, so that many Asian-American girls undergo

the surgery during their vacations in Asia. We can also see medical tourism linked to the lower prices for undergoing these treatments in some Asian countries, compared to Europe. One can expect enhancement tourism to expand in countries in South East Asia, such as Thailand, that are marketing to Arab and Western countries.

Physical body strength

Enhancement, for example of the immune system or for avoiding memory loss, could also be accepted in the spirit of current medicine. Already some enhancement is accepted, whether it be vaccination, vitamins, cosmetics, or cosmetic surgery. We also accept enhancement of other species to make better foods, and even to adapt our diet to our personal genetic traits (nutrigenomics). We will also expect improvement of digestive systems by gene therapy, for example, overcoming lactose intolerance.

Making smaller bodies with decreased environmental impact would be an example of enhancement for benefits of nature. It could also be reinforcing in cultures where body size is smaller. However, globally increased size is applauded and associated with increased chance of employment and income.

Intellect

The ethic of hard work and reward for studying hard is widespread in Asia. Many parents will send children to cram schools and force them to study very hard, and they are focused on the results of the examination systems. They will also spend a lot of money on education in private schools. However, cheating in exam systems is also found, as elsewhere in the world, although discouraged in public.

People teach their children that they must take care of themselves and strive to do the best in what they are doing. We are taught from an early age to work and study hard, because it will be better for us. Education at school and competition for places in higher education, and better employment, reinforces the idea that we should love ourselves. Respect for people's love of themselves or of their family, and giving people freedom of self-determination, can be derived from the ethical principle of autonomy. The surveys towards use of gene therapy to improve intelligence (Macer et al., 1995) suggest that it will be supported. It is difficult to argue that improved intelligence is a harm again anyone.

Goodness

There is a strong belief that love and compassion constitute ideal ethical behaviour and a reflection of our true humanity. We need to be able to love to be fully human, and to enhance this would seem to be ethical (Macer, 1998). It is another universal belief that it is better for one's soul to be nice than nasty, to be loving rather than unkind. As the Dalai Lama (1995) wrote, *"There are various positive side-effects of enhancing one's feeling of compassion. One of them is that the greater the force of your compassion, the greater your resilience in confronting hardships and your ability to transform them into more positive conditions".* Hare (1981) wrote, *"Those who do not love their fellow men are less successful in living happily among them."* There is a popular saying that it is better to give than to receive, reflecting the positive affect on ourselves of giving. Few, however, would call the art of giving selfishness, if the motive is love of others

There is broad religious and moral support to have concern about our own flourishing and development, and in this view the moral evil may be inactivity or sloth rather than pride (Outka, 1992). Laziness means that whatever potential we have is lost, and the potential to love the life we have been given, and to love others or God has been lost.

Welfare and freedom of expression

There are some inherent contradictions in the assumption that ethical values can be universal, illustrated here by two political principles, namely welfare and freedom of expression. As for the former, socialism holds that as the state takes over the meta-organisation of human beings, it is incumbent upon the state to ensure that the vulnerable are cared for with basic provisions, such as shelter, food and decent life opportunities. The capitalist model is, however, critical of this and believes that the welfare state leads to people becoming dependent upon state handouts, which in turn leads to lack of incentives to work, weakening the economy as a result. The capitalist system believes that private philanthropy and minimal state support, if any, should form the basis of any welfare system protecting the vulnerable (Rai et al., 2010).

These two positions on the role of the welfare state bring Articles 9 and 11 of the International Covenant on Economic, Social and Cultural Rights16 into conflict with regard to interpretations and compliance. Article 9 states that "The states parties to the present covenant recognize the right of everyone to social security, including social insurance." Additionally, Article 11 asserts that, "The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international cooperation based on free consent." While the socialist traditions consider a strong welfare state to be consistent with fulfilling these articles, the capitalist system sees such a position to be dangerous to a strong and vibrant economy. It would appear that while the articles are idealistic and communitarian, their universality is immediately brought into contest by compliance and interpretation – two different levels of commitment to the ideological systems. Socialism might limit enhancement but capitalism would embrace it within a market system.

The second political principle concerns the freedom of expression, which is reaffirmed in Article 19.2 of the International Covenant on Civil and Political Rights (The United Nations International Covenant on Civil and Political Rights, entered into force 23 March 1976, http:// www.hrweb.org'/legal/cpr.html) The article asserts that "Everyone shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in

print, in the form of art, or through any other media of his choice." Freedom of action is considered a fundamental right in many secular political systems.

Would a ban be possible?

Even if therefore a ban on enhancement, including genetic intervention would not be supported by most Asian value systems in general. As has been discussed for decades, attempts to ban human germ-line genetic change would need to be made international if they would be effective (Macer 1994b). We can see examples with reproductive surrogacy that medical tourism is widespread to evade laws that prohibit it. Even if one country prohibited it (as some do) through intermarriages genetic changes would eventually be spread among every ethnic group and nation.

If genetic enhancement is feasible, it is likely that there will be demand for it because parents compete to produce able children and nations compete to accumulate human capital in skilled workers. If some parents or nations begin using genetic enhancement, this will change these competitions in ways that increase the incentives for others to use it. Therefore, a ban on genetic enhancement would be unstable, because once the ban was breached by defectors the motivation of others to uphold it would weaken, making the ban liable to collapse (Gardner, 1995).

One of the basic applications of the principle of autonomy to bioethics is the idea of informed consent. There is debate over the definition of informed consent and its origin. Faden and Beauchamp (1986) define three conditions necessary for informed consent:

1) a patient or subject must agree to an intervention based on an understanding of (usually disclosed) relevant information.

2) consent must not be controlled by influences that would engineer the outcome

3) the consent must involve the intentional giving of permission for an intervention.

The same conditions apply to enhancement, and should be applied for cosmetic surgery along with important questions such as the necessity of the intervention, and the broader accumulated social impact of the growing practices. Is this the community we aim to become? Consideration of the accumulated social consequences of individual actions is an ethical principle that Asian communities easily relate to.

Conclusions

Maybe we can only become complete moral beings when we also love our own life, pursuing our capabilities, gifts and desires to achieve more of the potential that we have. Asians will also pursue their capabilities with assistance, be that wearing coloured contact lens, whitening creams, cosmetic surgery. I do not believe that international law to prohibit development of technology will protect society and individuals from making choices to enhance themselves. History has shown that people reject stringent laws or legalistic religions. Education of mature and tolerant citizens is a more effective and longer term solution.

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Developing an indigenous ethics: On Recognition and Social Justice

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Abstract

An indigenous ethics is usually seen as opposed to Western viewpoints. However, in the same manner as Buddhist thought has found resonance in the tradition of modernity, an indigenous way of life can actually find a symbiotic relationship with concepts of recognition and social justice similar to those developed by Axel Honneth. Using actual cases in the hinterlands of Mindanao and the traditional practices of some IP groups, this paper will investigate how such an indigenous ethics may be applied to particular social issues, including land ethics, disaster resilience, access to modern medical and genetic therapy and others.

Introduction

Ethics is a discipline that studies about what is right and what is wrong and how human being lives his/her life in pursuit of what he/she thinks is good or is right. Since human beings, by the very fact of their rationality, possess the capacity to differentiate right from wrong, good from bad, there should never be moral problems as regards to the conception of the good or ethical life. Yet, why is it that moral problems continue to arise and threaten the stability of society especially in the poor countries, such as the Philippines?

One reason why the poor society is disgustingly affected by various moral problems is the imbalance of its social structures. It is evident that in many poor societies, social structures favor the rich and powerful and put the poor and the weak at a disadvantage status.[8] In the case of the Philippines, "Philippine society has been at the receiving end of a global hegemonic order".[9] The diverse and dangerous problems of the Philippines have its roots in the country's long history of subjugation and colonization by dominant countries coming from the West.

One of the many negative impacts of colonization of the Philippine society is the disenfranchisement and marginalization of the country's diverse indigenous peoples and communities.[10] Modern cultural practices and influences which mainly originated from Western countries continue to wreak havoc in many indigenous peoples' territories. [11] The encroachment of the colonizers from the Western countries in partnership with their cohorts in the Philippine mainstream government has destroyed not only their traditional worldviews and systems but also their lands which are the very source of their lives. They considered their lands as inseparably linked to their lives and it is in their lands that they performed their sacred rituals and other indigenous knowledge and practices.

My Growing Interest with the Indigenous Peoples' Struggles for Recognition

My interest towards the plight of the indigenous peoples (IPs) in the Philippines, particularly in Mindanao grew as a result of my different engagements with the IPs during my seminary formation as well as my work as an educator. I usually find time to visit and immerse myself into different indigenous communities even when I was a college student up to the present. I have lived, slept and ate with them and participated in their daily routines in the farm while listening to their stories, struggles and experiences. I even brought my students to their communities to allow them to experience the rich cultural practices of the IPs. I also pursued studies related to the IPs. In this paper I will highlight three important aspects of my fieldworks to the IP communities that ushered me to work on the project of developing an indigenous ethics.

The first impetus for this research project was my engagement with the *Manobos*[12] in my fieldwork in one of the hinterlands in Mindanao. In one of my conversations with the *Manobos* in the area, one tribal leader said to me, *"Ang tumatabang, adesir sila mutabang, mutiglum una sila sa tinuod nga kahimtang namong mga lumad"*[13] (Those who would help us must first immerse into our real situation as indigenous peoples before they will help). That statement of the tribal chieftain has lingered into my heart and mind until this very moment. It is like a sword that pierced into the interior core of my being. It reminds me that the longing of indigenous peoples to be heard and recognized, to be involved and consulted in any programs, projects and issues affecting their lives and communities are like a tide that ebbs and flows throughout their long history of marginalization and subjugation. Since then, I was very involved with their struggles especially in relation to self-determination in ancestral domains, visiting their communities as often as possible and providing need-based projects and assistance to them and especially to their children.

[8] Christopher Ryan Maboloc. *Applied Ethics: Moral Possibilities for the Contemporary World*. Revised Edition. (SMKC PrintShoppe, Davao City, Philippines, 2018)
[9] Ibid. p. vii

[10] Karl M. Gaspar. *The Lumad's Struggle in the Face of Globalization*. (Alternate Forum for Research in Mindanao Incorporated, 2000).
[11] Ibid. p. 5.
[12] The Manobos are one of the IPs in Mindanao and they are mostly located in Agusan del Sur, Davao Occidenta, Sarangani Province, North Cotabato and Bukidnon.
[13] Excerpt from my interview during my fieldwork last October 2015.

The second movement that urges me to pursue this project is during my other fieldwork with the *Banwaon*[14] last summer of 2016. During my interview with the tribal chieftain he said to me:

"*Sa una nagpuyo man mi nga malinawom tungod kay ang among mga katigulangan ug mga Datu makasulbad man dayon sa among mga away gamit ang among traditional nga pamaagi sa paghusay ug dunay mga ritwal aron maresulba ang mga away sama sa pagbayad ug mga danyos pinaagi sa paghatag ug baboy, kabayo, manok depende sa kadaku sa sala nga nabuhat. Ang among mga Datu mitabang pud sa pagpangita ug pamaagi aron ang nakasala makabyad gyud sa mga danyos nga dapat niya bayaran sa pamilya sa iyang nabuhatan ug sala. Pero karon naa namay korte unya kinahanglan naka magkuha ug abogado unya hastang mahala nila mao nang ang uban sa amoa mosangko na lang sa pangayaw"*

(We were living peacefully before because our elders were able to easily resolve our conflict using our traditional way of doing it like our traditional "Husay" and some rituals to resolve conflicts like paying damages through pigs, horses or chickens depending on the gravity of the offenses. Our Datu also helped in looking for means so that the offending party could really pay the damages to the persons or families being offended. But this time there is this court already and you have to hire lawyers and they are so expensive. That's why some of us would just resort to "*pangayaw*[15]")

Normally when there is "*Pangayaw"* in the community, there is disruption in their daily activities. Women cannot go to their farms, children cannot go to school and fear and tension overwhelmed the entire community. During this time, "*pangayaw"* is usually waged against the abusive colonizers and outsiders who have forcefully grabbed the lands of the IPs.[16]

Pangayaw is waged by the IPs as their last recourse to assert their right to self-determination especially in their ancestral lands. When the colonizers grabbed their lands either through the use of force or other deceitful means, the IPs were pushed further at the margins and were forbidden anymore to till their land and do hunting in their forests. Their once revered forests were converted to huge agricultural and livestock production and other purposes which resulted to the loss of their endemic plants and animals which are very much needed for their survival. Seeing the negative impacts of all these modern developments, they sought help from the government to intervene to the development aggression that happened in their sacred territories. Since they were not heard by those in authorities, they pursued other peaceful means such as submitting petition letters, participating in gatherings and seeking help from NGOs. When all these means were exhausted and yet their pleadings were not heard, they resorted to wage *pangayaw.* [1]

The third impetus that really inspire and compel me work on this research project happened just recently. Last December 2018, I went into the IP communities in Davao del Sur to distribute school supplies to the IP students.[17] In that ocassion, I found out that there was a conflict between the *Bisaya* learners [18] and the IP learners because the former had been bullying the latter by labeling them as "uncivilized", "ugly", "idiots" and many other degrading names which prompted the IP learners to consolidate themselves and fight back those who bullied them. The case was brought up to the Principal's office and to the Barangay Captain[19] who is a *Bisaya.* The supposed peace negotiation and reconciliation in the presence of the Barangay Captain resulted to further disappointment and discrimination of the IP learners because they heard demeaning remarks from the Brangay Captain. One IP learner recounted the words of the Barangay Captain:

"Ayaw mo pangita ug gubot diring dapita kay ang akong mata naa ni kanunay nag bantay sa inyoha. Unya gisampal ug gisipa pa ang among mga kauban kay kami daw hinungdan sa kagubot. Ambot init mana siya ug dugo sa amoa molaban dyud na siya sa mga bisaya"

(Don't' look for troubles in this place because my eyes have been watchful to you. Then he slapped and kicked our companions because we are the cause of troubles. I do not know why he has disgust with us then he really favored the *bisaya*)

The three scenarios that I discussed above are all expressions of the issue of recognition or misrecognition of the indigenous peoples. Like issues of distribution, recognition or misrecognition is not just an ethical issue but it is a political issue as well.[20] A "struggle for recognition is standardly, both a challenge to a prevailing rule or norm of inter-subjective recognition and a demand for another rule or norm of recognition by a group (or groups) of citizens against those who oppose the proposed change and defend the status-quo".[21] The indigenous peoples have been subjugated, marginalized and misrecognized for so long because they belong to a minority group. They have been discriminated by the lowlanders especially the Christian settlers because of their cultural and practices and traditions that are totally distinct from those in the mainstream society whose ways of behaving and doing things are basically influenced by the Western worldview.

Discrimination among the indigenous peoples in whatever forms happens because of lack of recognition or misrecognition of their way of life. A "demeaning or degrading form of misrecognition tends to undermine the basic self-respect and self-esteem that are necessary

[14] The Banwaons are another IP groups but have their roots from the Manobos. Usually they live in the hinterlands of Agusan, Bukidnon and Surigao.

[15] *Pangayaw* is their traditional way of avenging for justice and this is done as the last recourse after all other peaceful means to resolve the conflict had been exhausted.

[16] Karl M. Gaspar. *Manobo Dreams in Arakan: A People's Struggle to Keep their Homeland*. (Ateneo de Manila University Press), 2011.

[17] I have been doing this regularly since 2015 up to the present. I distribute school supplies to different IP communities in Davao del Sur, Davao Occidental, Sarnagi Province and Agusan del Sur.

[18] Bisaya refers to the Christian students or students from the mainstream community.

[19] Local Chief Executive in the village.

[20] James Tully. "Struggles Over Distribution and Recognition". *Constellations,* Volume 7, Number 4, 2000. https://doi.org/10.1111/1467-8675.00203, accessed January 8, 2019.

[21] Ibid. p. 470

to empower a person to develop the degree of autonomy and sense of self-worth that is required to participate equally in the public and private life of her society".[22]

The prominent form of discrimination nowadays experienced by the IPs especially the IP learners, is bullying. Bullying is regarded as a social problem experienced by IP learners whose well being needs to be respected by schools and those in authorities[23] This kind of scenario usually happens in a democratic society where individual as well as collective identities are not recognized and valued. In a society such as the Philippines where there is a long history of oppression and colonization, struggles for recognition are still present especially among the disenfranchised and marginalized sectors such as the Indigenous peoples. Despite the creation of the Indigenous Rights Acts (IPRA) law in 1997 which clearly uphold the unique identity of the IPs, they are still subjected to different forms of discrimination and bullying. Verbal bullying and teasing are the most common form of bullying to our IP learners.[24] This is rooted in the hegemonic mindset of the colonizers declaring the IPs as uncivilized and un-cultured because they are not following their "scientific" and "standard" way of doing things and even worshipping God. Thus, labeling and name calling such as "idiots, being "backward", "uncivilized", and "crazy" are just some of the many labels that have been attached to the IPs. Since most of the IP children now are educated, they cannot just be subjugated easily. While some opted to ignore the bully and chose to remain humble, few asserted their rights and tried to defend their identity and dignity as distinct people[25] thus, chaos or conflict is always a possibility when these IP students would experience different forms of bullying and defamation from the non-IP groups in the school.

Why is it that a lot of people especially the Christian settlers who are heavily influenced by Western Christianity misunderstand the IPs? Why is it that they cannot accept the unique identity and culture of the IPs? Why is that that they cannot accept and recognize the concept of right and good of the IPs? In my continuing engagement with the IPs, I found out that the lack of correspondence between the Western ethics and indigenous ethics is very much apparent in their respective concept of land and land ownership. While the Western viewpoints, approached land as means to an end, the indigenous peoples communicated to their land and treated it as a kind of living being. The Western tradition on the one hand, promotes a very anthropocentric viewpoint such that they espoused land ownership and that people, as scientifically trained beings, should be the owner, hence, the master designer of the land and the entire ecosystem. As master designers of the land, they have to use their "scientific" knowledge to design and develop the land. The indigenous peoples on the other hand, believed that the land is a gift given to them by their deity. As such they do not own the land. Their deity owns the land. In fact, to some of them, the land owned them instead of them being the owner of the land. Thus, for the indigenous peoples, their survival and destiny are shaped by their inseparable partnership with their land and the entire ecosystem and they don't behave as if they are superior over their land.

The problems arise during the colonization period when the colonizers, armed with cross (as in the case of Spanish Friars) along with the sword (as in the case of Spanish soldiers) came to the Philippines and established a system of land ownership that is very much contrary to the belief of the native Filipinos.[26] This has been exacerbated during the American colonization when the Americans instituted a torrent system which invites multi-national companies and corporations and the Christianized Filipinos from other parts of the country to come to the indigenous peoples' territories in Mindanao and claim ownership of their land through a title – a kind of piece of paper they obtained from the American government. This system of land ownership is being practiced by the Philippine government until this time. Thus, the disenfranchisement of the IPs continues to be a gloomy reality in the Philippine society nowadays.

Towards Developing an Indigenous Ethics

The indigenous ethics is heavily influenced by their concept of land and in their struggle to keep their ancestral lands intact and sacred. In the previous section I mentioned that for the IPs their lands are not only the source of their lives but also their cultural survival as distinct peoples. It is in their land that they performed their sacred rituals. In this section I will highlight two indigenous practices that are closely linked with their concept of the good and just. These practices are deeply rooted in their struggle for self-determination or their struggle to be recognized as distinct people capable of managing their own state of affairs. Although their practices and beliefs have not been properly documented, they are still very much alive especially in the hinterlands of Mindanao. One *Manobo* even wished that they had their own written scriptures like the Muslims with their Qur'an and the Christians who had their Bible because for him sacred book about their beliefs would be very useful for their struggle for identity and recognition. This *Manobo* shared his ultimate dream and wish to have full control of their destiny as IPs which could only be attained if they will not lose ownership of their remaining ancestral domain.

The first indigenous practice that I will highlight in this paper is their traditional healing. This traditional

[22] Ibid. p. 470

[23] Ken Rigby. "Addressing bullying in schools: Theoretical perspectives and their implications". *School Psychology International*, *25*(3), 2004 (287-300), https://doi.org/10.1177/0143034304046902. Accessed January 8, 2019.

[24] Agnes Reyes. "Bullying Experienced among Indigenous People Students of Philippine Normal University North Luzon, Philippines: A Basis for Formulating School Policy*." American International Journal of Contemporary Research, Vol. 6, No. 1, (February 2016),* http://www.aijcrnet.com/journals/Vol_6_No_1_February_2016/7.pdf. Accessed Janaury 8, 2019.

[25] Karl M. Gaspar. *Manobo Dreams in Arakan: A People's Struggle to Keep their Homeland*. (Ateneo de Manila University Press), 2011.

