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Contents

Editorial: Gene-editing Ethics and the Disasters of Terrorism

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There has been some responses to the call made in the *Bangkok Statement on Human Gene Editing and Human Genetic Engineering*[1], and the papers in the January 2019 *EJAIB* that followed the Bangkok Summit meeting, for the establishment of ongoing forums for ethical assessment of clinical uses of germ-line gene editing. An international commission has been convened by the U.S. U.S. National Academy of Sciences (NAS), and the Royal Society of the U.K., with the participation of science and medical academies around the world, to develop a framework for scientists, clinicians, and regulatory authorities to consider when assessing potential clinical applications of human germline genome editing.[2] They are planning to issue a report in 2020.

In this issue of *EJAIB* there are two further papers on gene editing, from Bang-Ook Jun and from Oana Iftime and Ştefana-Maria Petruţ, which add to the discussion. It is important that we have persons from more diverse countries on bodies that examine gene-editing, and we should see more bodies considering this. The Commission announced above has two thirds of its members from the USA and UK.

Also in this issue is an interesting discussion of Albert Einstein's comments on fake news by Hans-Martin Sass made in 1935. This is a topic often discussed nowadays.

Michael Tai revisits a discussion on Asian bioethics outlining principles that are important to consider when we consider ethical dilemmas, such as gene-editing. It is critical for wider range of views to be involved in the debates. The Asian Bioethics Association may also take up this issue in the 20th Asian Bioethics Conference to be held in Dhaka in November 2019. Jaime Teixeira da Silva discusses the morality of COPE and some of the questions that many persons have about the procedures.

In March 2019 our hometown, Christchurch, was the site of a terrorist attack by a racist Islamophobe who killed 51 persons in two mosques who were praying. Sectarain violence continues, and in April we saw the Easter Sunday terrorist attacks in Sri Lanka of persons praying in churches. All violence needs to be condemned. As discussed in the March 2019 editorial we convened the Tenth Youth Looking Beyond Disaster Training Workshop in April 2019 in BETIM, Istanbul, Turkey. At the end of this issue is the **Istanbul Communiqué on Looking Beyond Disaster**, which includes an important call to combat these evil attacks. Youth unemployment in Nigeria is also discussed in this issue, and radicalization can make easy pickings of persons without a balanced education and with no jobs. Bioethics needs to take a more holistic approach, and please join the Legacies book project, and conferences in USA and Japan that we will hold to work against these evils.

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[1] *EJAIB* 29: 1-4.
[2] http://www.nationalacademies.org/gene-editing/international-commission/index.htm

Developing a regulation matrix for human germline gene editing

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Introduction

A genome editing technique called CRISPR/Cas9 has revolutionized scientific research. It's a biological cut-and-paste tool derived from the microbial adaptive immune system. It works by finding the taget by target DNA-guide RNA base pairing and using molecular scissors to snip that target, either deleting, repairing or replacing the affected gene.[3]

It is only five years since CRISPR/Cas9 was invented, but the technology has proven to be powerful. It may be widely used in basic biology such as regulation of transcription or in vivo chromosome imaging, somatic cell gene therapy through mutation gene correction, germline gene correction to prevent inborn genetic disorders, plant genome modification without introduction of foreign genes, extinction of disease vectors and invasive species, and resurrection of extinct animals.[4]

On the other hand, this powerful technique, however, can lead to adverse effects due to immature clinical applications, enhancement of human genes rather than therapeutic purposes, escape from regulation of gene edited plants, and ecosystem destruction.[5]

In particular, what confuses us the most is a controversial modification of human embryos. Seven experiments on germline gene editing have been conducted so far.

First case

In April 2015, when the public opinion that human embryos should not be edited arose, Junjiu Huang, a researcher at Sun Yat-Sen University in Guangzhou, China, attempted to edit germ cells for human embryos in a world first.[6] To avoid accusations of violating ethical boundaries, they used tripronuclear zygotes for experiments.

The team's goal was to successfully repair a beta globin gene that, when mutated, caused a fatal blood disease known as beta-thalassemia. As Huang himself admitted, the research was not so successful. Of the 71 embryos that survived applying CRISPR/Cas9 from among 86 embryos, 54 were examined, 28 of which were successfully spliced, but only four of which had the intended replaced genes. Furthermore, even these embryos showed a mosaicism mixed with modified cells and non-modified cells. Off-target mutations were also observed in other sites.