[26] Ibid. See also Karl M. Gaspar. *The Lumad's Struggle in the Face of Globalization*. (Alternate Forum for Research in Mindanao Incorporated, 2000).

healing is being performed by their *baylans*.[27] These *baylans* are believed to have *abyan*[28] who will assist them in their works of healing the sick members of the community. "Belief in a supernatural world is a constitutive part of the life of the IPs that control or order their behavior."[29] While many IPs have been proselytized and have joined different Christian denominations operating in their village, most IPs especially the *Manobos* retain their indigenous beliefs and practices, such as the holding of rituals.[30] Rituals are important component of the life of the IPs. Normally they performed rituals around the start of the clearing season, of if they invoke the assistance of the deities in curing the sick or in seeking revenge and even sending a war party during the time of *pangayaw*. Rituals enhance unity as they create a feeling among the people that all these are done for the common good.[31] My fieldwork with the *Manobos* in the hinterland of Mindanao validated the earlier work of Karl Gaspar about the role of *abyans* in the traditional healing practices of the IPs. Some *Baylan* claimed to have two *abyans* who are sent to them by their deity. Through the assistance of their *abyans*, the *baylans* were able to cure the sick. One *baylan* even claimed that when she does the healing, it is the *abyan* who giver here the instructions as well as the materials to be used. Thus, it is important for the IPs to protect their forest because it is there that they can get the herbal plants and other materials they need for healing the sick.[32] These *baylans* are forbidden by their *abyans* to ask payment for their service. It is very clear that these *baylans* are performing their duties as healers because for them this is the right thing that they must do to promote the common good and to keep their tribes alive. Because of this practice, the IPs were able to live and survive as a distinct people for so many years. However, these indigenous ways and practices were under so much threat of extinction with the dawn of globalization and modernization.[33] Many people nowadays do not recognize the effectiveness of this practice and they trust so much on the medically and scientifically trained doctors. What makes the matter worst is that these IPs (*baylans*) were discouraged or even forbidden to practice their traditional healing methods by some health workers in the government. I witnessed an occasion during my fieldwork wherein the health workers encouraged the communities to have their medical check-ups at the health center and do not rely on their traditional healing practices. While the intentions of the health workers for doing such works are noble, they are born out of a kind of bias against this traditional practice that has helped the IPs since time immemorial. Forcing these IPs to embrace their "scientific" way of doing things means that the IPs have to go down from the mountains to go to the nearest Barangays where the health centers are located and have to wait until the midwife or nurse will have their duty. Sadly, in these areas midwives and nurses have their intermittent schedules of duty due to circumstances which are not difficult for us to understand given the kind of government that our country has. In addition, aside from the fact that these IPs do not have enough means to come to the cities and towns where the hospitals are located, most of them also experienced discrimination when they are in the towns and cities and felt neglected in many of these hospitals.

This kind of mandate or directive from the Department of Health (DOH) to the IPs is a clear sign that the personnel in the department are either ignorant of these traditional healing practices or that they are not really recognizing these as the "proper" way of healing the sick. Another area of these traditional healing practices of the IPs wherein many lowlanders who are "scientifically" trained by Western models of education found objectionable is the concept of the *abyan.* Many Christians found this belief weird because they have been taught that there is only one God and that is Jesus Christ. But what about other religions who have different concepts of God? Why are they not critical about them? I suspect it's not about their religious practice of believing in an *abyan* that these Christian settlers and other foreigners found to be intolerable but because of their status as IPs. This is their bias against this group that because they are IPs they are not entitled to assert their beliefs. They are considered as second-class citizens in the society. This is a clear example of lack of recognition or misrecognition that Honneth is talking about.

Honneth discusses three spheres of recognition that individuals must experience in order to achieve self-realization. The first sphere is in the individual's intimate relationship with others where love is formed as a result of this symbiotic relationship with other people.[34] The second sphere is in the individual's legal relationship or individuals' relationships with the state and how the state ensures them equality with the law or legal equality. The third sphere is in the individual's social relationship where merit or recognition of their special contribution to society is experienced thereby, enhancing their self-esteem. There spheres of recognition of Honneth, though he applies these to individual persons and not to a group of persons, can be applied to the IPs struggle for recognition of their collective identity.

In the first sphere, the IPs didn't experience genuine love from the lowlanders and Christian settlers. Instead of love which is expressed through genuine respect and acceptance, they experienced manipulation, discrimination and bullying.

In the second sphere, though the Philippine government has crafted the Indigenous Peoples' Rights Act (IPRA) Law to ensure legal protection of the rights of the IPs, this is still basically in papers but not in actual practice. What makes the matter worst is that some of

[27] Baylan is like a medical Doctor for today's modern society.
[28] Abyan is a spirit guide
[29] Ibid. p.22
[30] Ibid. p.39
[31] Ibid. p. 23
[32] Ibid. p. 41
[33] Victoria Tauli-Corpuz. *The Concept of Indigenous Peoples' Self-determined Development or Development with Identity and Culture: Challenges and Trajectories*. Tebtebba Foundation. Indigenous Peoples' International Center for Policy Research and Education. 2008.

[34] Axel Honneth. *The Struggle for Recogntion: The Moral grammar of Social Conflicts.* The MIT Press Cambridge, Massachusetts, 1995).

their fellow IPs who are appointed as their representatives in the National Commission for the Indigenous Peoples (NCIP) have been manipulated by the government to advance their vested interests on the rich lands of the IPs.

The last sphere of recognition which is on merit and attainment of self-esteem through recognizing the important contributions of individuals can provide an avenue for the IPs to exercise their indigenous knowledge, skills and practices such as traditional healing and even indigenous knowledge and skills in protecting their environment and adopting to the effect of climate change as their important contributions in the aspect of alternative or holistic healing which is gradually adopted by many people including medical doctors. These practices can also add to the literature about climate change adaptation and mitigation using indigenous knowledge, skills and practices. If these practices will be recognized by the dominant culture which is basically influenced by the Western viewpoints, this will be a very good point of convergence or "fusion of horizons" in Gadamer's language. Thus, instead of telling them to abandon these practices that have kept them intact for so many years, maby the government and the mainstream healthcare practitioners can engage these *baylans* into dialogue so that they can learn from each other and thereby, improve the health services of the country for the IPs and non-IPs alike. Health care practitioners influenced by the West can learn so much from the traditional healing practices of the IPs especially on herbal medicine, holistic way of treating the sick which includes psycho-spiritual aspect not just purely biological or physical.

The second indigenous practice that I would like to highlight is the IPs traditional justice system or their concept of *pangayaw*. For the mainstream community, the practice of *pangayaw* is morally wrong because of the killing of people that is involved in the practice. They immediately judged the consequence of this traditional practice without looking into the circumstances why the IPs, a generally peace-loving people, resorted to *pangayaw.* If the Western culture and tradition accepts just war as a justifiable action, maybe they can also try to study and accept the *pangayaw* of the IPs. Before proceeding, it is important first to answer the following questions: what is the IPs concept of *pangayaw*? Why the IPs waged *pangayaw*?

The history of the IPs in Mindanao is not only about colonization, oppression and exploitation but also their resistance to the many kinds of violence inflicted on them by the colonizers and the outsiders.[35] My own interviews with some *Manobo* and *Banwaon* tribal leaders and my observation of how they prepared some of their *pangayaw* plans through rituals validated the words of Karl Gaspar that "such actions of the IPs have defined the manner in which they have dealt with the disruption of their lifeworld from the early years of colonization until this contemporary period."[36] It must be noted that their concept of p*angayaw* is deeply rooted in their struggles for self-determination on their ancestral domains. It is their response to the "disruption and breakdown of their lifeworld due to the one-sided rationalization that took place."[37] This happens because more and more corporations and individuals penetrate the remaining domains of the IPs resulting in the introduction of more sophisticated science and technology that further subjugated the traditional practices of the IPs including their traditional customary law and governance system.[38] My interviews with many Datu's[39] as well as the literature of Gaspar can provide rich narrative about this reality.

From the words of *Manobo Datu* in Arakan Cotabato: "Before there were no barangay captains, only datus. Now that the Bisaya have arrived, they come to the datu and ask form land. They pay little for it. Now we no longer have lands. Not only we lost our land but also our dignity. If a Bisaya kills one of us, no one is put in prison. But if we kill one of them, we are sure to be put to prison. We even have to pay a lot of money"[40]

From the words of *Manobo Datu* in Arakan Cotabato: "We cannot prove that we are datus, that we have some power, can represent our people and are capable of judging what is wrong and what is right. What can we do, faced with someone who does not **know *and recognize***[41] our ways, but who is more powerful? We can get killed and be arrested for things that are not crime for us. We can get arrested for noting at all-because there is nothing we can show to prove our strength as datus"[42]

My own fieldwork with the *Manobos* and *Banwaons* also proved that another cause of the disruption of the lifeworld of the IPs is the diminishing competence of their *datus* to resolve issues related to their ancestral domains. I have to reiterate that all these indigenous practices are deeply interwoven with their own land ethics. The moment lands will be taken away from them, all these beautiful and rich cultural practices and traditions will be put to waste.

From a *Manobo Datu:* "We only borrow the land from *Manama*[43] who is the real giver of land to us. We die and leave the land to our children and grandchildren and they will be the one to borrow the land from Manama. It was on this basis that I, as a datu, resolved conflicts related to land. Now, I am helpless since I have to depend on this law of the Bisaya, all of us have to depend on this law which we find very difficult to understand"[44]

From a *Banwaon Datu*: "We were living peacefully before because our elders were able to easily resolve our conflict especially those that are related to pour lands using our traditional way of doing it like our traditional "Husay" and some rituals to resolve conflicts like paying

[35] Karl M. Gaspar. *Manobo Dreams in Arakan: A People's Struggle to Keep their Homeland*. (Ateneo de Manila University Press), 2011. See also Karl M. Gaspar. *The Lumad's Struggle in the Face of Globalization*. (Alternate Forum for Research in Mindanao Incorporated, 2000).

[36] Ibid.p.63
[37] Ibid. p. 64
[38] Ibid. p.66
[39] Datu is a tribal chieftain or head
[40] Ibid. p.65
[41] Emphasis is mine
[42] Ibid.P.65-66
[43] Manaman is the name of diety of the *Manobos*
[44] Ibid. p.69

damages through pigs, horses or chickens depending on the gravity of the offenses. Our Datu also helped in looking for means so that the offending party could really pay the damages to the persons or families being offended. But this time there is this court already and you have to hire lawyers and they are so expensive. That's why some of us would just resort to "*pangayaw"*.[45]

It is very clear that that the coming of the colonizers have "systematically distorted the rationalization of the IPs because of the sheer pervasiveness of the Western dominated rationality that promoted a kind of discourse that growth can only take place through a kind of manipulation of the physical and social environment and not paying attention to the promotion of self-conscious reflection about values."[46] Because of this estrangement, the IPs tried to grapple for support from the lowland authorities especially on the loss and destruction of their ancestral lands but many of these attempts were proven futile. Thus, they waged *pangayaw* as their way of avenging the injustices inflicted on them. As you can see *pangayaw* is their last recourse. Had they given authority to resolve land conflict and had the lowlander recognized and respected their traditional governance system, cultural practices and traditions, there have been peace and harmony in their sacred territories.

Although plenty of people especially in this contemporary period will despise *pangayaw,* I will argue that *pangayaw* is their traditional customary law on how IPs assert their rights and promote justice and thus, it must be recognized and respected.

Conclusion

In today's world, claims for social justice are increasingly divided into two types. First, and most familiar, are redistributive claims, which seek a more just distribution resources of and wealth. The second type of social justice claim is generally called "politics of recognition" which has a goal, in its most plausible form, of a difference-friendly world, where assimilation to majority or dominant cultural norms is no longer the price of equal respect.[47] Honneth proclaims that all social conflicts are expressions of a struggle for recognition and struggle for social justice is not only about economic distribution as Fraser as well as John Rawls advance. For Honneth the struggle for social justice has its roots in the struggle for recognition. Honneth "conceives recognition as the fundamental, overarching moral category and distribution as its derivative and reinterprets the socialist ideal of redistribution as a sub-variety of the struggle for recognition."[48] Justice for the IPs requires both redistribution and recognition. Neither alone is sufficient. The question is how to find a single comprehensive framework that should integrate the two? In this paper I highlighted two indigenous practices that need to be recognized and respected. These practices are so much interconnected on their concept of land. Without their land where herbal plants and other elements are present, traditional healing won't prosper. Their concept of *pangayaw* is also deeply entrenched with the issue of protection of their ancestral land which is the gift of their deity to them. The IPs concept of land found resonance with Aldo Leopold's land ethic in the West. Aldo Leopold's land ethic affirms the inseparable relationship between the people and the land and that the land is a community of beings.[49] The land ethic of Leopold and the deep ecology movement in the West and the indigenous peoples' spirituality and ethics in the East need to converge to give harmony and rhythm to the SONG that human beings have to sing to have healthy and productive lives. This SONG is about human being's relationship with Self, Others, Nature and God.

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[45] Taken during my interview and fieldwork in Agusan.

[46] Ibid. p. 75

[47] Nancy Fraser and Axel Honneth. *Redistribution or Recognition?: A Political-Philosophical Exchange.* Verso. New York

[48] Ibid. p.3

[49] Aldo Leopold. *A Sand County Almanac and Sketches Here and There.* Oxford University Press, 1949.

Practical Ethics and the Principle of Merit: Implications to Disability Rights

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Abstract

The merit system is based on a person's ability to achieve. The concept of merit hence rejects a process that awards any particular entitlement explicitly based on disability. Brian Barry says that under the merit principle, people can compete for positions or advantage. This paper argues that the idea of merit, as explained by Barry, is unjust. Iris Marion Young points out that a person with cognitive disability faces a different situation compared to other people. Under normal circumstances, persons can have skills that enable them to do things with ease, something that is not readily available to individuals with autism or Asperger's syndrome. The problem is also exacerbated by policies that do not recognize the diverse needs of individuals with impairment. In this regard, practical ethics demands that a law or national policy must ensure a level playing field for everyone.

Introduction

Practical ethics is the discipline that seeks to bridge theory and practice.[50] Moral reasoning requires an understanding not only of principles but also the recognition of practical issues as well. In this way, the task at hand is to draw relevant information across a spectrum in order to arrive at a reasoned judgment. Precisely, this is what we intend to achieve in this paper. By first understanding the principle of merit, we apply our judgments to a specific moral concern - mental disability. We then examine the parameters of the issue at hand, which include, among others, social policy, rights, and institutional practices. The question that this study finds significant is the apparent conflict in the notion of merit when the same is applied to the issue of impairment. In this investigation, we shall emphasize the institutional context of the problem.

Ethics in general tends to focus on social structures and human relations but has neglected institutional issues.[51] Most problems arising from mental disability come from the inability of governments to address specific policy concerns. For example, people can look into health care policy, work policy, and fiscal policy to locate the gaps that need immediate action. A crucial aspect in terms of the development in practical ethics is the political nature of these problems. There is a need to look into the process of deliberation and the matter by which leaders and professionals deal with particular concerns. In the issue of cognitive disability, there is a need to consider fairness in the allocation of funds. For this reason, policies must be just and institutions should be held accountable. The reason for this is that in addressing social injustices, people have to look beyond personal accountability and consider important institutional responsibilities.

The legitimacy of any policy depends on its ability to protect and promote the well-being of those who are disadvantaged. By this, it is meant, that social institutions should serve human persons as ends in themselves. This paper will use such claim as a framework to understand the situation of persons with cognitive disabilities. The first section explains the principle of merit. To do this, we will discuss the argument in favor of the merit system from Brian Barry. The second section, which is based on the debate between Iris Marion Young and Barry, will present the counter-argument that explains why competition on the basis of a merit system is actually disadvantageous to people with disability. The final section will be an attempt to relate poverty and disability in order to justify the preceding position against the merit system and explicate the social policy implications of the position of this paper to disability rights and the care of the person with mental impairment.

Explaining the Principle of Merit

The principle of merit asserts that what is important is the availability of opportunities for everyone. For Barry, people must earn their share of society's wealth by means of competition. Any form of affirmative action on the part of the government for special groups is something that must be discouraged. Barry thinks that, "uniform rules create identical choice sets."[52] Since the people have personal preferences or choices based on their motives and expectations, then they must be responsible for the consequences of their actions. Individuals must act in accordance to existing norms. Barry says that, "equality of opportunity in relation to employment means that those who are equally well qualified to do a job have an equal chance of getting the job. But if some people who are as well qualified as others are denied an equal chance of employment in some job, they can complain of unfair discrimination."[53]

For Barry, equal opportunity is about what a person deserves to get. As such, for Barry, all equally talented people should have uniform opportunities. Barry asserts that justice is about "equal rights and opportunities, but not equal outcomes defined over groups."[54] The fortune that people make in life is something that must come as a result of their individual pursuits. What matters is that the rules in the beginning are fair for everyone. If a person is productive, then the same individual should be able to enjoy a proportionate amount of goods. Merit, in this sense, is about what a person stands to get in any competition. However, in this instance, Barry seems to assume that no situation, whether natural or man-made, can have an impact on the results of such competition.

But what about the situation of persons with impairment? Persons with disabilities can refer to any

[50] "What is Practical Ethics?" Edmond Zafra Center for Ethics. Harvard University. https://ethics.harvard.edu/what-practical-ethics. Accessed January 7, 2019.
[51] Ibid.
[52] Brian Barry, *Culture and Equality.* (Cambridge, MA: Harvard University Press, 2001), 32.
[53] Ibid., 55.
[54] Ibid., 92.

heterogeneous group. Barry points out that across this group, "its expected members will be less qualified than the average even if the amount of money spent on their education is more than the average."[55] Such an idea appears to suggest that for Barry, the monetary resources spent in educating individuals with disabilities are not commensurable to whatever they are able to give back to society. The point is that Barry's point is objectionable. It is one that reveals people's prejudice and bias. It unfairly puts undeserved burdens on people with autism, as if suggesting that there is no reason good enough to educate them because their parents or the government will not get anything good in return if they invest their resources on a child with autism.

The real problem of Barry is his bias. Young writes that for Barry, "all positions of authority or expertise should be occupied by those persons who demonstrate excellence in particular skills and who best exhibit the demeanor expected of people in those positions."[56] In this regard, Barry has failed to consider the imbalance between the demands of a competitive labor market and the difficult situation of persons with disabilities. For instance, if we take our modern schools as an example, normal children will have the natural advantage than those who have disabilities due to the environment inside the classroom. The achievement of good results on the part of normal kids will come about quite frequently as expected. However, while we allow people to achieve things on the basis of their talent or skill, this should not impede society from helping or caring for children who might require more attention and love. It should not come as a surprise that children with autism also possess special set of skills that can help society in some way.

Barry thinks that any "special treatment for members of disadvantaged groups is justifiable only for as long as the inequality persists."[57] This position is a bit naïve. The proper idea here is that it is not an issue about special treatment. People with disabilities are in a difficult condition and for this reason, there must be a moral duty on the part of society to prioritize their situation because it is the right thing to do. Barry is telling us that for any society to be just, all that matters is a "one size fits all" type of rule for every human being. But this cannot be the case because the problem is that there appears to be a lack of balance between what a person with disability can actually do and the structures that dominate human society. [58]

In fact, Barry has protested against the declaration that the Rawlsian theory is "designed for disembodied beings and not for real people."[59] Barry believes that such criticism "rests on a complete misunderstanding."[60] But Barry's position is understandable. For him, only procedures matter in the end. It is no longer the responsibility of the state to look into the outcomes of political arrangements. Barry thinks that as long as all the parties in the social contract endorse the principles of justice as the objective means for any cooperation, then people can adhere to it. The problem, however, is that society often suffers from system imbalance due to the distinct attributes of persons.

Iris Marion Young's Counter Argument

To counter the above, Young says that while merit involves equal opportunity, the situations of people are not actually the same.[61] The merit principle is based on the ability to achieve on the part of individuals but it also "rejects a system that awards position explicitly according to class, race, gender, family background, and so on." Young clarifies that "under a merit principle, all who wish should have the opportunity to compete for positions of advantage, and those most qualified should win the competition." But Young explains that a person with disability faces a different hurdle compared to normal people. Normal people possess skills that enable them to do things with ease. But impaired people have a different case. Managers refuse to consider the latter as part of the regular workforce. Persons with impairment are seen as a burden. As a result, they are deprived of gainful employment. However, the point is that persons with impairments do not wish to take away anything from those who are able-bodied. Like normal people, they also deserve to have a life that is decent.

One way of improving the situation of persons with disabilities is by means of promoting their basic rights. The question is – what sort of entitlements must persons with disability enjoy? Formally, constitutional essentials that promote and protect the dignity of persons must be amplified by civil society and the public in general to change the biased attitude of people toward those with functional impairment. Indeed, as Young explains clearly, "the built environment is biased to support the capacities of people who can walk, climb, see, hear, within what is thought of as the normal range of functionings, and presents significant obstacles for people whose capacities are judged outside this range.[62] The problem is apparent. People who suffer from impairment cannot work because regular jobs are not available for them. For this reason, their well-being will have to be dependent on their immediate family members.

While individuals too have "a right to a distributive share of material things, resources, or income," Young says that in such cases, "it is the good that is distributed, not the right."[63] Some rights are entitlements by virtue of our humanity. These are called human rights. They are the most basic because without them, a human being is not human. There are rights, however, that the state may grant to individuals. These are specific legal rights. While legal rights are meant to protect people from abuses or exploitation, there are factors that affect the enjoyment of these state rights. Young suggests that, "rights are not fruitfully conceived as possessions. Rights are

[55] Ibid., 94-95.
[56] Iris Marion Young, "Structural Injustice and the Politics of Difference." In *Multiculturalism and Political Theory*. Edited by Anthony Simon Laden and David Owen. (Cambridge, MA: Harvard University Press, 2007), 66.
[57] Barry, *Culture and Equality*, 13.
[58] Young, "Structural Injustice and the Politics of Difference," 66-67.
[59] Barry, *Culture and Equality*, 69.
[60] Ibid.
[61] Young, "Structural Injustice and the Politics of Difference," 66.
[62] Ibid., 67.
[63] Iris Marion Young, *Justice and the Politics of Difference*. (Princeton, New Jersey: Princeton University Press, 1990), 125.

relationships, not things; they are institutionally defined rules specifying what people can do in relation to one another. Rights refer to doing more than having, to social relationships that enable or constrain action."[64]

To enjoy a dignified life, certain things must be improved to make human society truly just. Barry missed the important point when he rants against giving extra care and better attention to impaired people. Justice also involves caring for persons. You will care because the person matters. The person matters because he or she is a source of value. If people are inconsiderate, then they are demeaning the human person. An affirmative action that favors the disadvantaged is not a bad thing. In fact, the Rawlsian theory of justice states that, "the principle of fair equality of opportunity requires that **everyone** [emphasis mine] should have the same legal rights of access to all advantaged social positions."[65] This means that persons, as moral beings, possess equal dignity and should be given due consideration by the state.

For instance, Young tells us that most "people with disabilities, to continue the example, too often must respond to assumptions of others that their lives are joyless or that they have truncated capabilities to achieve excellence."[66] Such type of bias demeans the life of persons or children with special needs. Bad ideas should just be thrown away. Children with disabilities are an infinite source of motivation for their families. The commitment of parents to their welfare is incomparable. In a society such as ours, love and compassion are humanity's greatest redeeming quality.

The above only shows that the principle of merit is fundamentally inadequate. In a society where individuals have the same set of positive attributes, perhaps, merit might work. However, in the world in which we live, merit means nothing but the poor excuse of some people so that their inconsiderate actuations are justified. There are persons who hide their uncaring ways to from the public view. The absence of empathy on the part of many among us is symptomatic of our thoughtlessness and inability to strive for the ideal of a world that people with disability are equally entitled to have.

In a similar fashion, Martha Nussbaum believes that disability raises a very important moral issue. She thinks that the issue arises because individuals with some form of disability "need atypical social arrangements, including varieties of care, if they are to live fully integrated and productive lives."[67] For example, there are parents who opt to prioritize business over the care of a mentally impaired child. Some parents prioritize their careers and so, they might opt to send a child with ASD to a care institution. The problem with such an arrangement is that there is no opportunity to deepen the bond between the parent and the child because of the lack of physical and emotional contact between the two. In addition, it can stigmatize the child and alienate the same from the daily life of the immediate family. In sum, the scholar and disability rights advocate Eva Fedder Kittay writes:

"With one stroke, dependents—be they small children or incapacitated adults, be the impairments physical or mental—become an integral part of any social organization. To presume that they stand outside of justice, that they are not entitled, that—for reasons of their impairments and dependence—they lack rights, seems odd indeed if the point and purpose of such principles (if not the sole one) is a social order that secures the ability to care for dependents."[68]

Poverty, Disability Rights, and Social Policy

It is important to determine the correlation between poverty and disability. A poor child is most likely undernourished, lacks health care, and has very limited opportunity to finish higher education. Poor children with functional impairment, in this regard, experience a dual difficulty. They lack basic nutrition and at the same time, the money needed for therapy. For this reason, they are excluded from a truly dignified human existence. The ills of human poverty are due to bad policies, impertinent laws, and wrong decisions. Stephen Smith explains that social exclusion is built from "the systematic, possibly unwritten barriers that prevent classes of poor people from having access opportunities to develop and use their capabilities."[69]

Smith tells us further that social exclusion can happen by means of "active and deliberate marginalization."[70] Powerful interests in the society can push the powerless into the peripheries, thereby subjugating them and stripping them of their freedom to pursue the good life. This sense of powerlessness perpetuates poverty. Young says that this happens because individuals have no power in terms of voicing out their concerns on issues that matter to their welfare. For instance, parents of children with mental disability lack enough representation in Congress. Young says that, "the old, the poor, the mentally and physically disabled, are subject to patronizing, punitive, demeaning, and arbitrary treatment by policies…"[71]

The World Health Organization and the World Bank, in their *World Disability Report*, say that more than one billion people around the world have some form of disability.[72] Persons with disability, more often than not, have less in terms of opportunities to realize their well-being. For example, this is the reality in our school system. Most schools are rooted in the merit system. According to Soya Mori and Tatsufumi Yamagata, the problem is that "inequality in educational attainment

[64] Ibid., 26.
[65] John Rawls, *A Theory of Justice*. (Cambridge, MA: Harvard University Press, 1999), 62.
[66] Iris Marion Young, *Inclusion and Democracy*. (Oxford: Oxford University Press, 2000), 74.
[67] Martha Nussbaum, *Frontiers of Justice*. (Cambridge, MA: Harvard University Press, 2006), 99.
[68] Eva Fedder Kittay, "When Caring is Just and when Justice is Caring," *Public Culture* 13 (3): 574.
[69] Stephen Smith, *Ending Global Poverty*. (New York: Palgrave Macmillan, 2005), 127.
[70] Ibid.
[71] Iris Marion Young, "The Five Faces of Oppression." In *Social Ethics: Morality and Social Policy*. Edited by Thomas Mappes and Jane Zembaty. (New York: McGraw-Hill, 2002), 340.
[72] World Health Organization. "World Disabilities Report." http://www.who.int/disabilities/world_report/2011/report.pdf. (Accessed December 28, 2018).

translates into inequality in income in general."[73] Without a school diploma, impaired individuals do not have options in terms of a meaningful career or profession. This dire situation condemns people into the poverty trap. While normal persons can climb higher into the social hierarchy based on their meritorious achievements, persons with disability find it hard to provide for their own needs.

Given the above background, we will look into three areas of policy concern – health care, work policy, and fiscal matters. In this context, the situation in the Philippines will be the focus. The action of persons of authority is instrumental in terms of the delivery of services, especially those that are meant to improve the general welfare of persons with impairment. To highlight the problem, we will also provide a picture of the situation that people are in and the manner by which social and government institutions respond to their needs. In this way, we can have a broader sense of the problem and thereby, honestly propose concrete solutions.

First, equitable health care is important. Medical professionals assume that people with cognitive disability have no quality of life.[74] Persons with impairment have to compete with the general public in view of the limited budget allocated to basic health care by the government. Thus, poor health outcomes are simply a direct result of the lack of resources and indirectly, of bad policies that prioritize the earning of profits by private hospitals. Private hospitals seldom allocate investments on developmental disabilities. Nicholas Lennox et al. reveal that, "for some with a disability, such as individuals with Autism Spectrum Disorder, waiting for a consultation can cause extreme distress and may result in unpredictable behavior."[75]

Inequities in health care are "exacerbated and, at times, even caused by the poor system responses to their health needs."[76] Government policy making in the Philippines follow the top-down approach. Since the implementation of many programs is centralized, this clearly precludes participation at the grassroots level. In this respect, there appears to be no collective sense of responsibility. Many laws have not been effectively translated into measures that will empower the people in the margins of Philippine society. In addition, laws are characteristically silent about the specific case and status of persons with cognitive or functional disabilities in the country. This often complicates the problem and reinforces the stigma of parents and families.

Second, work policy is an area of particular concern. According to Josef Yap, et al. the labor department "has been mandated to formulate policies, procedures, and programs designed to benefit disadvantaged groups and communities."[77] The role of the labor secretary is not limited to looking after the basic welfare of workers. He also has a big duty to increase employment opportunities in a country that has over forty-five million people in its workforce. Given this huge responsibility, some sectors in the labor industry are naturally left behind. Due to the economic divide in the country, labor discrimination remains. Consequentially, the over-all picture is that the work environment is not conducive to persons with disability.

Thus, the various issues that concern persons with impairment, including their employment prospects, are put at the sidelines. There is no clear vision and planning on the part of policy makers in terms of the integration of persons with autism in greater society. The problem is that some of our state policies often look at human lives only in terms of one's productive capacity, thus limiting the meaning of life into the economic or the productive life. State investment is centered on the economic. This is the nature and character of a world that has been defined by a new global order solely anchored on profit making. In fact, meaningful work is not available to people with special needs.

Third, fiscal policy on fund allocation for persons with disability needs to be improved. For example, "it is incredible to consider the imbalance between the sheer size of the developing world population, how little is known about intellectual disability, and disability in general."[78] A study by the Asian Institute of Management (AIM) reveals that "the number of persons with disabilities reached by government are estimated to be only 14% of the population of persons with disabilities…and that 84% of poor municipalities [in the Philippines] have no SPED Centers (primary level) while 91% of poor municipalities have no SPED schools (secondary level)."[79]

If the government must distribute resources based on differentiated schemes, then it must prioritize the needs of those who are truly disadvantaged by their situation. A baseline level of capability will not be enough. A true consensus for that particular type of threshold can be good only for those who are within the normal range, or for those individuals who can independently manage their situations in life, but not for persons who will require great care for the rest of their lives. If the state desires to designate just outcomes for everyone, then people must secure firstly the care about the well-being of persons with disabilities and pay attention to what the meaning of this care might require.

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[73] Soya Mori and Tatsufumi Yamagata, "Measurements to Assess Progress in Rights and Livelihood of Persons with Disabilities," *Discussion Paper no. 218*, *Institute of Developing Economies* (2008): 5.

[74] Ibid., 115.

[75] Lennox, Nicholas; McPherson, Lyn; Van Dooren, Kate. "Caring for Persons with Intellectual and Developmental Disabilities." Journal of Religion and Society 12 (2015), 113.

[76] Lennox, et al, "Caring for Persons with Intellectual and Developmental Disabilities," 113.

[77] Yap, Josef; Reyes, Celia; Albert, Jose Ramon; Tabuga, Aubrey. "Preliminary Results of the Survey on PWDs Conducted in Selected Metro Manila Cities." Discussion Paper Series No. 2009-25, PIDS, 8.

[78] Glenn T. Fujiura, Hong-Jae Park, and Violet Rutkowski-Kmitta. "Disability statistics in the developing world: A reflection on the meanings in our numbers." *Journal of Applied Research in Intellectual Disabilities* 18(4): 295.

[79] Asian Institute of Management. "Philippine Coalition on UN CRPD on Government spending for Persons with Disabilities." http://development.aim.edu/blog/2014/09/67-philippine-coalition-on-un-crpd-on-government-spending-for-persons-with-disabilities. (Accessed December 29, 2018).

Conclusion

Practical ethics can expose the indifference of society to the plight of the mentally impaired. As such, some things can be done from a practical end. While this might require enormous moral courage on the part of individuals and our basic institutions, it matters to recognize firstly that a problem exists and that the same can be addressed in a concrete way. To be responsive to the needs of persons with cognitive disability, society should possess the fundamental sense of justice that is meant to value the dignity of each person. The respect for the equal moral worth of persons is reflective of the role of justice in society.

National policy must secure the rights and entitlements of individuals with disability. The principle of merit does not guarantee the equal access to every good or the opportunities for human well-being. There is also a severe implication to health care on the part of persons with autism if the law and policy do not provide for a sense of prioritization given their very difficult situation. Young is correct in saying that rights are not goods that people possess. Rather, as moral entitlements, rights also involve just systems and structures that ensure their meaningful enjoyment of the former.

To ensure that we empower everyone in society, especially the disadvantaged, we have to level the playing field by making things easily accessible to people. This will require ending those norms that impede the growth of individuals as persons endowed with dignity. Indeed, Shamsul Haque observes that forms of "subjugation in the cultural-intellectual realm may perpetuate and expand the same in both the natural-physiological realm and politico-economic sphere."[80] In truth, the *post-factum* (after-the-fact) approach of the government, which only considers the topmost surface of the problem, has not really addressed the deep-seated bias against persons with mental handicap.

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[80] Ibid., 180.

Water Keepers, Fluoridation and the Rule of Experts:
Bioethical implications of Disciplinary Science

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Abstract

In 2014 water-fluoridation was abolished in Israel; in 2016 the Ministry of Health attempted to reintroduce fluoridation. The Supreme Court of Justice delayed the decision until November 2018 on technical grounds, and refrained from discussing claims regarding violation of medical ethics and human rights (e.g., enforcing fluoridation which causes replacing the original molecular structure of teeth enamel, hydroxyapatite, with the "stronger" fluorapatite).

Before fluoridation was resumed, a new decentralized NGO, the *Water Keepers* of Israel, met with Ministry of Health (MoH) officials and submitted a letter with 66 questions demanding explanation of the zigzag in Israel's health and environmental policy, exposing inadequate data and research in fluoridation "science", entangled with contradictions and conceptual confusions.

The fact that a contradictory theory became public health policy, backed by the United States Centers of Disease Control (CDC), American Medical Association (AMA), and WHO, exposes the dangers of disciplinary science, in which "experts", prone to group-thinking, become practically immune to cross-disciplinary criticism. In disciplinary science, logical and empirical criteria are replaced by "consensus", created politically by professional organizations and regulatory agencies. Updated findings, submitted to MoH, contain refutation of the fluoridation theory and expose unethical conduct

at the MoH, the "experts" and professional health organizations. Besides violations of medical ethics (informed consent; nonmaleficence), the experts discredited criticism by portraying fluoridation-sceptics as misinformed, unscientific, irrational, emotional or hysteric; the experts employed Fake News tactics ("safe and effective"), regardless of existing or missing data; The same unethical treatment is given presently to vaccine-'hesitancy" by the MoH and WHO.

Such aggressive unethical forms of dispute imperils communication, and discourages (practically excluding) experts from other disciplines and non-academics from participating in scientific debates. The greatest *failure* is on the part of the Academia and Science community at large, who left "controversial" topics of public concern to sub-disciplinary "experts" who control semi-feudal branches of the Tree of Knowledge, incapable of cross-disciplinary communication and rational decision-making: a new Tower of Babylon. The "Babylonian" disciplinary science, as exemplified by fluoridation theory, is hopelessly subdivided, incapable of interdisciplinary communication or admitting errors, ecologically uninformed (e.g., aloof to the precautionary principle), politically and disciplinary biased, unethical and inherently conservative (e.g., the slow acceptance of cannabis or Yoga as natural therapies).

The papers suggests "biohacking" as an open-source alternative (with empowering individual hacking ethics), based on critical thinking, subjective self-experimentation, embodiment, and objective scientific knowledge and know-how, to ensure democratic communication and public-participation in science, medicine and health.

Introduction: Irrationality of disciplinary science

Public policy in developed countries is typically based on belief in the rationality of contemporary science, academia and certified experts. Modern science is structured as contemporary academia, presuming that the "Tree of Knowledge" is divided into various branches (e.g., life sciences, or the humanities), subdivided into sub-disciplines (e.g., molecular biology or philosophy), and further subdivided into fields of expertise (e.g., remote sensing or animal ethics).

The growth of knowledge is supposedly based on infinite entrenchment into subdivisions of academic disciplines, which only experts (i.e., academic professors or their certified students) can master. The corollaries of this belief are numerous, including the protocols by which academic promotion committees operate.[81] In short, promotion committees evaluates professors' merit primarily based on supposedly-"objective" criteria, e.g., number of publications and their "impact factor" (journal ranking, number of citations, etc.).

The outcome of institutionalizing infinitely-subdivided disciplinary-science is excessive power given to "experts" in their semi-feudal sub-disciplines. These experts then may become professors, tutoring the next generation of experts; the editors and "peer" reviewers of academic journals; they sit on promotion committees; they become deans and presidents of academic departments and institutions. Their *reputation*, as well as the reputation of professional organizations (ADA, WHO) oppresses and suppresses critical thinking *and refutation*: logical and empirical challenges to established dogmas in science.[82]

The high walls between disciplines and within sub-disciplines are generally regarded as a reasonable price to pay for seemingly-infinite growth of scientific knowledge (as supposedly manifested by the rapid growing number of scientific publications). Many acknowledge that contemporary science does not encourage interdisciplinary research, or cross-disciplinary communication. However, the grave ethical, epistemological and methodological implications of disciplinary-science commonly evade scholars' attention.

Such implications include replacing "narrow" concepts of rationality, based on empirical and logical criteria, with "broad" concept of rationality:[83] the *consensus* of the so-called scientific community—usually in the form of small community of like-minded experts in sub-discipline, whose authority is respected prima-facie by the greater community of scientists.

The reality is subdivided-science and academia, prone to manipulations by research funds (corporate or public), based on judgement of experts—which commonly answer only to their (small number of) peers, which are prone to *group-thinking* (the "ratchet effect"), and *cognitive dissonances* (after prescribing fluorides/vaccines for decades, we couldn't be wrong).

In medicine, expert opinion is supported by professional institutions (e.g., the AMA, CDC, or the WHO), which supposedly guarantee present-day-Truth, often implying that the probability of errors (in consensus-based science) is insignificant, and therefore immaterial in public policy, which ought to respect the recommendations of experts, and their backing in professional and regulatory institutions and agencies which manufacture "consensus".

Thus, experts and professional institutions usurped the power to establish "truth", within their sub-divided fields of expertise. *With "Truth", came the power to establish "Good"* in public policy, in ways which sometimes contradict accepted morals, professional ethics and medical ethics in particular.

Water fluoridation serves as a frightening example of such a process, by which disciplinary science becomes *dangerous*; experts were able to persuade politicians and the wider public to "enrich" water with toxic waste from chemical industries, while "experts" from other domains of subdivided-disciplinary-science refrained from intervening in the controversy: *total failure of contemporary academia and science*.

Moreover, fluoridation became the exclusive domain of public dentistry and public health experts, despite the fact that Water and Water Ethics are topics which exceed the narrow perspective of the prevalence of tooth caries in children.

[81] Mishori, D. (2018). *Firmness in Truth*, Tel Aviv University. [Hebrew] https://bit.ly/2LPGvrj

[82] Dascal, M. (2001). Reputation and refutation: Negotiating merit. In: E. Weigand & M. Dascal (eds.), *Negotiation and Power in Dialogic Interaction*. John Benjamins Publishing: 3-18.

[83] Brown, H. (1988). *Rationality*. Rutledge.

The fluoridation controversy

Fluorine is the 13th most abundant element in earth's crust, found (as Fluoride) at low concentrations in most fresh and salt water. Fluorides are corrosive, and are used in aluminium smelting, steel-making, and variety of other applications. Fluorides are highly toxic—*Fluorosis* is the only disease named after a toxic substance:

" …there are a number of adverse effects that chronic ingestion [of fluorides] at high doses can have on human health, including dental fluorosis, skeletal fluorosis, increased rates of bone fractures, decreased birth rates, increased rates of urolithiasis (kidney stones), impaired thyroid function, and lower intelligence in children. Chronic occupational exposure to fluoride dust and gas is associated with higher rates of bladder cancer and variety of respiratory ailments."[84]

While in Belgium and Denmark (until the 1930s), fluorides were researched as sources of occupational and environmental exposures,[85] in USA a relation was found between high natural doses of fluorides in water, dental fluorosis, and reduction in caries:

"At the beginning of the 20th century, dentist Frederick McKay noticed brown staining of the teeth … The brown teeth, originally known as "Colorado Brown Stain" and later termed "mottled enamel", were more resistant to caries... In 1931, H.V. Churchill, a chemist working for an aluminum manufacturer (ALCOA), analyzed the water …and found high levels of fluoride (between 2 and 13 ppm) and the name of the occurrence was changed again to "dental fluorosis"."[86]

"The head of the Dental Hygiene Unit at the US National Institute of Health, H. Trendley Dean, conducted his famous study and in 1942 published the connection between fluoride concentration in water and prevalence of dental caries. He determined that concentrations of fluoride at one ppm reduced caries while fluorosis was minimal. The first artificial fluoridation was carried out in 1945, in Grand Rapids, Michigan…" (ibid)

This is the official story, by the head of dentistry services at MoH; in many respects, it is true, but terribly incomplete. First, pathological phenomena were identified, *dental fluorosis*, due to high concentrations of "natural" fluorides in water. Instead of learning to avoid such substances, dentists hypothesized that "optimal" dosage of fluorides minimize dental carries (supposedly-positive effect), with only "minimal" (negative) side effects of fluorosis.

Then, unethical mass experiments in humans were conducted in a few small towns, examining prevalence of carries and dental fluorosis in children. In 1950, *before* safety could be established by long-term research, major health organizations began to promote CWF (Community Water Fluoridation) as "safe and effective" in reducing carries, especially with children.

The theory states that children in particular are beneficiaries of fluoridation; since the 1940s, most research regarding efficacy of fluoridation was done on children, usually 12 years old.

Water fluoridation in Israel

"In 1980, WHO assigned a technical expert as a consultant to the Israeli Ministry of Health in the engineering aspects of fluoridation. Two visits were made and the technical problems were discussed. The consultant was later appointed as Chief Fluoridation Engineer in the Ministry…".[87]

Water fluoridation was promoted in Israel by public health and dentistry experts, with little public awareness or participation, with active support by WHO; The first fluoridation plant was opened in Jerusalem (1981), and by 2002, 50% of domestic water were fluoridated.