However, the researchers acknowleged that the low efficiencies and high number of off-target mutations could be specific to the abnormal embryos used in this study. The researchers also added that the reliability and specificity of the technology should be further improved. Judging from these findings, the clinical application of the technology is thought to be immature.

Second case

In May 2016, a team of researchers at Guangzhou Medial University in China conducted a proof-of-principle test to determine if genetically modified early embryos could be genetically modified using CRISPR/Cas9.[7] The CCR5Δ32 allele, which naturally occurs in 213 human triploid zygotes, was introduced by injecting a CRISPR/Cas9 component containing two types of guide RNAs. In the control group, 72 percent of the zygotes were injected with the CRISPR/Cas9, and 64 and 62 percent of the zygotes developed into the 8 to 16 cells. Of the total 26 embryos, four embryos were found containing CCR5Δ32. Three of the four embryos showed a mosaicism. Though 28 potential off-target sites were investigated in three embryos containing the CCR5Δ32 allele, no indel (DNA sequence insertion and deletion) was observed.

Third case

In March 2017, the Guangzhou University research team in China first tried to investigate the success rate of gene editing by applying the CRISPR/Cas9 on human normal embryos.[8] Male sperms with genetic disease were injected with CRISPR/Cas9 into the normal oocyte before division to make six

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embryos. In the correction experiment of G1376T mutated G6PD gene using two embryos, both were corrected, but one of them showed mosaicism. In the correction experiment of ß41-42 mutant beta-Thalassemia gene using four embryos, one embryo showed mosaicism, and the other three failed. The number of embryos used in this study was so small that they could not make a definite conclusion.

Fourth case

After treatment of CRISPR/Cas9, repair efficiencies were reported as low as 2 percent in cultured human embryonic stem cells and 14-25 percent in human embryos.[9] Shoukhrat Mitalipov and Kim Jin-Soo collaborated on the editing of human embryo genes. This experiment used normal embryos and introduced a CRISPR/Cas9 component at the time of fertilization, and did not show any off-target effect and mosaicism that appeared in the previous study. The research involved eggs from 12 healthy female donors and sperm from a male volunteer who carried the MYBPC3 gene, which causes hypertrophic cardiomyopathy.

The yield of corrected embryos (72.4%, 42/58) in the M-phase-injected group was significantly higher than in untreated controls (47.4%, 9/19), reflecting the probability of having a normal copy to be about 25 percent higher. The remaining 16 embryos showed indel formation in addition to repair of MYBPC3 copies. Almost all embryos with MYBPC3 were repaired with a maternal copy rather than an externally introduced template. Similar to the control embryo, 50 percent of the genetically-modified embryos reached blastocyst stage, confirming normal development after editing. But the integrity of this research is now being debated.[10]

Fifth case

On September 5, 2017, Zi-Jiang Chen attempted to edit the tripronuclear embryos using a single base editing method, which is different from the conventional method of gene editing. Using the BE3 base editor, the taget sites of beta-Thalassemia gene in eight of the 19 (42 percent) embryos were reported to be modified.[11] Seven embryos were modified into A base with G base, and C base with A/G base in one embryo.

Using the SaKKH-BE3 editing tool, the target region of the FANCF gene of Fanconi anemia was modified in all 17 embryos. In 10 of them, the C base was modified to T base and the other 7 C base was modified to A / G base. By SaKKH-BE3 base editor, the target site of the DNMT3B gene, a DNA methyltransferase, was modified in 6 out of 9 embryos (67 percent). Three of them were modified into C base with T base and C base with A / G base, respectively. This study demonstrated that it is possible to make precise editing through single base modification in human embryos.

Sixth case

On September 20, 2017, the Niakan Group announced their results. Through knockout of the POU5F1 gene encoding the universal transcription factor OCT4 during human normal embryo development, the blastocyst was not well developed.[12] They lowered the expression of the universal ectodermal regulator such as NANOG as well as the exogenous gene of the embryo, such as CDX2, which is different from results previously observed in mice. The researchers concluded that the technique of CRISPR/Cas9 was a powerful tool in investigating gene function in human embryonic development. Therefore, similar studies are expected to continue in the future.