In 1998, a law requiring water suppliers to fluoride every community with more than 5,000 inhabitants was passed in the Knesset. Resistance emerged, and subsequently two appeals were submitted to the Supreme Court of Justice—by an environmental NGO, and by the mayor of Herzliya; the appeals were rejected in 2002, due to a policy held by the Court since 1979, that when experts disagree, the Court always takes the side of the government.

In 2014, the new Minister of Health, Yael German (the former mayor of Herzliya), accepted recommendations by experts' committee on water (from 2007), and ended water fluoridation. The Ministry of Health website said:

"With the abolition of the obligation of fluoridation, Israel will join the vast majority of countries in the world where there is no obligation to fluoridate, and according to World Health Organization data, there is a decline in caries in countries that have not fluoridated drinking water. In Holland, Sweden and the Czech Republic, there is prohibition to fluoride..."

The medical "experts" were outraged; an appeal to re-implement fluoridation was submitted to the Supreme Court of Justice in 2015. The MoH defended the new non-fluoridation policy arguing that caries dropped also in non-fluoridated countries (e.g., Europe), and that fluoridation has negative side effects.

Then, the former minister of health (Y. Liztman) returned to office, and was persuaded to re-implement fluoridation, approved by an Israeli parliamentary committee (16.3.16); two appeals were submitted to the Supreme Court of Justice, one of which by the former Ministress of Health.[88]

The court suspended the implementation of fluoridation until rejecting the appeals on 13 November 2018, despite a "significant flaw": the MoH did not consult properly an advisory committee. The Court's decision completely ignored arguments that fluoridation violates various laws (hazardous waste; the water law), human rights (Basic Law: Human Dignity and Liberty; Patient's Rights Law), environmental ethics (The Precautionary principle), bioethics and medical ethics.

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[84] Ozsvath, D. L. (2009). Fluoride and environmental health: a review. *Reviews in Environmental Science and Bio/Technology*, *8*(1), 59-79.

[85] Bryson, C. (2004). *The fluoride deception*. Seven stories press.

[86] In: Zusman, S. P. (2012). Water fluoridation in Israel: ethical and legal aspects. *Public Health Reviews*, *34*(1), 6, p. 2.

[87] Zusman, S. P. (2012). Water fluoridation in Israel: ethical and legal aspects. *Public Health Reviews*, *34*(1), 6.

[88] Proper disclosure: the author of this paper co-authored (pro-bono) an expert opinion for this appeal; he currently heads (pro-bono) the "professional team", Water Keepers of Israel.

The water Keepers

On 20.11.18, one week after the Court's decision, a group of environmental social and health activists managed to secure a 1.5 hour meeting with five officials at the MoH, including the acting head of public health services and head of dentistry services. It was agreed that a "meeting summery" including questions will be sent to the MoH.

The "Water Keepers of Israel"[89]—a heterogeneous group of individuals from all backgrounds and social sectors (religious and secular, Jewish, Settlers and Arabs)—secured another meeting, with the acting Minister of Health (3.12.18), arguing that the Court's decision gave the MoH an opportunity to reconsider fluoridation.

On 18.12.18, the Water Keepers' "professional team" sent a 34 page "meeting summary" with 66 questions, based on a thorough open-source research and investigation, aided by numerous academics and activists—some of which well-informed academically and professionally re fluorides and water, with decades of individual and collective experience.

The letter exposed the lack of research, and cracks in fluoridation theory, which upon attentive observation reveal *ridiculous* idea: that oral health depends on changing the molecular composition of teeth, in order to make them "stronger"; it turned out that fluoridation theory is based on contradictions, conceptual confusions, inadequate research and habitual disregard of uncomfortable facts;

Fluoridation is backed politically by health organizations which for decades unethically portray fluoridation-sceptics as hysteric, emotional irrational people failing to understand science, thus suppressing criticism—the essence of rational science.

The theory of water fluoridation

The theory of water fluoridation is simple and simplistic. Fluoridationists assume that the only difference between poison and harmless substances (or medicines) is dose.

Fluoridationists learned this maxim from the 16th century alchemist and astrologist Paracelsus (1493-1541), who stated "sola dosis facit venenum" (only the dose makes the poison); in certain dosage, poisons become medical drugs.

However, this claim is true only of certain elements (water and apples, for example), not for toxic hazardous substances, which accumulate over time in biological systems (e.g., aluminum, fluorides, mercury, lead, dioxins, etc.), posing risks of *long-term* non-acute exposures.

Paracelsus wasn't aware of this distinction, revealed by environmentalists in the 1960s. The "experts" commonly ignore this distinction, and regard Paracelsus' maxim an *Axiom* in fluoridation "science", and therefore regularly confuse two types of poison: (a) depending on dosage (Paracelsus); and (b) systemic accumulation of hazardous substances, toxic in miniscule quantities (environmental exposure);

Fluoridationists assume that side effects from fluorides are minimal, unavoidable and therefore tolerable due (1) to Paracelsus Axiom; (2) insufficient research regarding long-term exposure to fluorides; and (3) deficient cost-benefit analyses—which assume no calculable health or environmental risks or externalities from fluorides or water-fluoridation.

The benefit of supposedly-reducing caries becomes by definition "Good", and thus fluorides were transformed from "Bad" (toxic substance) to "Good" (at the recommended-optimal dosage). Therefore, fluoridationists were unable to apply the precautionary principle[90].

Proponets of the precautionary approach recognize limitations of conventional scientific methods (which tend to emphasis independent effects, not synergies and interactions), whereas *"scientific conservatism is often interpreted as favoring the promoters of a potentially harmful technology or activity".*[91]

Science always involves value judgments that require political decisions—since scientific data is nearly always limited by uncertainty. Therefore, *"…scientists must make assumptions, choices, and inferences based on professional judgment and standard practices, …may make scientific results appear to be more certain and less value laden than is warranted."(*ibid)

The precautionary principle recommends that policy decisions should err on the side of *caution* with respect to public health and the environment—an incomprehensible course of action for those who believes risk is only a matter of dosage.

Contradictions

As we have seen, in the 1930s and 1940s (prior to the environmental turn in science) a direct ratio was discovered between fluorides in drinking-water and occurrence of dental fluorosis; there was also a decrease in caries, supposedly in reverse ratio to the amount of fluorides.

To these facts fluoridationists added the "Paracelsus Axiom" that at certain dosage negative effects "almost" totally disappear and mostly "good" effects remain. This is a contradiction: the idea of a direct ratio between fluorides and fluorosis is inconsistent with the idea of an "optimal" fluorosis-free dosage. In fact, there is a dramatic increase in dental fluorosis in children in the USA since the 1930s:

"Exposure to multiple sources of fluoride may explain the increase in enamel fluorosis from the 1930s to the 1980s. The exposure to fluoride from sources such as dietary supplements has decreased since the 1980s because of reductions in the recommended dosage, but these changes occurred too late to have an effect on the study cohort."[92]

[89] https://www.waterkeepers.co.il/

[90] Jackson, W., & Steingraber, S. (1999). *Protecting public health and the environment: implementing the precautionary principle*. Island Press.; O'Riordan, T. (2013). *Interpreting the precautionary principle*. Routledge.

[91] Kriebel, D., Tickner, J., et al (2001). The precautionary principle in environmental science. *Environmental health perspectives*, *109*(9), 871-876.

[92] BELTRÁN-AGUILAR, E. D., GRIFFIN, S. O., & LOCKWOOD, S. A. (2002). Prevalence and trends in enamel fluorosis in the United States from the 1930s to the 1980s. *The Journal of the American Dental Association*, *133*(2), 157-165.

Even the CDC has updated his recommendations, and now suggests restricting babies' and young children' exposure to fluorides: *"Because most infant formulas contain low levels of fluoride, regularly mixing powdered or liquid infant formula concentrate with fluoridated water may increase the chance of a child developing the faint white markings of mild fluorosis"*[93].

The CDC's "solution":" *if your child is only consuming infant formula mixed with fluoridated water, there may be an increased chance for mild dental fluorosis. To lessen this chance, parents can use low-fluoride bottled water some of the time to mix infant formula."(*ibid)

In fact (another contradiction), in 2015 the CDC lowered his recommended "optimal" dosage of fluorides: *"This recommended level updates and replaces the previously recommended range of 0.7 to 1.2 milligrams per liter".*[94]

A few remarks: first, (1) the original (Dean's 1945) "optimal" dosage was 1 ppm and above, hence, adverse effects forces to lower recommended level of fluorides, thus undermining the very idea of "optimal" dosage (fluorosis-free), which is probably nothing but a scientific *myth*.

Second (2), another *contradiction* involves the intake of fluorides, which is considered risky with toothpastes (especially for young) and safe in CWF.

Third (3), the CDC claims that *"dental fluorosis… is the only unwanted health effect of community water fluoridation",* which is plain *sophistry*, since *fluorides* have many "unwanted health effect", but fluoridationists insist that CWF, in optimal dosage, causes only dental fluorosis, which they define as *"faint white spots on teeth that usually only a dental professional would notice".* This absurd definition is strongly linked with other flows of fluoridation theory, namely, how do fluorides "work"?

How fluorides supposedly-improve oral health?

According to Scientific American, *"Researchers believe there are several mechanisms by which fluoride achieves its anticaries (cavity-preventing) effect. It reduces the solubility of enamel in acid by converting hydroxyapatite into less soluble fluorapatite; it may exert an influence directly on dental plaque, reducing the ability of plaque organisms to produce acid; and it promotes the remineralization of tooth enamel in areas that have been decalcified by acids.*

…The fluoride is carried to developing tooth buds, where the interaction with the developing crystals initiates the replacement of hydroxyapatite (the tooth enamel's normal crystalline composition) with fluorapatite (a related crystal which incorporates fluoride). Fluorapatite is more resistant to decay than is hydroxyapatite."[95]

Hence, "oral health" is secured, according to fluoride dentistry, by *replacing* the original "normal" molecular structure of tooth enamel, *hydroxyapatite*, created by God and/or the Evolution, with *fluorapatite*, which is supposedly "stronger" and "more resistant" to decay; this very same process is also termed "remineralization". Hence, *fluorapatite*-enamel *is abnormal enamel, and thus unhealthy,* whether-or-not less-or-more prone to caries.

This is a transhumanist theory, disguised as Public Health measure. Our own body cannot handle modern diet (sugar)—dentists suggest changing our molecular composition, with the courtesy of the chemical industry.

The other way fluorides supposedly "work" is "directly on dental plaque", as an *enzymatic toxin*, poisonous to the same biological (mitochondrial) mechanisms operating in every living (and human) cells, while according to the European SCHER report, no living organism uses fluorides: *"Fluoride is not an essential element for human growth and development, and for most organisms in the environment. "(*p. 4)[96]

So, we have a toxic substance, which replaces the original enamel molecules; this replacement is considered "good", because it initially (seemingly) reduces prevalence of caries in children, thereby distorting the definition of Fluorosis.

Dentists consider the molecular change in enamel from hydroxyapatite to fluorapatite as "good" (not fluorosis), unless stains are visible, and then "dental fluorosis" becomes only a cosmetic problem. The *transhumanist* theory of fluorapatite, linked with "Paracelsus' Axiom" of optimal dosage, stands on a *third cripple leg*: epidemiological-clinical research.

Epidemiological and clinical studies in fluorides are hopelessly contaminated by fluorides due to: (a) the widespread use of fluoridated toothpastes; (b) fluoride "dietary" supplements; and (c) the "halo" effect.[97]

Toothpastes with fluorides assume the same theory as water fluoridation with minor changes: (a) the substance used is sodium fluoride (found in low concentrations in groundwater) and not fluorosilisic acid (in CWF); (b) swallowing the toothpastes is not-recommended (problem with children); (c) It is assumed that the "positive" effect of the toothpastes is topological (external), rather than systemic (internal ingestion, as in "dietary" supplements and fluoridated-water);

Previously, fluoridationists believed that the benefits of fluorides are primarily systemic (ingested); now fluorides are believed to "work" only "topically".

Viva Alaska

In 26.12.18, the acting head of Public Health Services (MoH) sent a two pages letter re water-fluoridation to Prof. Yael Shemesh, which exposed naked the MoH position on fluorides. The letter (obviously written by a group) insisted on *conservative* attitudes to fluorides as safe and effective, stating the experts didn't change their minds for 28 years (!);

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93 https://www.cdc.gov/fluoridation/faqs/infant-formula.html

94 https://www.cdc.gov/fluoridation/faqs/public-service-recommendations.html

95 https://www.scientificamerican.com/article/how-does-the-fluoride-in/

96 Scientific Committee on Health and Environmental Risks (SCHER): Critical review of any new evidence on the hazard profile, health effects, and human exposure to fluoride and the fluoridating agents of drinking water (2010). https://ec.europa.eu/health/scientific_committees/environmental_risks/docs/scher_o_122.pdf

97 Levy, S. M., & Guha-Chowdhury, N. (1999). Total fluoride intake and implications for dietary fluoride supplementation. *Journal of public health dentistry*, *59*(4), 211-223.

The letter states that *responsibility for changes in policy re water-fluoridation belongs exclusively to the political echelon*, implying that some policy decisions (and public health measures, or MoH statements) are "political" rather than "professional";

In 2016, however, the Minister of Health, the Head of the parliamentary committee, and other Members of Knesset, all stated to the protocol they trust the experts and follow their recommendations; i.e., *no one takes responsibility*.

The letter cites a single updated paper from Alaska,[98] "Consequences of community water fluoridation cessation", which supposedly proves the experts' position. This paper exposes typical flaws of Fluoridation Theory: it researched only children and adolescents (in a very atypical community); examined only dental insurance claims re caries; disregarded fluorosis or other negative externalities; presumed "Paracelsus Axiom", etc.

This paper concluded the odds of children or adolescents to undergo dental caries procedure in 2003 were 25.2% less than in 2012—seeming proof of the efficacy of fluoridation (less than half tooth difference per child). However, *greatest effect was observed at under seven-years-old age group* (51% less), while with adolescence there were no significant differences:

"As no significant difference in the mean number of caries procedures was observed between the 7- to 12- and 13- to 18-year-old age groups, we suggest that these individuals may have a residual protective effect from optimal CWF exposure during childhood and early adolescence."

Hence, the paper "explains away" difficulties in the results. The reason thereof are the overt presumptions of this research:

"Previous research indicates that without the presence of optimal levels of fluoride in drinking water …teeth may form with weaker enamel and lack the ability to remineralize early signs of decay. Therefore, we expected to observe a general increase in dental caries-related procedures and treatment costs across age groups because fluoride acts primarily topically. Additionally, we expected to observe more significant impacts among patients with the lowest exposure to optimal CWF."

The Alaska paper is based on a doctoral thesis[99] which fallaciously defines fluorosis (the general phenomenon) in terms of dental fluorosis (the case), based on definitions by the ADA: "*Fluorosis*: *Dental fluorosis, streaking or discoloration of tooth enamel, can occur during tooth development (0-5 years) if consumption of fluoride is above optimal limits (ADA, 2005). Classification can be ranked from very mild to severe"* (ADA, 2005).

This definition *presumes* uncritically Paracelsus' Axiom ("optimal" limits). However, during 70 years of fluoridation, science didn't reach an "optimal" dose (i.e., reduction of caries, without a corresponding increase in dental fluorosis—the only fluorosis surveyed in dentistry).

Also uncritically, the thesis contains a long passage regarding "Antifluoridation Propaganda": *"Since the 1950s, CWF has come under attack by small groups of individuals who employ tactics designed to encourage distrust towards scientists and governments who promote CWF for improving oral health"* (Freeze & Lehr, 2009)

The source quoted is biased by its very subtitle: "how a modest public health measure became America's longest running political melodrama", [100] and uses expressions such as "pseudo-science", "junk science" and "Fluorophobia" to describe fluoridation-sceptics; such portrayal is typical to the debate-ethics of fluoridationists since the 1950s, including in Israel: *"it was recognized that the fluoridation plan might be opposed by some. The main reason for this is the basic mistrust that some sections of the public have in anything that is done by the government. Paternalism and beneficence by the government were seen as infringement and are not much appreciated in an atmosphere emphasizing freedom and the right of the individual to determine his or her destiny as he or she thinks fit."*

"…Confrontations in the media with antifluoridationists were avoided. It was considered preferable to refuse to comment on a newspaper article on the grounds that public interest dies down quickly if there is no response.

…The anti-fluoridation lobby was addressed politely as being well meaning but sadly misinformed as discourtesy and verbal violence often gives rise to hysteria rather than intelligent discussion."

Thus portrayed for decades, as misinformed hysteric, their criticism ignored, little wonder some anti-fluoridationists began to "mistrust" the governments and scientific experts.

More contradictions and flaws in fluoridation-theory

Besides the fallacious definition of Poison, and of Fluorosis, fluoridationists contradicts themselves when they employ Paracelsus' Axiom, since their theory depends on "optimal" dosage, while they cannot control individual intake, from multiple sources of fluorides (including food and beverages).

Moreover, dosage is uncontrollable due to the "halo effect", *absurdly* depicted as a "positive" effects of fluoridation: *"What is the "Halo Effect"? The "halo effect" is the effect of water fluoridation upon residents of localities where drinking water is not fluoridated. Residents of these areas who consume products produced in fluoridated areas (e.g. milk, vegetables, fruits, bottled beverages, meat, pastry) are exposed to the positive effect of fluoridation in spite of the fact that the water supplied to them is not fluoridated".*[101]

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[98] Meyer, J., Margaritis, V., & Mendelsohn, A. (2018). Consequences of community water fluoridation cessation for Medicaid-eligible children and adolescents in Juneau, Alaska. BMC oral health, 18(1), 215.

[99] Meyer, J. (2017). *Consequences of Community Water Fluoridation Cessation for Medicaid Eligible Children and Adolescents*. Walden University.

[100] Freeze, R. A., &, Lehr, J .H. (2009). *The fluoride wars: how a modest public health measure became America's longest running political melodrama*. Hoboken, N.J: J. Wiley & Sons.[100]

[101] https://www.health.gov.il/English/Topics/Dental_Health/information/Pages/fluorides.aspx

The 'halo effect', environmental pollution portrayed as a "public good",seemingly explains unimpressive [102] results of fluoridation in Israel:

"It seems that the decline in 12-13 years was bigger in the non-fluoridated area then in the fluoridated one, and the difference between the two is smaller. Is fluoridation losing its effect? I don't think so.

First of all, in all areas fluoridated toothpaste is in use, hence the decline in the non-fluoridated area. Furthermore, 50 percent of the country was fluoridated in 2002 in several distinct areas, not in one, geographically contiguous area. Every fluoridated area has a 'halo effect' on the areas around it that were not fluoridated, but were influenced secondarily by the fluoridated area. The children may study in the adjacent town, visit friends or family and are exposed to fluoridated water too. Some of the food industry is located in fluoridated areas and their products are consumed in non-fluoridated areas. As a result, there is fluoride found in at least part of the non-fluoridated areas. We expect that in the next national survey we will find a still lesser difference between the fluoridated areas and the non-fluoridated "islands" that will remain. So, fluoridation is working." (Zusman, ibid).

Just as in the Alaska study, actual results of Fluoridation are explained away, often assuming benefits from other sources of fluorides; likewise, fluorosis is never blamed on water fluoridation, but on other sources of fluorides; this is an irrefutable theory which fails to meet Popper's *refutability* criteria of science.[103]

Moreover, efficacy of fluorides is demonstrated mainly in children, often 12 years old, thus long-term effects are rarely studied; In Israel, since 1955, almost all studies examined children, usually 12 years old (the global standard of "fluoridation" science); no potential health risk were investigated, since it was presumed that in "optimal" dosage fluorides are harmless."

The person quoted above is the head of dentistry services at the MoH, who stated on few occasions, including parliamentary hearings, that people "do not need fluoride to prevent caries; [if] you will not eat sugar, you will not have caries". Nevertheless, he always concludes: "Fluoridation of drinking water is the most efficient, egalitarian and cheapest method to prevent tooth decay"—the power of scientific conformity and conservatism.

Kings of the swamp

The number of "experts" in every sub-discipline is small. Hence, in Israel, the same Professor was formerly the Dean of the Faculty of Dentistry at Hadassah (Hebrew University); set in various professional committees which recommended fluoridation; was a recipient of research funds by Colgate-Palmolive; and headed an "independent committee" (MoH) which decided (with other MoH experts) on a small one-year research of 12-years-old in 5 schools, instead of a long-term research; the research was carried out by his colleague from the same department of Public Dentistry in Hadassah. The small (Hadassah 2012) research found *increase* in dental fluorosis, but the researchers concluded: *"Water fluoridation was associated with mild fluorosis symptoms, similar to findings worldwide. These findings should not be viewed as cause for concern."*

These conclusions were adopted by the head of the "independent committee" on fluorides, relaying on the "scientific" consensus. This same professor latter co-authored (with the Hadassah' researcher) an academic paper in Hebrew on their Fluoridation campaign ("The War against the War against Fluoridation", 2014; in a single title twice "war" and twice "against"—prime example of "positive" thinking), and later appealed to the Supreme Court of Justice to renew fluoridation (2015).

To the handful of dentistry-experts who joined a handful of public-health experts. All other health professionals, members of the advisory committee on water (MoH), and the Israeli Academia at large (by *not* intervening), implicitly support any decision the experts make regarding fluoridation.

Intellectual dishonesty

At the meeting of the Parliamentary Committee (16.3.16), the former Minister of Health and other participants blamed the experts for misleading Members of Knesset, by stating inaccurate facts (e.g., that there isn't any controversy about fluoridation). Further examination show that pro-fluoridation experts, believing that science was on their side, were taught by their American predecessors to regard anyone who doubted fluoridation as misinformed, motivated by "religious" or "philosophical" creeds; criticisms were thus regarded as expressions of hopelessly misinformed misunderstandings—even when they came from a retired MoH water/fluoridation engineer. Presently, vaccine-sceptics are treated the same.

Therefore, "Fake News" tactics and strategies were developed to "handle" anti-fluoridation advocacy: ignoring, distracting, using partial information (in order not to give unnecessary ammunition to skeptics), refraining from research which might reveal uncomfortable facts, etc. Such tactics portray science and medicine as supposedly comprehensible only to experts, their professional organizations and regulatory agencies; This is the Rule of Experts, instead of the rule of the people, making science and medicine inherently undemocratic, uncritical, unethical, unscientific and thus dangerous.

Freedom-of-choice-based considerations, democracy and human rights, were treated as nonprofessional issues that are not of interest to *amoral* experts.

Inadequacy of professional ethics

The following quotes are taken from an expert in professional ethics in Israel. According to Asa Kasher, *"Medical ethics require the physician to do his best to realize the purpose of the medical activity using the methods of the profession.*

The preoccupation with morality is different from the practice of [professional] ethics... Medical ethics includes morality, because the doctor is a person and the patient is

[102] https://ilikemyteeth.org/halo-effect-public-good /

[103] Popper, K. (1934/2005). *The logic of scientific discovery*. Routledge.

a person - but it is broader because medical ethics has aspects that are not derived from morality."[104]

The "broader" aspects not "derived" from morality in professional ethics includes the professional-scientific part, an *amoral component*, which is "broader" than morality, The professional-scientific part enables expert to establish Truth, and thus the Good, irrespective of "narrow" morality. Moreover, they are required to employ "the methods of the profession". Hence, narrow professional ethics is incapable of coping with challenges such as water fluoridation (or vaccination-safty), which uses established method of given professions in subdivided disciplinary-science.

Vaccinations[105]

The WHO recently demonstrated chilling example of such "ethics" by portraying vaccine hesitancy as one of "ten threats to global health in 2019"[106]:

"Vaccine hesitancy – the reluctance or refusal to vaccinate despite the availability of vaccines – threatens to reverse progress made in tackling vaccine-preventable diseases. Vaccination is one of the most cost-effective ways of avoiding disease – it currently prevents 2-3 million deaths a year, and a further 1.5 million could be avoided if global coverage of vaccinations improved. Measles, for example, has seen a 30% increase in cases globally. The reasons for this rise are complex, and not all of these cases are due to vaccine hesitancy. However, some countries that were close to eliminating the disease have seen a resurgence. The reasons why people choose not to vaccinate are complex; a vaccines advisory group to WHO identified complacency, inconvenience in accessing vaccines, and lack of confidence are key reasons underlying hesitancy."

I find this statement *frightening* because:

(1) It ignores (and thus, denies) the *safety* controversy re vaccines;

(2) It portray "hesitancy" as a problem of "inconvenience" and "lack of confidence" (same as in fluoridation);

(3) It implicitly *incite* against vaccine-sceptics by insinuating that they are the *culprits* for outbreaks of Measles and possibly other vaccine-preventable diseases, despite the fact that side-effects of Measles (*live attenuated* virus) vaccines is infection, a fact never communicated to the public;

(4) If the WHO is wrong about fluoridation, it could be inaccurate also re vaccinations; the seeming-certainty of WHO rhetoric is therefore clearly biased and unscientific;

Therefore:

(5) The semi-*Papal infallibility* attributed to WHO recommendations, based on non-transparent internal expert committees, such as "vaccines advisory group to WHO" (SAGE), should be replaced with open-source interdisciplinary forum, unbiased by disciplinary conservatism and conflicts of interests.

Presently, SAGE nominate only an "expert" with narrow qualifications, [107] excluding most scientific disciplines, including the humanities, social sciences or bioethics.[108] The same attitude in Israel towards vaccine "opponents" or "refusers" has already resulted:

(a) in a recent bill (December 2018), backed by the MoH public health services (same department responsible for fluoridation), enabling private kindergartens to refuse admission of un-vaccinated children;

(b) The Association of Pediatrics in Israel called for restricting entry into kindergartens, unless children present updated vaccination record;

(c) Hundreds of kindergartens already joined "Mehusgan", voluntary private initiative of doctors and parents preventing un-vaccinated-children admission, arguing that "maximum immunization coverage allows us to protect not only our children, but also the immunosuppressed, elderly, pregnant women and more", disregarding the potential infection by vaccinated children—the result of biased health communication by health authorities.[109]

(d) Physicians who openly discussed vaccines' side-effects and risks were summoned (January 2019) to the Public Health Fraud/Misrepresentation Committee (MoH) for hearing (inquisition). In one case, a physician was accused of an internet publication which

…shows that in the framework of your activity as a physician, you offer recommendations that are contrary to the vaccination briefing, and even rejection of vaccines, in a manner that is contrary to professional guidelines in Israel and abroad and may even lead to the avoidance of vaccination [by] children and adults and, as a result, endanger them and their environment.

Your activity as aforesaid is done by way of linking and creating reliance on your license and your practice in medicine, and may constitute disciplinary offenses under the provisions of the Physicians Ordinance [New Version]

Hence, physicians' livelihood (license) is threatened by the inquisition of MoH, relying on "professional ethics" mandating doctors to work *strictly* according to official guidelines—dissents are punishable ethical offences.

The onslaught on vaccine hesitancy violates basic medical ethics, as well as basic human rights, including freedom of conscience, and is reminiscent of another era in which *religious inquisition* was able to summon people for interrogation on their religious or scientific beliefs (Galileo, for instance).

Medical ethics, especially public health, urgently needs revisions.

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[104] Asa Kasher (2018). When the academy escapes ethics. *Shiloah*, 73-102. [Hebrew]

[105] Proper disclosure: the author's daughters received childhood vaccinations according to MoH recommendations.

[106] Ten threats to global health in 2019. https://www.who.int/emergencies/ten-threats-to-global-health-in-2019

[107] https://www.who.int/immunization/policy/sage/SAGE_working_group_MR_call_nominations_Jan_2019.pdf?ua=1

[108][108] Expertise needed in the Working Group: Measles and rubella Epidemiology, Public health expertise, Infectious diseases, Paediatrics, Immunization programme planning/management, implementation and monitoring, Vaccine safety, Health economics in the immunization/vaccines area, Expertise in disease modelling.

[109] Gesser-Edelsburg, A., & Shir-Raz, Y. (2018). Communicating risk for issues that involve 'uncertainty bias': what can the Israeli case of water fluoridation teach us?. *Journal of Risk Research*, 21(4), 395-416.

The new Tower of Babylon

The 70 years fluoridation dispute demonstrates the dangers of 21st century' science; hopelessly subdivided, disciplinary science becomes a semi-feudal system, where power and authority are given to experts and professional and regulatory consensus-manufacturing agencies, prone to influences by private-sector research-funds.

"Science" becomes a system of separate sub-disciplines, which rarely communicate, and may even be hostile to cross-disciplinary communication and criticism, as in the case of Fluoridation (and vaccines); thus emerges a new Tower of "scientific" Babylon.

As we have seen, the "experts" were convinced "Truth" was on their side, and thus were able to determine "Good", disregarding ethical precepts in medical ethics such as "informed consent" (Fluoridation was enforced, despite years of controversy), or "primum non nocere" ("first, to do no harm"), despite recurring fluorosis effects.

Fluoridation is an act of extreme Medicalization, i.e., usurpation of social power by medical profession. In this case, medicalization of water and the environment at large (everything affected by water, including recycled-water agriculture).

Bioethics, medicine, health and Biohacking

In the Book of *Genesis*, the Tree of Knowledge (Hebrew: *Daat*) enabled knowing right from wrong (distinguishing Good from Bad). Current disciplinary science portrays itself as inherently amoral, as if ethics is adjunct to real "hard" science, concerning only objective facts. The fluoridation dispute should serve as a warning sign, that true knowledge is inseparable from research ethics, bioethics and democracy.

Bioethics in the sense of Van Rensselaer Potter (1970) is *"a new discipline that combines biological knowledge with a knowledge of human value systems in an open-ended biocybernetic system of self-assessment". Deeply influenced by ecocentric perspectives*[110] *(e.g., the Land Ethic and Deep Ecology), Potter argued: "We must develop the science of survival, and it must start with a new kind of ethics—bioethics. The new ethics might be called interdisciplinary ethics, defining "interdisciplinary" in a special way to include both the sciences and the humanities (p.130); ...new wisdom that will provide the "knowledge of how to use knowledge" for [hu]man's survival [since] ...human ethics cannot be separated from a realistic understanding of ecology in the broadest sense (p. 127)."*[111]

Water-fluoridation cannot be described as reflecting *"a realistic understanding of ecology in the broadest sense";* Biohacking, on the other hand, could be integrated into Potter's bioethics. Water-fluoridation is typical of the way modern medicine makes its patients passive: people don't even have to brush their teeth, water will take care of cavities. In contemporary medicine, patients are passively being diagnosed and treated by professionals and experts, contributing to their overall health mainly by following professional guidelines and treatment recommendations, often in the form of pharmaceuticals or invasive surgical interventions.

"Biohacking" works differently. Connecting to (software) hacker culture and hacker ethic (in the sense of finding new/better ways to do things), biohacking combines systems-thinking, Do-it-yourself biology, traditional research methods and self-experimentation. Biohackers desire to become best version of themselves, and seek to discover new and old ways to become healthy, using nutrition, frequencies, measuring biomarkers, researching corporeal possibilities (e.g., Yoga or Tai Chi)[112]. Biohackers use activists' open-source web culture to disseminate knowledge as a commons, and to question conservatism, scientific authority and conventional beliefs.

Typical biohackers focus attention on posture, nutrition, rewilding (with nature), natural sunlight and the outdoor, etc. Focused on halting fluoridation, the Water Keepers operate according to various biohacking principles, with multiple individual variations, including the decision whether or not to consider an activity (or the activist' identity) "biohacking" as few of the original activists see themselves.

Conclusions

Water-fluoridation is an ecological crime without responsibility: the government trusts the experts, who assign responsibility to the political echelon. Academia has largely ignored the issue, as lying in the domain of public health and dentistry. The ecological crime was demonstrated in Israel when in June 2017 massive spill of 100,000 cubic meters of acid contaminants flooded the Ashalim Stream in the Judean Desert (Dead Sea), after a reservoir (evaporation pond) collapsed. The spill contained a mixture of phosphoric, sulfuric, and *fluosilicic acids*—the same substance used in water-fluoridation—"that surged through a dry riverbed in southern Israel ...left a wake of ecological destruction more than 20 km (12 miles) long". Such substances cannot possibly contribute to overall public health.

Such occurrences prove that modern society is in urgent need of a bioethics, conforming to Potter's vision. Water fluoridation proves that health must be biohacked, at least partially; the emergence of medical cannabis and cannabis culture is another form of popular biohacking movement changing paradigm in Israel, facing opposition from conservative medicine—the same "conservative" experts believing water fluoridation is good, and pharmaceuticals are better than natural plants (Cannabis).

Water-fluoridation proves that unethical science cannot be true. Ethical science is non-coercive, open for debate, acknowledging the probability of errors and refutations, ready to change if new data emerge, does not violates basic human rights or medical ethics. Dentistry and public health experts should reconsider their outdated views on fluoridation, with the best intention of

110 Potter, V. R. (1988). *Global bioethics: building on the Leopold legacy*. MSU Press, 2012.

111 Potter, V. R. (1970). Bioethics, the science of survival. *Perspectives in biology and medicine*, *14*(1), 127-153.

112 Mishori D. (2018). *Firmness (Firmeza): Meditations on First Philosophy and Environmental Ethics*. Graff Publishing. [Hebrew]

learning from past errors, and to implement new insights in the emerging vaccination-safety controversy.

Ethical Information Foresights: A Journey Across Uncharted Conflictology

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1. Context of Ethical Information and Bioethics

We face not only stress but moral conflicts when working on data: sensitiveness, timing, privacy, etc. Some contents show off an extensive literature, for example, the users' data in the social media (Chen and Shi 2009). Other sensitive topics like the polluting compounds that many firms produces, sinks into the secrecy and lack of data (Lyndon 2011). In Bioethics, the privacy of subjects after the CRISPR experiments is on fire (Brokowski and Adli 2019). As we can see, the ethical information concerns grows as the technology does. Otherwise, some worries, just like the *Year 2000 bug* in computers, have dissipated (Eschrich 1998; Tewksbury et alt. 2004). The Information and Communication Technologies never has had the current weight in Bioethics. The "love of life" (Macer 1998) is producing zillions lines of code. How our current healthcare systems would work without? And our cities? It's natural to be concerned about a tech-ridden society's future but…

Why should we worry about ICTs misuses that might not happen?

We live in the dawn of autonomous information systems. There is the clear and distinct possibility of the AIs surpassing the human inventive after a spiral of self-improvement. The most people alive likely we'll see this historical singularity. But, regardless of foresights, it's a matter of today.

The most of us, and more every day, live in cities where some degree of smart metamorphosis has started. We are newcomers inside information bubbles. The amount of AI devices grows before our eyes; hangs from the walls of our town like Internet of Things; sticks on us like wearables; sneaks below our Internet searches where provides us with a semantic experience and, lately, has materialized in the polemic robots.

2. Information Ethics

The Information Systems are involved in the main disciplines that are changing our world: biotechnologies, nanotechnologies, cognitive sciences... Thus, are involved in almost any transcendental ethical decisions we can figure out. Sadly, our moral awareness and ethical perceptions are somewhat vitiated. It's due to the inequality in the access and analysis of the unmatched information we enjoy (and suffer) today. This unbalance extends to the production of contents and Artificial Intelligence agents.

Considering how much our social interaction are mediated by computerized Information Systems these digital breakthroughs, their vertigo and immediateness, are and will be the spirit of our time. The past Zeitgeist relied in the industrialization of information. This ironclad bureaucracy was as a mean of control, of keeping up the visceral and Nietzschean will of power (Giacalone and Jurkiewicz 2003, 338–39). The dominant agents of this successful industrialization perhaps looked the cyberspace as fishing in a barrel. But soon the saturation of information became obvious. Instead of having a stronger lock, the speed in retrieving or attaining became the new Zeitgeist.

To sum up in a Luciano Floridi quote: *"We need a philosophy of information as a philosophy of our time for our time."* (Floridi 2014, ix)

We are getting caught amidst cozy autonomous technology. It's a postmodern force able to shape our society through its agents. For intelligent agent we'll take the Russell and Norvig classic definition: "anything that can be viewed as perceiving its environment through sensors and acting upon that environment through effectors." (Russell and Norvig 1995, 31) Those agents are carelessly being masqueraded as human ones and, on the other hand, they are also relied upon to coordinate even military actions (Miller et alt. 2015; Roderick 2007).

Our identities and sense of belonging will change after being agentized (Vlahos 1998). The one to the digital sphere will be the greatest human migration since our species traveled out from Africa. How our generation will deal with the old analogical identities? Will start a peaceful war when the Cave of Bits entrance get sealed behind us?

We should worry about the future of Information Ethics because we won't realize when is too late. Now, we can face the main question, *"What is Ethical Information?"*

3. Ethical Information means true communication.

The ethical information is a piece of justice built from honest data. It's any set of transparent facts that empowers. So, it's a shelter both from sly policies and hate speech.

By the same token, a moral obligation of any Ethical Information maker or developer (dev) is being aware of the digital divide issue. This is a social gap in the access to modern Information and Communication Technologies, especially when it comes to the digital literacy, the autonomy in the use of technologies as Internet browsers, social media, smartphones, etc.

As the UNESCO warned: "The Digital Divide (DD) is the source of most of the ethical problems emerging from the evolution of the information society" (Floridi 2001).

The main prerequisite for Ethical Information is to observe the principle of non-maleficence. Let's go deep into the many plausible injustices...

How to spot and to prevent abuses related with Information Systems?

The information management comes from a long institutional tradition of unpunished abuse. Sadly, acquiring autonomous and systematic features has not been a remedy. Otherwise, the information technologies have also granted us plenty of practical and beneficial uses that makes up some misuses.

Besides *nerdie* gifts, we shouldn't ignore a world

cleaved by a decision-making gap. So, it would be naive to paint with the same brush the Ethics in and out of the Directors Board. The organizations have also a moral life. It's not expressed like the human one, but through its very own ecology. These special organizational settings are very important in a ubiquitous concept of Information. They can lead to social changes in the same fashion than social media (Lin and Sun 2017). Thankfully, having an Ethical code contribute to the image of success in the marketer's eyes (Vitell et alt. 2003). An ethically aware information system consumer should consider it.

In addition to this, in the last 20 years, has become evident what managerial changes the globalization and Internet require. The nowadays management must to be framed in moral values (Sora and Natale 1997). To thrive, a manager must to shift and align with Information Technologies through leadership improvement (Rose et alt. 2016). Sadly, the failure rate in the tide of Information Systems projects points to a careless leadership. One that evidences a short-sighted symbolic achievement unable to extend away from the desktop (Jiang et alt. 2001).

The executives' ethics could be an unexpected asset in progress and sustainable prosperity. But only when more attention is paid to their values, underlying worldviews and sense of responsibility (Esfahani et alt. 2015; Spangenberg 2016).

The AI tycoons' messianic overtones are a source of bias and infoxication (Lozano 2018, 28–29). If the future AI is sadistic, funny, blue, murky, chauvinist, warmongering, transcendent, voyeur or simply buggy it is, as I said, a matter of today. Today is when the embryo of the tomorrow's AI is being developed. Now we can and we must choose if this AI will be built over an Ethical Information or not.

Using the information to play with the beliefs on inevitability gives the power to avoid political responsibilities. These are transferred from political to public and private domains. The pliers we should fear are not in the end of a robotic arm. Better if we mind about the pinch in our conscience coming from the screens. To date, the Ethical Information is not a nuisance for a bossy AI, but for a bossy use of the AI.

4. How to avoid harm from the Information Systems?

We should know how to differentiate what is senseless for us from what is susceptible to be false. Then, speaking from heart about it. We must to learn how to negotiate our right to communicate and dissent. We must to do it before our age of information becomes misunderstood. Now, let's know…What brings the Ethical Information to the society?

Here I'm acting partly as a forecaster, some kind of water diviner of the next generation of troubles in the Information Society. Nevertheless, we all must to have a say in the incoming changes. We cannot remain neutral to the new technologies and its gurus as it wouldn't has any societal outcomes. That's what the Ethical Information Systems are about!

The Information Society technologies must to be ethically assessed *ex ovo* in the same way that the correctness of algebra is considered. The prosumers and recipients of the new Information Systems consequences and features should be empowered to deal with its:

- social impact
- means of diffusion
- control and ownership
- public institutions lobbying
- sensitive clients (e.g. army parties)
- privacy issues and monetizing of users
- sensitiveness towards the most vulnerable people

During the next years, our pool of knowledge about the matter, the brain and the society will boom thanks to the convergence of nanotechnology and Information Systems. But beware!

The data seems a bottomless pit full of gifts but the most of this pit is today private. Such as the devices to produce information are. The smarter our global village become, the less *our* our identities will be. Nevertheless, such is true as humanity has a History, toying with identity of others will have consequences. Deciding massively for an entire nation, community or collective, will also lead to violence: asymmetric conflict, terrorism, guerrilla... to pick a name. More even in a world where the disadvantaged countries has togetherness rather than true unity. Every time a technology allows deindividualization, an open wound for unethical behavior appears.

A lasting prosperity can be attained. We can keep away from the risk of reifying ourselves amidst Orwellian abuses. Amidst political malpractices springing out from the bottom of a smart-city envelope. Better if we trust in a universal basic income replacing the rule of markets by a post-democracy, one supported by open-source tools. Does it seems Utopian? Internet itself is the Tim Berners-Lee's open-source!

We shouldn't focus only in innovating when it comes to bring social justice, but also in ex-novating: getting rid of the worn and useless...

5. What brings Ethical Information to a society? Constructive controversy.

Saying this, may you were wondering…How to foster the Ethical Information everywhere? To foster the ethical information we must to set a difference. It can be done through a conflictology of the incoming Ethical Information and can be summed up in a few initiatives and considerations (Lozano 2018, 101–2).

1. To rally representatives from minorities, supranational institutions as well as academic and religious figures in the redaction of "A Harmless Faith in the Human Being Manifesto". A declaration where clearly exposing and developing the trust in the equity of any well-informed person to contribute to the common good.
2. By the same token, we should consider the muffled political voice of billion people in the world through a global organism ready to disclose, gather and weight the ideas of those who are invisible.
3. Giving to the media similar status and responsibilities that given to courts or similar institutions. Preserving the independence of the watchdog journalism in a city shouldn't be less important than budgeting the district attorney office. Otherwise, we won't transcend the overdose of quick facticity we are exposed from the early childhood.
4. Find a middle ground with hackers and

whistleblowers, regulating it to favor the common good rather than pursuing any *hackactivist* regardless of her purpose and contribution.

5. Surrogate the publicity within and between children contents in any media, including the Web, for free transformational learning opportunities. For example, events and programs to raise awareness on ecological and social issues.

6. We should focus the education in the practical use of History and Philosophy through present day cases and role-play activities.

7. To consider thoroughly the ethical dimension of social exclusion and the role of information systems. When needed, determining legal responsibilities for the trivialization or apology of any kind of marginalization or poverty anywhere. It would include as hate crime the belittling of a community based on its digital or technological divide.

8. By law, a consideration and analysis of the potential Information and Communication Technology issues on vulnerable communities should be compulsory. For example, a form to be included in the design and during the implementation phases of any Information Systems.

9. To prevent a Digital Age characterized by inequality and the major powers involved in failed states showdowns, the international norms related to ICT should be extensive and accountable, especially when relatives to smart-cities. We need a cosmopolitan governance in a world where the developing countries wields the greater demographic growth and their cities are surging more often. Neither shouldn't we forget that the greatest cities before the AI singularity likely will be in Africa.

10. To establish, if any, an UN international bioethics sub-committee to deal with:

- the anthropomorphization of technological products and,
- the humanization of the human–machine relationship.

It should include the transhumanism as the most radical case. A special informed consent to sign before any enhancement surgery or additional plug-in should be redacted.

Rather than a recommendation, this is a last advice. No matter how the things change in the next 30 years, we must to preserve the chances of turning back to the Earth. The communities that incorporated rhythms and dances to their communal activities 30,000 years ago kept on amidst climate changes, the others didn't. I believe that, as happened before, we only will be able to preserve our human identity in the same extent that we can safeguard the moral right to return to innocence.

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Buddhist Perspectives upon Disease and Human Gene Editing

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Humans and nature are interrelated and interdependent. We are a part of nature and change is a factor inherent in nature. Human morality effects the process of change. The moral deterioration of humankind accelerated the process of change and is related also to human well being and happiness.

Suttas show a close relationship of humans and nature, the cause and effect. The *Cakkavattisihanada Sutta:* pattern of mutual interaction between man and nature. When man is full ofgreed: famine is the outcome, when man is ignorance: epidemic is the result, when hatred is the driving force: violence is the outcome. There is hope for the future: when man realizes the result of moral decline changes take place, then the quality of man and nature improve.

There is interdependence of humans and nature, as stated in Lily de Silva, (1987) *"The Buddhist Attitude Towards Nature"* : *'Man then live in harmony with nature, utilizing its resources for the satisfaction ofhis basic needs, such as bee collects pollen from the flower, not harming the natural world in which he lives.'*

***Karma** is* one's action ofthe past that effect upon the present and the future. We are the total ofthe our own karma, of our thoughts and deeds. So we all are responsible of our own mind and action.

The law that shows the cause ofone thing leads to another. Like a drop of water into the lake, leads to circles of water and spreads over all.

Samsara is the endless cycle of rebirth, after one's death there will be a new birth, a new existence depends upon the state of mind of the person.

Meaning means every single step we make will effect man and nature, at all times, both present and future.

The law of dependent origination is a key principle of Buddhist teaching: that all phenomena arise in dependence upon other phenomena: "if this exist, that..." and the root of all is ignorance.

The law of causality says nothing exists on its own, but always has come from earlier circumstance. Everything is always a consequence of something before, that is the origin of everything is not unique, it is dependent on a particular set of circumstances having happened. It is related to cause and effect, everything is related and interconnected to everything else.The Buddha saw the interdependence of all life, and the cause and effect ofactions which determine the future.

The five precepts and the law of cause and Effect are stated below. Why and How: Buddhist view on life, to live a moral life according to the *Dhamma* : **5 basic laws** for humans to live peacefully in the society.

1. not to kill or refrain from harming living creatures; one will not get sick, healthy life can be attained and have a long life.
2. refrain from not taking what has been given or steeling; one will be able to live without being punished by law.
3. refrain from sexual immorality; one will have a peaceful family life.
4. refrain from speaking falsely; one will live in a truthful society, no false information or misunderstanding in the society.
5. refrain from taking intoxicants; one can live a life full of conscious at all times and not doing any harm for oneselfor others.

Scientists believe in the better state of human being, by trying to control everything, including nature. Humans are the center of the world not as part of nature or the universe. In agriculture: to increase products and decrease insects; these processes disrupt the whole structure of natural surrounding. In medicine we try to develop new genetic cures for cancer and manage the inherited genetic disease (animals and human are being treated as a guinea pigs.)

Genome editing is one of a group of technologies that give scientist the ability to change an organism's DNA. These technologies allow genetic material to be added, removed or altered at particular locations in the genome. Several approaches to genome edition have been developed. CRISPR/Cas9 is cheap and efficient. Can be applied directly in embryo, reduces the time required based on the use of embryonic stem cells. (2017)

In my opinion, human embryos are human beings. In a paper from *European Molecular Biology Organization: EMBO Reports* 2009 Apr: 10(4):301-306. by Robert P. George and Patrick Lee - "human embryos are indeed human beings and, as such, deserve a level of respect that is incompatible with treating them as disposable research material".

Buddhist's attitudes upon human embryo are based on compassion to all is important principle in our action. The unborn baby or embryo has the same status as an adult. The creation of life needs two elements: 1. **the spiritual *(nama)*** and 2. the **physical *(rupa)*** are interdependent and cannot survive without one another. The condition of the parents state of mind or consciousness effect upon the embryo.If the father is in the state of awareness or being conscious at the moment of conception the embryo is fully received the intelligence from the father, and if the mother is fully aware at the moment, the embryo is fully enriched by beauty and health. So the state of mind of the parent are very important.

Buddhism condemns any use of human or non-human sentient life by geneticists or others. That we should not treat other beings as an objects or tools against their own wishes or aspirations, such as pigs, rats, and many other kinds of animal or even human being are used for experimentations.

First precept of the Buddha: not to harm and respect all life. Human embryos have to be respected, cannot be used as a means to an end, as they have life, feelings and wanting to survive without getting hurt.

There are doubts in genome editing, as stated by Ellen jorgensen: CRISPR: DNA cutting and replacing. She raises auestions and doubts: 1) We do not know that much about cells and virus to put into CRISPR yet. 2) The experiments on CRISPR still have a long way to go, and people miss took for something easy and cheap. There are many scientists being supported by many companies expecting results that can change the new state of mankind. (Are we being driven by desire and profit, for fame and fortune?) 3) We should be very careful of the experiment both the outcome and the effect upon the planet.

Do we have the right to control evolution of organism in our environment and our own organism? Buddhism stresses the importance of knowledge to replace ignorance. The knowledge means to understand nature, not to control it. To understand nature and realize three characteristics of all things through meditation (the changeable of all things, the suffering, and the no-self) these knowledge came from within, when one's mind is still with the present then able to realize reality of all things.

If one can develop the inner self peacefully through meditation, then sickness or any disease cannot harm one; as he or she can accept death as it comes without any stress as it is a fact of life. Death is just a passing state of life. Which means we try not to change the environment, but to know the inner self and understand what life is, then we will live fully in harmony with nature, not to change nature but to live accordingly with nature with peace of mind. We have no right to control nature but accept it.

In closing let me quote,

Limit of man

Tell me where my limit lies,

So I may go up to it and knock just so gently to show I am human.

Montri Umavijani, *As Old as the World*

We should understand our own limitations, and live with it.

The Power of Life: Ethics and the Seven Universal Truths

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Seven Universal laws

There are many forms of wisdom that human societies have used in the past. Are there governing rules of life that make us happier? More successful? What are guiding principles of bioethics? I want to consider the use of the 7 Universal Laws approach in bioethics. We need the power of life and this is linked to the love of life.

More than a thousand years ago in Egypt, people found a secret buried in a tomb, called the 7 Universal laws. It was inside the Emerald Table of Atlantis, and named "THOTH". It was forbidden knowledge by high society in ancient Egypt. The seven laws are:

1. Mind

All is mind; and everything is energy. The universe is mental. Sometimes dreams can be the foundation of something that we want to make happen. The universe is within our mind *"We are what we thought" How can we* master our Mind? Mind is moves in waves. It responds to our thoughts, sensations, and encounters. It peaks and ebbs in a series of highs and lows. It can come from intuition, old patterns, or even from misinterpretation. It can also come as a truth, which requires the light of awareness.

We also have to exercise our mind. From my 2017 research with 240 people from 9 countries, over half said that they meditate or pray everyday. I think this is one way to train our mind.[113]

Also nowadays we have many courses about mind that you can learn by yourself on social media. This is very important to live in a complex world, like this era.

2. Correspondence

As above, so below; as below, so above. This principle states that there is a harmony, agreement and correspondence between these planes, delineated as The Great Physical-Mental-Spiritual Plane –This is reflecting congruent quality.

3. Vibration

Nothing is stationary, and everything vibrates; giving off light or sound. This principle explains that the differences between different manifestations of Matter, Energy, Mind, and even Spirit, are the result of only different "vibrations".

A popular modern celebrity, Oprah Winfrey, talks about vibration. She interviewed Esther Hicks on the topic - Are We Ready for the Word "Vibration"?...They talk about when you are appreciating, or when you are loving, or when you are acknowledging the value of something, you are in that moment, a vibration. Match to the source that is truly you.

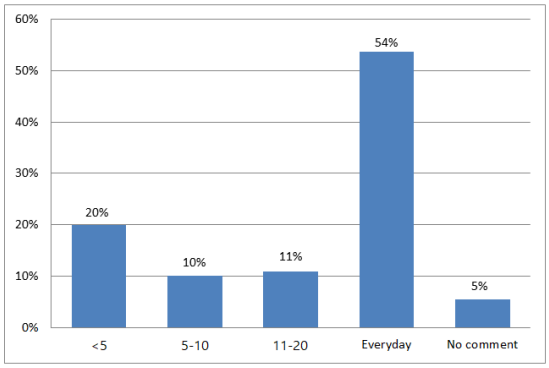

Figure 27: Frequency of meditation and prayer.

4. Polarity

The idea that everything is dual, everything has two poles, and everything has its opposite. All manifested things have two sides, two aspects, or two poles. Everything "is" and "isn't" at the same time; thus extremes meet. We can compare this to the famous Chinese philsophy of Ying & Yang

[113] *Ananya Tritipthumrongchok, 2018. Enhancement of Mental Health through Fortune Telling, PhD Dissertation, AUSN.*

The movie the *Singularity Principle* (2013) is a feature length science-fiction film about the consequences of renegade experiments into Parallel Universes. It's so amazing and interesting. They do an experiment that creates a portal between parallel universes and learn how to reproduce and control the physical processes.

5. Rhythm

All is ebb and flow; as demonstrated by action and reaction, a swing backward and forward. This principle explains that there is rhythm between every pair of opposites.

6. Cause and Effect

Nothing happens by chance, everything happens according to the law. There is a cause for every effect, and an effect for every cause. "What goes around comes around." Should we treat disease? There is a tradition of treating the sick with compassion and medical treatment, so the principle of Cause and Effect does not mean that we should not apply medical treatment. This will include genetic therapy.

If we believe in karma, should we edit the genes of someone conceived with a genetic disease? I did research in 2018 on attitudes in Thailand and the Philippines – and people did not link genetic disease and karma. When we asked about "When a baby is born with a disease or disability, what do you think is the cause?" 50% said it is because of genetic disease; while 17% said it was random; 14%, said it was something bad the mother did; 14% said it was because of karma, and 7% something bad on the father's side.

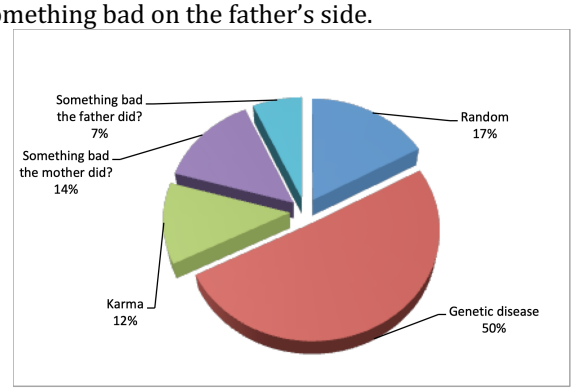

Figure 30: Causes of genetic disease

7. Generation

Generation is manifested in everything; and everything animate or inanimate, is both masculine and feminine (Physical, Mental, and Spiritual). These represent different aspects on different planes. It is also stated that everything and everyone contains these two elements.

How do we apply these truths?

We have different laws in different cultures even with strong influence from Buddhism. In the case of Thai society, a woman can not be a monk, only a man can be. But in other countries including China, South Korea and Sri Lanka, Buddhists allow woman to be a monk. Theravada Buddhism is the religion of 70% of the population of Sri Lanka, as in Thailand, yet they have different rules to Thailand.

I have friend who lives in South Africa, she is German and uses holistic healing to treat people, doing balancing when clients have symptoms. Also using Hypnosis to heal a mind when they get stress and depression. It works quite well because some clients come back to visit her and she still get more client from referrals. Their community is called Centre of Universal Mind that looks like church, having a mind training course every week.

We also have to explore how to challenge the boundaries of current science, for example, Dr. Emoto did an experiment saying water is more than simply a physical substance. He reported positive changes to water crystals can be achieved through prayer, music, or by attaching written words to a container of water. The research indicates that human vibrational energy, thoughts, words, ideas, and music affect the molecular structure of water. He is a Japanese author and entrepreneur, best known for is claims that human consciousness has an effect on the molecular structure of water. We should explore new ideas in science through research. It is interesting if it is verified because water comprises over 80% of a mature human body and covers that same amount of our planet.

Conclusion

We are born in the world because of some reason. We are born to learn, to give, to take and realize to present then everything will be manifested. We are a gift of God and we can make life better and happier. Nothing is impossible, everything is related to our Mind, Physical, Mental, and Spiritual that we call the "Law of Universe."

Legal & Ethical Issues in Modern Medical Research and Procedures: Cultural, Religious & Political Considerations. Israeli Society as an Example

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Introduction

Biomedical technology is rapidly pioneering new research and methods that are eventually going to make a huge change in almost every aspect of human life. At a time when a professional term like CRISP-Cas 9[114] is being used familiarly by laymen; and a Chinese doctor announced that he has just successfully gene-edited twin babies, Lulu and Nana[115], it is high time for lawmakers to

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[114] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4089965/; https://www.researchgate.net/publication/315926787_Genome_Editing_with_Crispr-Cas9_Systems_Basic_Research_and_Clinical_Applications

[115] https://www.indiatoday.in/science/story/first-genetically-modified-babies-china-he-jiankui-1396429-2018-11-26; https://www.zdnet.com/article/meet-lulu-and-nana-the-

step in. While we already have a handful of both international treaties and national laws that regulate key dilemmas that the new technologies produce, these legal tools, although essential and valuable, lag behind. In fact, technology always precedes the law. The law reacts to technology. It regulates knowledge and restricts its use. The ongoing race between the right to privacy and modern technology can serve as a good example. In fact, He's [116] groundbreaking and controversial statement about Lulu and Nana's birth, serves as a perfect reminder that the new eugenics and human gene editing should be controlled regulated and managed by strict oversight and supervision.

This note's purpose is to highlight – in a nut-shell- one of the most problematic hurdles that lawmakers around the globe face in this quest of the law to tame technology. While technology is global, the law is mostly local. Technology has almost no boundaries- CRISPR-Case9 is used in most modern states likewise-the law has to take into account political, social, religious and cultural considerations. Even in this relatively new field of genetic testing and manipulation, we already witness vast differences between national laws and regulations.[117]

The formal and informal discourse between global modern medical technologies, and local, cultural, social and religious norms and values, is illustrated in this note by various examples taken from Israel's multicultural, diverse society.

Israel as an illustration of a multicultural society

While in a crossroads between old and new, between longstanding traditions, religions and cultures, modern knowledge, and changing norms and values, lawmakers and policymakers have to be thoughtful and sensitive. All the more so when it comes to complicated multilayered societies such as the Israeli society. Here, extra caution is essential.

Here are some basic data[118]. The whole of Israeli Jewish population is 6,668.000, 74.3% of the Israeli population. 75% of the Israeli Jews were born in Israel. 17% in Europe and America, 8% in Asia and Africa. 35% are religious/orthodox.

The whole of Israeli Arab population is 1,878,000, 29% of the Israeli population (including 400,000 in East Jerusalem). 83% of the Israeli Arabs are Muslims. 8.4% are Christian Arabs; Druze 1.7% (140,000). Others include: 4% Circes, Russians, Baha'i, Ahmadiyya.

Within each of the groups, one can trace additional layers of culture, background and roots, yet the format of this note dictates generalization. It is thus interesting to see the dominant trends and the relativity in acceptance of new technologies and medicine in a multifaceted community such as the Israeli one.

In the following sections, I shall present a few examples of the ethical and legal dilemmas in cases that involve ethics, law, modern medicine and cultural/ religion values and beliefs.

Politics and law set aside and give way to humanitarian and ethical practice

For 6 years, 2012-2018 Israeli hospitals in the northern part of Israel have been treating Syrian men, women and children in what is now known as *"operation good neighbor".* [119]*"Some 1,000 children have been treated in Israel since the operation began, including 687 in 2017 alone. About a dozen babies have been born in Israel to Syrian Women*" [120] The patients suffer from Tuberculosis/Hepatitis B, C, many were diabetics, and many suffered from limb amputations, burns and blindness. The ethical issues were serious: how do you communicate? What language? How do you get consent to medical treatment- let alone an informed one? How do you supply medical care with no medical records and how do you overcome patients' trauma without family support? Moreover, when finally it is time to discharge patients, where do you send them and how do you make sure they will get the proper conditions needed?

Yet above all these medical and ethical issues, there is always the crucial, sometime cruel, dilemma of the standard of care provided in these cases. International humanitarian law provides for a standard procedure: preserve life and alleviate suffering. In the case of the wounded Syrian person, for example, whose leg was severely damaged, it meant amputation, relatively swift recovery and a journey back home. His hospital bed was needed for other Syrians. However, that was not what happened in reality. All the Syrians patients, both military and civilians, were treated according to the Israeli legal standards, the best possible medical care whatever the cost and extra care was taken to make sure they go home in good shape and with enough medical supplies. The decision to apply the more sophisticated – and costly- standard of care shows that notwithstanding political and financial issues, highest ethical values prevailed.

Ethical and religion-based values lead to a change in law- the wrongful life case.

The problem of the "wrongful life" cause of action has attracted a heated debate over the last few decades in many legal systems. Legal, ethical, religious and social values play very important roles here. "Wrongful life claim" is a claim brought by a child that but for a negligent – usually genetic- medical examination that failed to detect his physical faults while he was still a fetus, he would not have been borne. In such cases, the

worlds-first-reported-gene-edited-children/
https://www.zdnet.com/article/meet-lulu-and-nana-the-worlds-first-reported-gene-edited-children/

116 https://www.technologyreview.com/s/612997/the-crispr-twins-had-their-brains-altered/

117 https://www.cnbc.com/2018/11/26/chinese-crispr-baby-gene-editing-criminally-reckless-bio-ethicist.html; https://futurism.com/scientists-condemn-crispr-baby-experiment

118 The Israeli center for Statistics. Jan.2019 https://www.maariv.co.il/news/israel/Article-659897

119 Salman Zarka,Morshid Farhat & Tamar Gidron Humanitarian medical aid to the Syrian people: Ethical implications and dilemmas, Bioethics 33 (2) 302-308 (2019)

120 https://www.jpost.com/Magazine/Operation-Good-Neighbor-540359
https://www.haaretz.com/israel-news/.premium-with-border-now-closed-wounded-syrians-face-uncertain-future-in-israel-1.6479187
https://www.cdc.gov/immigrantrefugeehealth/pdf/syrian-health-profile.pdf

negligence is not the cause of the defect. The negligence is the cause of pregnancy or the cause of keeping the pregnancy. Had the parents known of their child's poor prospects to have a normal life due to some, usually genetic, defect, they would have aborted him. In such claim, the child is really saying, "I am better dead than alive".

In 1986, the Israeli Supreme Court allowed the "wrongful life" claim to proceed[121] following a heated and bitter debate in which moral and ethical issues were applied. Comparative law and Jewish law were deeply employed. The doctor who misdiagnosed a Huntington disease was found liable to both the child and the parents. The secondary problem of the amount of damages- how much should the negligent doctor pay for the miserable life has not been cleared during the years that followed. For 34 years, Israeli tort law allowed such cases to proceed, along with claims brought by the grieving parents for their personal and financial loss.

Eventually, in 2012, the decision was changed[122]. The Supreme Court decided that "wrongful life" cases would no longer be recognized. Instead, the parents will be entitled to most of the damages the child could have claimed. The decision was based mostly on ethical values and religious beliefs. The notion that life can be a "damage" was too unbearable to Jewish beliefs. In addition, the slippery slope that the 1986 decision opened, lead to unethical and unreasonable situations and decisions. The prospect of a society in which too short or too tall children, red haired youngsters and babies having only 9 fingers instead of ten can sue and say that they'd rather not been born [123], was frightening[124]. Some very important parts of the decision of the Supreme Court are socio-ethical texts.

Acceptance and use of modern medical technologies by orthodox religious societies.

Israel is a pro-natalist society. Reproductive technologies are funded by the state and encouraged. Even orthodox Jews and religious Arabs and Druze are receptive to in-vitro fertilization (IVF) and pre-implementation Genetic Diagnosis (PGD). The first Israeli IVF baby was born in 1986 and has just recently (2019) given birth to healthy twins. The IVF unit at the Galilee Medical Center that was launched in 2013 has recently celebrated 100 successful pregnancies in 4 years. At least 50% of the pregnancies are Arabs and Druze. Out of the 50% Jewish pregnancies, the percentage of orthodox couples is notable. On the celebration at the Galilee Medical Center, the Jewish Minister of Health and the spiritual *leader* of the *Druze* community in *Israel*, Sheikh Moafaq Tarif, both very religious persons, sat side by side at the front row and gave their blessing to the Head of the Center, Dr. Barhum.

The legal issue of ownership in frozen pre-embryos was one of the most significant decisions of the Israeli Supreme Court in the last few decades. A divorced couple were fighting over their pre-embryos. The man, who had remarried and had a child with his new wife, objected to being the father of the pre-embryo. His wife won at the Supreme Court. The Court favored the woman's right to be a genetic parent and allowed the frozen embryos to be implanted in a surrogate (the woman who was the genetic mother had underwent a hysterectomy while they were still married). [125]*"Embryos represent the very existence of potential life,"* said the Court, voicing the Jewish well-established value of sacred human life.

Post humous conception dilemmas have also produced yet another interesting case at the Supreme Court. Here, a widow of a deceased Israeli soldier, who first consented to posthumous conception, changed her mind and refused to go along with the initial plan. The dead soldier's parents asked the court to allow them to use their son's sperm for another woman. The Court declined. Although Israeli law presumes consent for posthumous sperm procurement and conception[126], and although the deceased had signed a written consent, the widow is the one- the court said- to have the final decision. Parents will be able to apply only in special circumstances.[127]

Israeli law also allows sperm separation and sex selection of pre-embryo by PGD, mainly for medical reasons. Although forbidden by some orthodox Jews, Arabs and Druze, the procedure is still relatively widespread amongst all of Israeli society. Yet it is interesting to note that according to the statistics published by the Israeli Committee for sex selection[128] there is a sharp distinction between Jews, where number of male and female preferences is equal (50%-50%) and Arabs- 100% male.

Patient Autonomy- a unique feature of Israeli law

The legal regime which governs protection of patient's autonomy, reflects the balance between personal human rights on the one hand and other interests- personal and public- on the other hand, that each society choses to adopt as an ethical and legal compass in safeguarding human dignity and freedom. The Israeli patient's autonomy law clearly reflects an unprecedented and exceptional choice.

In a seminal case in the 1990s,[129] the Israeli Supreme Court created a unique head of injury within the framework of the general tort of negligence -an injury to personal autonomy. Thus, when a patient is able to prove

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[121] C.A 518/82 **Zeitsov v. Katz** (1986)

[122] C.A 1326/07 Hamer et al. v. Prof. Amit et al., (2009); See also, Sagit Mor, http://law.haifa.ac.il/images/Publications/Sagit_Mor_-_The_Dialectics_of_WL_and_WB_-_Print.pdf

[123] Nili Karako-Eyal, "A Critical Disability Theory Analysis of Wrongful Life/Birth Actions in Israel", *International Journal of Private Law*, Vol. 6, No. 3, 2013.

[124] On the other hand, orthodox Jews oppose abortions whatever the cause.

[125] ACH 2401/95 ***Nachmani v Nachmani*** (1996)

[126] https://www.health.gov.il/hozer/mk20_2007.pdf

[127] C.A 7141-15 Plonit v. Ploni (2016) https://hartman.org.il/Blogs_View.asp?Article_Id=2332&Cat_Id=275&Cat_Type=Blogs

[128] https://www.health.gov.il/Services/Citizen_Services/Pages/gender.aspx

[129] CA 2781/93 Miassa Ali Daaka v. 1. Carmel Hospital, Haifa 2. Health Fund of General Association of Workers in Israel (1999)

that the consent given in a certain set of circumstances does not qualify as an informed consent, the right to compensation arises. The patient needs not even prove that had the doctor performed the duty to fully explain all the pros and cons of the medical treatment, he or she would not have agreed to the treatment. In other words, the right to compensation is not dependent upon proof of causation. The fact that the information does not meet the standard of the reasonable patient in a similar situation and does not fulfill reasonable expectations is sufficient to justify liability in tort.

The new head of injury soon became the most significant feature of Israeli medical law. It fitted perfectly with Israeli notions of patient centered medicine. Ethical notions heightened the benchmark and the law soon followed. This, in turn, opened the gate for yet an additional Israeli legal distinctive development: liability for breach of consumer autonomy via class actions. The first defendants were monopolies like Bezek (communication)[130] and Tnuva (dairy)[131] and soon after, a stream of medical consumer class action followed. The cause of action was premised on the Consumer Protection Act 1981 combined with the Class Actions Act 2006. The dominant feature of most of the cases was the claim that consumer autonomy was breached by misleading and wanting information. Autonomy became very expensive,[132] and Israel, despite its small size, has become one of the world's leading class action breeding grounds**."[133]**

Lately, due to some evolving new trends in Israeli legal arena, this phenomenon came – at least temporarily- to a halt. The main example of these new trends is the well-known case of the Eltroxin – a Thyroid drug used by over 300,000 Israelis. Here, the (then) District Court justice, Prof. Groskopf, now sitting in the Supreme Court, decided that only those patients who suffered physical damages such as pain and suffering because of the change in the ingredients of the drug, are entitled to compensation from Perrigo, the drug manufacturer. 'Pure' breach of autonomy does not suffice. [134]

This decision, no doubt, calls for a re-assessment of the legal opposing considerations in the realm of autonomy protection at large and medical autonomy in particular in Israeli private law.

Genetic-Engineering/Genetics by design/ Cloning

Modifying the human germ line has profound implications and must be approached with extraordinary care.[135] Yet, human germ line editing offers 'bright future' if done carefully[136]. It is then quite clear why 29 of the 47 member states of the Council of Europe human-rights organization, have ratified the 1997 Oveido Convention, which prohibits genetic modification of reproductive "germ line" cells. Moreover, reports by the U.S. National Academies of Sciences, Engineering and Medicine in 2017 and the U.K.'s Nuffield Council on Bioethics in 2018 concluded that human trials of editing germ line cells should be used only to fill unmet medical needs and benefit those whose genes are altered.[137]

Israeli law, which came into force in 2016, prohibits human cloning and gene-therapy until 2020, when the issue will again be open for debate.[138] From a religious point of view, again, Jews, Christians, Muslims and Druze all believe that: "Thou shall not play God". In addition, according to Judaism, "mixtures" (Kil'Ayim) are strictly prohibited. Nevertheless, human gene engineering receives a moderate approach. [139]

It is, accordingly, interesting to note, even by contrast, that genetically engineered crops in agriculture are not banned. Moreover, at least one of Israel's most prominent Rabbi, who is also an expert in Bioethics, Rabi Yuval Sherlo, is even ready to allow Orthodox Jews to eat genetically cloned pig, including when eaten with dairy products.[140] This, however, is still subject to a heated debate,[141] yet whatever the conclusion, it is maybe best to conclude with the following:

"Jewish bioethics emerges from the practical application of Jewish law to ethical questions in contemporary medicine. A central tenet of Jewish law, which takes precedence over virtually all other religious commandments, is that a human life has infinite value. The duty to help heal the sick and prevent disease is so overriding that the Mishnah, the oral law, says: 'He who saves one life, it is as if he saved the whole world.' This moral imperative to restore health and prevent disease is therefore a fundamental starting point in Jewish bioethics… One of the biggest ethical concerns around genome editing is that it will be exploited for unnecessary human enhancement through so-called 'designer babies'. The morality of enhancement, and determining when an intervention crosses the line from being therapeutic to

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[130] S.C.A 5712/01 Bezeq , Israeli Communication Co. v. Barazani (2003)

[131] C. A. 10085/08 *Tenuva Central Coop for the Mktg of Agr Prod In Israel Ltd v. estate of Rabi (deceased)(* 2011*): (Tenuva (II))*

[132] CA1338/97 Tnuva Cooperative Center for the Marketing of Agricultural Produce in Israel Ltd. v. Tawfik Rabi & Ors., (2014)

[133] http://www.meitar.co.il/files/pdf/ftd-1809-peleg-gilon.pdf

[134] A few months ago, in 29/11/2018, the case was settled for 47 million NIS. One of the main reasons for the decision to exclude breach of autonomy that stands in contradiction with prior decisions in this case, was an important paper published by one of Israel's leading expert in tort law, Supreme Judge Amit, who called for a re-assessment of the whole regime of patient autonomy at large and in class actions in particular: Izhal Amit, "*The new wild horse of patient autonomy*" in **Justice Shtrasberg-Cohen Book**, 2018.

[135] https://www.scientificamerican.com/author/e-paul-zehr/

[136] E. Paul Zehr | Scientific American | January 24, 2019

[137] https://journals.sagepub.com/doi/abs/10.1177/1073110518822001?journalCode=lmec

[138] Prohibition of Genetic Interfeering (Human Cloning) Law 2016

[139] https://www.kipa.co.il/%D7%A9%D7%90%D7%9C-%D7%90%D7%AA-%D7%94%D7%A8%D7%91/%D7%A9%D7%99%D7%91%D7%95%D7%98-%D7%92%D7%A0%D7%98%D7%99-%D7%95%D7%94%D7%A9%D7%91%D7%97%D7%AA-%D7%91%D7%A0%D7%99-%D7%90%D7%93%D7%9D-%D7%A2%D7%9C-%D7%99%D7%93%D7%99-%D7%94%D7%A0%D7%93%D7%A1%D7%94-%D7%92/

[140] http://www.israelnationalnews.com/News/News.aspx/243481

[141] https://www.theyeshivaworld.com/news/israel-news/1500262/tzohar-rabbi-is-incorrect-lab-grown-pig-meat-is-not-kosher.html; http://thejewishvoice.com/2018/03/26/nothing-kosher-cloned-pig/

non-therapeutic, is subjective and open to differences in social and cultural norms. However, from a Jewish bioethical perspective, the argument for permitting genome editing rests on the moral imperative to restore health and prevent disease. Once an intervention is no longer therapeutic this moral imperative is removed, and with it the possibility of outweighing the ethical and safety concerns….

…… From a Jewish bioethical perspective, the enormous potential of genome editing as a therapeutic tool provides strong support for the moral imperative to continue research."[142]

Conclusion

Biotechnology's worst foe is illiteracy. It's most complicated challenge is containing and resolving doubts, fear and prejudice. Culture, religion, even history, should be taken into account when laws and regulations are created. Ethical considerations should govern science. A better and healthier future is within reach if science is managed sensibly and sensitively.

Preventing the Catastrophian Age: Mechanisms to negate the need of lifeboats

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Abstract

The human population is still rising at nearly an exponential rate. The consequence of this has impacts on the environment and sustainability. Some policies to control population growth infringe on human rights as they are coercive. By not acting then the Catastrophian Age cannot be prevented. This paper outlines some geological features of what rock strata would like from that age. The author then illustrates how using nudges from behavioural economics could be the way forward to avoid the onset of this age. This does not rely solely on governmental policies but involves non-governmental organisations and suggests the role social media providers could have, as part of their social responsibility, to nudge users to reach millions of teenagers worldwide.

Key words: Catastrophian Age, nudge, behavioural economics, population growth, human rights, social media

Introduction

Half a century ago the best-selling environmental book was *The Population Bomb* by Paul Ehrlich.[1] The human population then was half what it is it now. Actually the rate of growth continued to rise for at least two decades and only recently has the rate stabilised.[2] Nowadays the issue of ever increasing human population and its burgeoning impact on other pressing global concerns appears to get less attention than finding technical or economic remedies for environmental challenges. For example, in a recent interview with the Dame Georgina Mace, the head of the Biodiversity and Environmental Research Centre at University College London no reference was made to human overpopulation when discussing the worldwide biodiversity crisis. This is despite the fact that the highest density of biodiversity is found in some regions where human population growth rates remain high and therefore the biodiversity in those areas is potentially under greater threat. Yet she clearly did state that the development of society and environmental sustainability are inseparable.[3] In a similar way the *World Energy Outlook 2018* makes no reference to the pressure of populations growing at a rate of 82 million per year on future supplies, technology shares in the energy economy or policies, yet it announces that in 2017 for the first time less than one billion people had access to electricity.[4] An absence of proof is no proof at all. Yet the number of published articles referring to "overpopulation" in the journal *Environment and Population* peaked in the 1990s and has dropped dramatically since then as shown in Figure 1.

In 2017 Robert Greene asked: *"Why are we spending billions on energy retrofit programs, climate change research, environmental consultants, and conservation, when we are spending next to nothing to slow down population growth? We're putting a lot of resources into energy efficiency, but all that goes to vain when we ignore rapid population growth."*[5]

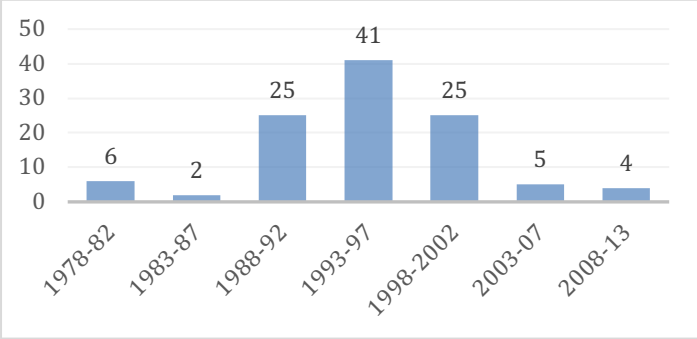

Figure 1: The number of articles referring to overpopulation in *Population and Environment 1978 – 2013*

Catastrophian Age

Diamond (2005) describes at least six factors resulting from or related to population growth that initiated, compounded and catalysed the collapse of former societies such as the Roman empire or the Mayan civilization. These are, in no particular order; soil depletion or soil quality reduction, habitat loss such as deforestation, over hunting or over fishing, water management issues, the effects of alien species and increased consumption per capita.[7] Since Crutzen and Stoermer (2000) defined and popularised the term "Anthropocene" as being the period during which humans have noticeably impacted the patterns of geological erosion and atmospheric chemistry.[8] This paper suggests that this could end with a subunit of time; namely the Catastrophian Age. Alternatively, this age could be the start of longer and subsequently barren, with sedimentary rock strata devoid of fossils and decreased rates of carbonate deposition, Catastrophocene Epoch. Either way the Catastrophian Age would be seen in the soil layers of the (hopefully distant) future or subsequent rock stratum as a narrow band with deposits that will show the remain of megacities from around the world and the latest point at

[142] https://www.bionews.org.uk/page_95782

which plastics (except for microplastics) are to be found in environmental debris. There would be a different demographic distribution in the age of human skeletons and a peak in human populations, earlier geological ages will indicate increased longevity and exponential populations in the middle to late Anthropocene. Younger deposits above the Catastrophian stratum may not be completely bare from fossils but the recorded biodiversity (especially that of vertebrate species) would be dramatically reduced compared to those of the early Anthropocene, the latter would also have relatively thicker strata as they were laid down over a comparatively longer time period. An extended list of events that would occur in the Catastrophian Age will be likely to include disease pandemic or syndemic, resource depletion, energy consumption, soil or water and air pollution, in addition to climate change induced disasters. Collectively these stressors will have environmental, economic and political consequences that will impact on individual and societal wellbeing. This would result in dramatic population decline and societal breakdown. The 1972 report by the Club of Rome, *The Limits to Growth*, predicted that this Catastrophian Age would be reached within one hundred years. We are fast approaching the midway point in that "century". How prescient many of their forecasts are unfolding to be, as our population has already doubled since that time. Ury (2011) says that these effects will have greatest significance for societies in megacities with disastrous inequalities and urban slums. [9]

Kidner (2001) puts it like this. "*For caged animals, almost any behaviour except withdrawn passivity and a resigned acceptance of the invisible bars that constrain our natural predispositions will appear as, and often will actually be, antisocial or destructive.*" [10]

He continued by quoting from Lasch (1979), "*Outwardly bland, submissive, and sociable, they may seethe with inner anger for which a dense, overpopulated, bureaucratic society can devise few legitimate outlets.*" [11] His conclusion is a call for long-term population reduction. Similarly neo-malthusian and neo_darwinian arguments are voiced by characters in novels by such as writers such as Morgan (2013, 2019).[143]

Population Policies

The insights revealed in the IPAT (impact = population x affluence x technology) formula developed by Ehrlich and others has influenced sustained efforts to seek technological solutions such as the recent expansion in research, development and adoption of renewable energy technologies to address climate change and / or carbon fuel resource depletion. Yet, not surprisingly, there has been less focus on addressing either affluence or population levels. Indeed, to some extent, a measure affluence associated with economic development, became more acceptable as a right. The WCED (1987) Brundtland Report *Our Common Future* famously defined sustainable development, but in practice since then emphasis has been an entitlement to develop with limited stress put on the "sustainably" proviso. The 3R mantra reduce, reuse, recycle gained worldwide momentum as landfill waste piled up and technologies along with developing infrastructures have made recycling economically viable and competitive. However, it was not until our TV screens and social media threads were blasted with emotive images of turtle nostrils speared by non-degradable drinking straws and picturesque ocean scenes spoiled by plastic trash islands that a fourth R for Refuse (the verb) was considered. Sustainability is gaining track as a new environmental ethic, but is this regarded as a tough absolutist maxim to live by or a conscience absolving indulgence of a growing middle class in affluent countries. There may well be little ethical objection to a reduction in affluence in some societies, the resistance to implement policies has roots in socio-political relations. Cripps (2015) provides a clear argument it must be taken as given that if we aim to allow for development in the less developed countries then the environmental impact of that cannot be ignored. This raises the more morally challenging questions surrounding population control, but that does not mean we should shy away from them. Consideration from an environmental ethical perspective gives new insights.

Before the end of the last century and into the first decade of this century thinkers, such as Haila (2004), were highlighting flaws in Ehrlich's arguments that sequentially linked biodiversity loss to human population growth. However, Haila did not say that population levels would not impact on biodiversity, but that if it is seen as the primary driver then pragmatic solutions to solve the biodiversity crisis will not work, short of surgery on the tumour that is causing the dis-ease. [12] Lawton (2007) put the largely limited wide scale conservation successes down to policy failures listing eleven reasons mostly related to socioeconomic factors and political processes. [13] This illustrates that more than mere scientific knowledge is needed to make an about turn to see human population numbers decline let alone stabilize.

Coole (2018) summarizes four arguments for population stabilization being developmental, existential, environmental and economic. [14] The first relates to how the pattern that countries which maintain high rates mirror slower development, but can be seen merely as a viscous circle. Secondly she refers sociological and psychological consequences of high density living. The environmental problems of biodiversity loss, pollution, loss of wilderness, ecosystem services and so forth are manifold. The economic arguments are made more powerful as our interdependence within the biosphere is more understood, external costs of ecosystem are accounted for and the financial impact of climate change extreme events and climate change become increasingly apparent.

Cripps classifies population control policies into three categories. Firstly, directly coercive approaches that may include forced surgery to prevent conception, birth or even infanticide violate human rights. Incentive changing policies which maybe softly done through education or positive financial incentives or through more determinedly through fines or restricting tax benefits of having additional children. Thirdly by providing contraception, family planning education and employment opportunities population stabilization could be achieved whilst ensuring justice for women. [15]

Coercive strategies such as the one child policy in China and forced sterilization of certain women and over six million poor men in India [16] do not endear liberal thinkers and have possibly given greater voice to

[143] Terry Morgan has written a number of novels that have themes surrounding the issue of population growth such as *Prisoners of Conscience and Circumstance* (2019) and *The Malthus Pandemic* (2013). For more information please visit www.tjmbooks.com

arguments against central government control in neo-liberal democratic societies that in recent decades have promoted individual rights. Hardin (1974) used a thought experiment analogy of who to allocate limited spaces to in a lifeboat in a sea of floundering swimmers. [17] Did all have an equal right to occupancy? By extension this was proposed to justify securing aid to only countries that agreed to implement population control policies as providing aid alone would be likely to result in maintaining high fertility rates. According to Bagini and Fosl (2007), in the minds of many people, acts of omission are equally morally wrong as acts of commission. [18] Denying aid for those in desperate need met with criticisms of being racist, sexist as effectively leaving no choice for women and increasing the suffering of the most vulnerable. Coercive population control strategies were not limited to less developed countries alone. The 2018 film *Amá* depicts the impact of the USA War on Poverty policy on native Americans in the 1960s. [19]

Human Rights

Ethical arguments in favour of population control can be framed in consequentialist terms based on the work of Mill. He referred to a variety of non-invasive laws that would contribute towards decreasing the rate of population growth such as the age of marriage, employment for women and universal access to education. As children are future citizens they are not a private "good" but either a potential resource or burden thus society has a right to intervene in unregulated reproductive rates if there is a risk to the greater good of society at large. The question that arises is where is the boundary between policies that interfere with or limit certain freedoms but allow informed personal choice and coercive approaches that are likely to disproportionally affect already disadvantaged groups.

Bioethical principles identified in the Universal Declaration on Bioethics and Human Rights (UDBHR) that relate to arguments surrounding population control include at least: human dignity and human rights, autonomy and individual responsibility, social responsibility and health, sharing of benefits equitably and with respect for cultural diversity, protecting future generations, the biosphere and biodiversity. Do any of these specifically address limiting population growth or is the cumulative effect of the UDBHR to enshrine the rights to reproduce and good health? Surely policies implementing the precautionary principle to ensure, at least, a plateau in the human population are of paramount importance prior to establishing other rights if we are seriously aiming to account for future generations as the UDBHR and Brundtland Report require. There seems little merit in insisting upon maintaining rights such an entitlement to have a child at any cost if there is not, in all probability, going to be an environment or society that can support that child (or the generations to follow) to live a life that is worth living. I have not heard of a right to choose to have gametes genetically manipulated to deliberately have a child with a disability. Would that not be unjust for the child and possible a "economic burden" on society? Maintaining the right to have an unlimited number of children could be justifiably met with similar objections at least.

Coole refers to arguments against fertility and migration control from ecofeminist perspectives that claim that these sorts of population policies are masking neocolonialist or patriarchal groups wanting to maintain domination over certain social, ethnic or gender groups. She also notes the neo-Kantian objection of Garcia-Moreno and Claro (1994) to using women's bodies as a means to justify and end: "*Women's health and rights, not macrodemographic objectives, are of paramount concern.*" [20]

Macer (2010) reports that although bioethics has assisted the development democracy in some countries such as Japan, and that empirical evidence shows that democracy is possible in different cultures he also suggests that a neo-Confusion ethos in some East Asian countries may be the basis for institutional paternalistic attitudes which are in conflict with civil rights. [21] If this observation is accepted then it may be assumed that there will be less resistance to policy making bodies, committees or government departments who propose ideas that in western states would be met with such strong opposition that they would not "off the ground". Imagine a one child policy being suggested by a western political party fifty years ago. They would have been very unlikely to get more than a few votes of public support. However, China was able to roll out that policy, which although would still be unpopular in the west, that now provides a compelling source of data to inform current debate and future policies other countries. In the epilogue of *The Rise and Fall of the Third Chimpanzee* Diamond (1991) relates with cautious optimism that it was in Indonesia, where democratic rule was not established in a western sense, that leaders took hold of the vision for conservation of biodiversity. [22] A system of nature reserves was established that covered a fifth of what is now known as West Papua. Holmes Rolston (2003) argues that there is a case for putting animal rights over human rights as we are the most destructive of species. He cites the shooting of poachers in Zimbabwe, where the right to life for endangered species takes precedence over those of men for food (or money to buy food), as one such example of this in action. [23] However, there is little evidence if the basis for this policy is actually founded on biocentric ethical principles or enforcement convenience for an authoritarian government. Political expediency often reflects bias, bringing mistrust and ultimately policy failure.

Infringing human rights and maintaining undemocratic power structures can inhibit people for voluntary participation in schemes that would benefit them and ultimately their nation at large. The following story from a participant in a programme funded by the Bill and Melinda Gates Foundation exemplifies this.

"When Silper Agandi, a cleaner at the Tupange-supported Migosi Health Center in Kisumu, Kenya, was invited to a training on family planning, she was sure there had been some mistake. "Those things are always for the nurses and doctors only--why would they ever want a sweeper to go to that class?" she asked herself. But the 32-year-old mother of seven is exactly the kind of woman the program hopes to reach. "We learned so much about family planning in those classes." [24]

Two advantages of non-governmental organisations in sustainability projects is that they may more be perceived as having less of a hidden agenda by participants and therefore gain trust more easily. They are also more financially independent, and some that are run not-for-profit gain further credence for this. There

have been other independent organisations[144] such as the UK's Royal Commission on Protecting the Environment, which according to Lawton was "working to change the framework of the debate and seeking ultimately to alter belief systems and deeply entrenched values". He identified that many of the factors that hindered the development of policies that were conducive to sustainable use of the environment were rooted in politics at one level or another. [13] The Royal Commission was closed due to budget cuts in 2011.

Behavioural Economics

The example from the Bill and Melinda Gates Foundation quoted above illustrates the potential impact of voluntary schemes and opportunities for non-governmental initiatives over politically motivated policy interventions. Corfee-Merlot *et al* (2007) note that increasingly non-state actors actively promote and support sustainability and environmental issues. [25] UNFPA, for example, accepts the responsibility to educate, provide family planning facilities and safe contraceptives strategy. [26] Social networks and social media have been shown to influence behaviours and have economic consequences. Bailey *et al* (2018) for example show these networks influence investments in the housing market and speculate at how networks must contribute to behaviours across a number of settings. [27] Social networks are increasingly developed through online media, yet in many cultures traditional networks can be sources to allow attitudes and behaviours to ripple through society in similar ways to the economic ripple effect of house prices in areas surrounding or proximate to affluent conurbations. Shah, Sellman and Madon (2016) are conducting randomized trials on the impact of adolescent girls attending youth clubs where they are educated and rewarded for maintaining good reproductive health. They already have seen that this economic incentive has positive behavioural results and are now extending this to soccer clubs for adolescent boys. [28] The behavioural economics approach of nudging people to refrain from impulsive behaviour has already been shown to promote good health practice such as vaccinations, dietary improvements and cancer screening. [29] Nudging has become a buzzword. Hertwig and Grüne-Yanoff (2017) show that "boosting" behavioural choices is less even better as it relies less frequently on financial incentives. [30] David Halpern of the Behavioural Insights Team (BIT) gives several examples of how behaviour has been nudged in a desired direction without coercion, for example: "In India it has been found that if you give workers their money in two tranches they are more likely to save. It's even more effective if you give them the envelopes with pictures of their kids on it, or if they have to tear that picture in order to get the money." These maybe individually incremental changes but lead to noticeable or even substantial collective societal changes. [31]

In relation to energy policy Evensen and Stedman (2017) postulate: *"...crucially for policy and communication – if perceptions of what is true (beliefs) precede feelings (attitudes), additional information could shape views... ...yet, if attitudes precede beliefs, the usefulness of communication, either for influencing beliefs or simply making the public more informed, is far less clear"*. [6]

By this reasoning it would appear that the barrier to developing effective population stabilization policies is that attitudes seem to precede perceptions of the reality of the situation. Therefore, it is imperative to initiate a change in such attitudes. Behavioural economics theory provides some insights to achieve this.

The key for success of nudges and boosts is to target the fast automatic neural response pathways governing actions when people are driven by emotional cues resulting in impulsive behaviour. [32] The BIT have four key principles, namely "Make it Easy", "Make it Attractive", "Make it Social" and "Make it Timely". [33] Chhabra *et al* (2015) make five recommendations to increase the uptake of family planning facilities in Uganda. These include: lottery prizes, positive automated hotline messages similar to those that have been shown to increase voting, [34] call centre training guidelines, bring a friend e vouchers and sms reminders. [35] These are aimed to reduce: hassle factors, cost concerns and fears of breaking social norms. This goes a long way towards changing attitudes as recommended by Evensen and Stedman. The fear of breaking of social norms is particularly important for teenagers in projects like those of Shah *et al* mentioned above. The success of innovative projects in Africa where fertility rates are highest and the unmet need of family planning provision for teenage and youth is highest is of paramount importance. Cottingham, Germain and Hunt (2012) highlighted how neglecting to provide accessible and relevant health including sexual health facilities to millions of unmarried male and female youth in Africa and South America was a breach of human rights. [36] The use of behavioural economic theory and nudges by social media providers could be a mechanism to access youth, provide information and timely reminders regarding family planning through non-coercive strategies to enable choice and maintaining dignity.

Most attention and debate regarding population stabilization surrounds issues arising from population growth such as the right to life and fertility rates. At the other end of the human life cycle are similar questions of the right to die with dignity. The Netherlands was the first country to legalize assisted suicide. There are a few others where, under certain circumstances, this may not lead to prosecution, and in a small number of countries such as the UK it has been debated in government. Rachels makes the case that there is no ethical difference from active and passive euthanasia and that actively assisting someone, who is in great suffering, to die with dignity is honouring their freedom to choose how and when to die. [37] There are active campaigners for this die with dignity both at national and international level, including Dignitas, EXIT International and Dignity in Dying; indeed thirty-eight such groups are under the umbrella of the World Federation of Right to Die Societies. Not surprisingly there are many religious and legal arguments strongly voiced against this too. A full discussion of the rights and wrongs of euthanasia is beyond the scope of this paper, but questions relating to sufficient health care for an aging population and ethical consideration of the indirect environmental cost to extending longevity should provide the opportunity to re-engage in this debate.

[144] A comprehensive list of these may be found at The Overpopulation Project website. This provides links to, some details and aims of over thirty organisations at national and international level, including UNFPA, Population Media Center, Population Matters, Worldwatch, World Population Balance, and the Center for Biological Diversity.

Conclusion

This paper outlines some of the reasons for more indirect engagement through choice enabling mechanisms to limit further population growth as of now. This includes a short review of some ethically unacceptable coercive and other incentive based policies that have been employed to date. The use of behavioural economic theory has potential to change young people's perception of family planning and make contraceptives more accessible for them. The possibility of controlling population size by limiting lifespan is not considered, but the author does propose that as the growing population places and ever larger burden on the environment then it is timely to look at these arguments through an environmental ethics lens. Cripps discounts the possibility of population reduction by limiting lifespan, yet she does advocate making hard choices now to avoid tragic consequences for global justice later. If this is so then surely neglecting to take action now is no better than enforcing policies that will impinge on liberties for future generations. Ehrlich and Ehrlich (2013) express their faith in the capacity of humanity to prevent a collapse of civilization if we have the determination to pay the price now for the benefits of a largely unknown future people. [38] Maybe absolute freedom, rights and justice are illusions that we have indulged in for long enough, we need to face up to the situation and take hard decisions to prevent the appearance of the Catastrophian Age. Lovelock (2008) puts it this way: "*In human civilization, the planet has a precious resource. We are not merely a disease; we are, through our intelligence and communication, the planetary equivalent of a nervous system. We should be the heart and mind of the Earth not its malady. Perhaps the greatest value of the Gaia concept lies in its metaphor of a living Earth, which reminds us that we are part of it and that our contract with Gaia is not about human rights alone, but includes human obligations.*" [39]

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Further Abstracts from the Seventh AUSN-Chulalongkorn Bioethic Workshop (not included in the previous Papers)

Playing God with humans

- Prof. John Weckert, PhD.,
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To be accused of playing God is to be accused of doing something morally wrong. The wrongness might derive from harms caused but might rather come from the fact that something is being done that has no business to be done by humans.

We play God, it has been said, when we go "beyond our rightful place" and in a place that is "rightfully beyond human interference."

Playing God has a distinctively religious ring but the secular version is now common. Here nature plays the role of God. Instead of claiming that some things are in the province of God and not humans, some things should be left to nature. If humans attempt to do them, it is in some sense unnatural. It must be noted that this discussion is very much from the Western perspective where a sharp distinction is often drawn between both humans and God and humans and nature.

The claim then is that playing God is interfering with nature or modifying nature. Two issues immediately arise: why should we not interfere with or modify nature and what is nature anyway? Playing God, it will be argued, is expanding the sphere over which we have control, to the extent that we no longer have the knowledge or capacity to competently make decisions in that expanded sphere.

In this talk we will focus on just one aspect of Playing God or modifying nature, that is, modifying human beings through genetic engineering. It will be argued that while this is not necessarily wrong in all contexts, extreme care must be taken.

Reflections on Gene Editing and Transhumanism

- Prof. Nilza Maria Diniz,
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According to Porter *(2017) Transhumanism is a "technoprogressive" socio-political and intellectual movement that advocates for the use of technology in order to transform the human organism radically, with the ultimate goal of becoming "posthuman." To this end, transhumanists focus on and encourage the use of new and emerging technologies, such as genetic engineering and brain-machine interfaces*. The use of CRISPR-cas9, the most precise and cheap way of changing genome, so called gene editing, can accelerate the process of reaching the posthuman like. Friedrich Nietzsche thoughts about *Übermensch* (which Aydin translates as "overhuman") was mentioned at the first article of genetic engineering Times in the years 1970`s and references for several philosopher. Habermas has characterized transhumanists as "self-styled Nietzscheans" (Habermas, 2003, 22). Bostromsees only "*some surface level similarities with the Nietzschean vision*" (Bostrom, 2005, 4), whereas Max More agrees with Stefan Sorgner in seeing *"fundamental similarities*" (More 2010, 1) between Nietzsche's conception the *Übermensch.* As affirmed by Porter, *In 2015 Chinese scientists used CRISPR to modify human embryos for the first time, and in October 2016 Chinese oncologists injected a person with cells containing CRISPR-edited genes for the first time, in an attempt to combat the patient's aggressive lung cancer (Cryanoski, 2016, 1). As a result of such advances, in 2015 a group of leading biologists called for a global moratorium on the use of CRISPR to make heritable changes in a person's genome (Wade, 2015, 1).* The discussion about the changes on human nature need to be discussed and we are going to

present the views about conservatives and transhumanist approaches.

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The ART of Birthing Life in Integrity: From Bioethics to Politics with Assisted Reproductive Technologies

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Our new biotechnological capabilities have brought us to the frontier of the meaning and integrity of birth and personhood. Questions of legal and biological parenthood, best interests of the birthing agents and dangers of exploitation interface with the international dynamics of surrogacy, autonomy and responsibility. Commercial surrogacy has now been banned in all but a few nations, after questions of identity, statehood, and trafficking in human reproduction interfaced with questions of multiple biological parenthood and the health and wellbeing of the child. We have cloned mice and sheep successfully, generated “artificial” embryos from pluripotent mouse cells, and are experimenting with artificial wombs. We have begun experimenting with human gene modification using CRISPER. We are being called upon to develop a new moral spectrum to protect the dignity and autonomy of life. Ethical and legal challenges continuing to arise, with attempts to safeguard against commodification and exploitation of human beings. Egg preservation through freezing presents diverse social, cultural and legal considerations. This presentation explores several of these bioethical, political, social and legal dilemmas with reference to specific cases with their ethical and moral challenges.

Information Ethics: What is the Point?

- John Weckert, Ph.D.
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There is a general enthusiasm for new technology and especially it seems, for new information technologies. Given this, is there any point in talking, thinking and writing about the philosophy and ethics of information technology? After all, few people apart from philosophers seem interested in it and research and development continue apace regardless, with little serious questioning. Books on the philosophy and ethics of information technology abound but it is unclear if they have much effect. Perhaps that is inevitable because that is just the way that people are, unthinking technophiles. Developing and using new technologies is fun regardless of whether they are useful or needed. Needs can be created or they arise once the technology is available. Think of mobile phones. We got on quite well without them but once they were available and became common, there was a need to have one or be rather isolated from much of the community. New technologies are promoted though not just because they are fun but because they are good for efficiency and productivity. They make us more efficient producers and our society more affluent. The more affluent it is the happier we will all be, supposedly. Technological progress therefore is seen as inevitable or good or both. Is it inevitable and is it good? If so, the study of the ethics of information technology might just be an interesting but pointless intellectual exercise. This talk will explore some of the issues that arise from common views of this technology and its ethics.

Maritime – Love For Life: Comparative study on the behavior and perspectives in life of different seafarers before and after boarding the vessel

- Keith Aiken M. Pajarillo,
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BACKGROUND: Seafaring requires strong mental, physical and emotional capabilities as they start to get out of their comfort zone and live on their second homes which are their respective vessels.

AIM**:** To explore and assess different seafarers on how they working on board the vessel changed their perspective in life and on how they take care, cope up and adapt with different circumstances in life where they would be able to give enough love and care for their own lives.

METHODS**:** Conduct an interview and open forum with different seafarers where they will be able to express their own experiences freely in order to squeeze out the necessary information that will be essential in this research.

IMPORTANCE OF THE STUDY**:** As we value and give importance to life, investing time and effort in topic like this will give us better insights and information on how can we take good care of ourselves, how we value our life, how we live our life to the fullest and on how can we apply and share the learning experiences that we gather to different people so that we can be able to make an impact on their lives that might trigger to spreading essential perspectives to different people, specifically people who will be working on maritime related profession. Further studies are necessary to describe and elaborate more the changes in the lives of seafarer and on how they perceive and view their lives before and after boarding the vessel.

Effects of working with the LGBT community on working ethics onboard a Ship

- Aldrin M. Ulep,
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Email:

The 21st Century has been moving towards achieving gender equality and equal chances in landing jobs in many field of work. Many countries have also legalized marriage among the members of the LGBT community thus eliminate norms discriminating LGBT on many professional jobs. In the maritime industry, the LGBT community has been gradually accepted due to the exeptional working ethics and of these people. They are have great communiting skills which make work onboard a multinational working environment easier. There are concerns however like the increasing number of sexually transmitted diseases among the LGBT's and acceptance of the working environment especially to those who are officers. Actions toward avoiding the risks of sexually transmitted have been widely promoted and awareness of avoiding these diseases have been increasing in the past decade. Events such as the World AIDS and HIV Day are made to increase awareness and inform people of the effects of these diseases especially to health and psychological behavior. Moreover, social norms that dictates hierarchy in working environment has been changing over the past decade. More and more LGBT's are being promoted to higher ranks in the maritime industry. This research will evaluate the effects of having LGBT officers in the working ethics of people working in a vessel. Also, this will identify how these people affects the efficiency and coordination of crew onboard a ship. Finally, this research will determine factors that affect ethical behavior among the crew towards working with the LGBT community.

Ethical Challenges of Medical Assistance at Sea

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A lot of accidents, illnesses and injuries occur on board seafaring vessels. During this times, lacking medical professionals or paramedic personnel onboard, it is usually the vessel's 2nd mate and captain that is in-charge for the Medical care of the ship's crew. The delegated officer asks for medical advice through the use of telecommunications equipment. Although the situation is quite different for Passenger ships that usually has Medical Personnel on board. On ship's without medical facilities, the ship's captain and 2nd mate has full responsibility of the medical care and decisions for the welfare of the seafarers onboard but the full responsibility of the diagnosis and prescription is to the doctor on-call or the Medical assistance service provided. This presents legal and ethical issues between Doctor-Patient relationships that is quite different to the usually experienced Doctor-Patient relationship on shore. The Privacy of the patient's medical record and status should be protected. This presentation wishes to address this issues and provide possible solutions to improve the Doctor-Patient relationship of seafarer's on board.

Filipino Awareness in Choosing Treatment for Depression

- Christian Gilbert S. Esteban,
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It has been a practice in the international stage that we can choose the treatment that we want regarding our conditions, however, in the Philippine context, only a few member of the society have awareness towards the capacity to choose the treatment. Many agree upon the first statements of doctors or consultants without any other second opinion. Filipinos will only do so if they feel that the medication, if continued, will have an effect on the social, physical or mental health of the individual. In my side, awareness and transparency towards the different options for treatment is vital in process of healing of an individual. An individual will have an increase in morale by being satisfied with the respective choice. Individuals may feel uncomfortable and discontent if the choice was of the doctor only. This aims to assess awareness of Filipinos in choosing a treatment for their respective conditions in order to improve the healing process since emotional state is connected to how fast a recovery can be and how effective a treatment will last.

The Impact of the Mangrove Forest Management to the Community: The Environmental Awareness and Socio – Economic Assessments

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Mangrove forests are found in the tropical and subtropical part of the world. It produces wide range of ecosystem products and merchandises that include shelter for marine species, fuel wood, food and ligneous, climate parameters and cultural services (UNEP 2014). They are the most productive ecosystems compared to other ecosystems that can contribute from 10 to 15% coastal sediment carbon storage (Alongi 2014). Concurrent with the coastline wetlands, they isolate and accumulate carbon at a rate of twice to four times greater than that of mature tropical forests. (www.habitat.noaa.gov). However, in the Philippines, mangroves have declined significantly by 75% over the past 80 years due to a range of anthropogenic pressures (King et. al.). It only shows that majority of the Filipino are not aware on the importance of mangrove to the environment and to the society,

The proponents of the study together with other organizations conducted every year mangrove planting and orientation to the communities within the province. Aside from mangrove planting, part of the program is to conduct orientation within the communities nearby the area. All high school students and locals are invited to participate and listen to the resource speakers on the importance of mangrove planting. Likewise, different activities were prepared for the one – day activity such as poster making contest, slogan contest, and debate. With the help and assistance of the different groups and organizations, the group were able to raise funds for the conduct of the said activities.

With all the benefits and advantages of the mangrove forest management, there are still communities in the

area that is need to be considered. The said communities may be affected by the forest management in different ways. The most visible factors are the environmental and socio – economic aspects. In the implementation of mangrove forest management, the said two (2) major factors must be considered. It is therefore the goal of the proponents to determine the impact of mangrove forest management to the community in terms of environmental awareness and socio – economic aspects.

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