Seventh case

On Sept. 20, 2017, Huang's group, the first human germline gene editing researchers, of Son Yat-Sen University edited the human embryos using base editor. [13] The beta Thalassemia HBV-28 (A>G) mutation, which frequently occurs in China and Southeast Asia, was edited by CRISPR/Cas9 and the efficiency of gene editing was measured. To model mutated embryos, the researchers conducted nuclear transfer embryos by fusing the lymphocyte or skin fibroblast cells with enucleated in vitro oocytes and gene correction efficiency of the base editor was found to be over 23%. More than 20 percent of the embryos developed into blastocysts. The researchers acknowledge the possibility of treating genetic disorders in embryos by base editing. These results can be summarized as in the following table.

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Table 1. Summary of the cases of CRISPR/Cas9 gene editing on human germline cells.

Date	germline cell	Condition	gene	Method	Reference
2015.4	non-viable zygote	β-Thalassemia	*HBB*	HDR	Liang, P. et al. Protein Cell 6, 363–372.
2016,5	non-viable zygote	HIV infection	*CCR5Δ32*	HDR	Kang, X. et al. J. Assist. Reprod. Genet. 33, 581–588.
2017.6	leftover embryo	β-Thalessemia	*HBB*, *G6PD*	HDR	Tang, L. et al. Mol. Genet. Genomics, 292, 525–533.
2017.8	produced embryo	hypertrophic cardiomyopathy	*MYBPC3*	HDR	Ma, H. et al. Nature, DOI10.1038/nature23305
2017.9	non-viable zygote	β-Thalassemia /.../ Fanconi Anemia	*HBB* *DNMT3B* *FANCF*	Base edit	Zhou, C. et al. Protein Cell DOI10.1007/s13238- 017-0459-6
2017.9	leftover embryo	embryo failure	*POUF1* *CDX2*	NHEJ	Fogarty, N. M. E., et al. Nature, doi. 10.1038/nature24033.
2017.9	constructed nuclear transfer embryos	β-Thalessemia	*HBB*	Base edit	Liang, P. et al. Correction of β-Thalessemia mutant by base editor in human embryos.

Developing a matrix

It may be the time to gradually transition from total ban to partial prohibition. That is because many researchers already have done germline gene editing research since 2015. There is a pacing situation where regulation is lagging behind development. The time has come that experiments on human germ cell editing should be properly regulated.

This matrix approach can help resolve the regulatory difficulties in formulating general regulations for human germline gene editing.

Table 2. Possible matrix for regulating the use of human germline cells and boundaries of purposes

	non-viable zygote (protrinuclear)	leftover embryo	embryo produced for research
therapeutic	×		
basic science	?	⑥	
proof-of-principle	①②⑤	⑦	③④
enhancement	×		

Now I want to analyze each case of human germline editing based on the degree of acceptability. Before doing this, I have drawn a matrix in sequence according to acceptability.

Germline cells

The tripronuclear (3PN) zygotes have one oocyte nucleus and two sperm nuclei. Polyspermic zygotes such as these occur naturally in ~2%–5% of zygotes during in vitro fertilization (IVF) clinical trials. Crucially, these zygotes invariably fail to develop normally in vivo, so they are not considered to be viable for implantation. They will never produce a live baby. The use of non-viable (protrinuclear) zygotes is the least problematic and more acceptable than the use of normal viable embryos.

Many legislative systems, including Korea, allow the use of leftover embryos but instead inhibit the production of new embryos. This reflects the fact that the production of new embryos could be ethically more problematic than the use of leftover embryos.

Boundaries of purposes

Though the boundaries of purpose are somewhat blurred, I deliberately categorize these purposes, such as therapeutic, basic science, proof-of-principle and enhancement.

Therapeutic research is a study of mitigating and eliminating inborn disorders directly by gene correction.

Basic research is a study of developmental or physiological products that result from gene editing. Proof-of-principle research is a study to determine whether CRISPR / Cas9 works well in human embryos, whether there is any off-target effect or mosaicism, and how to improve precision and efficiency technically. Enhancement research is a study for genetic modification used to improve traits for purposes other than therapy.

Analysis

Using the developed matrix, I try to categorize the existing seven experiments based on the possibility of ethical acceptance.

Though it caused fierce controversy, the first experiment (①) by Liang et al. could be judged to be ethically the least problematic compared to the other experiments. Although the target genes are different, the second experiment (②) is almost

similar to the first. We can improve methodology by base editing (⑤) using non-viable tripronuclear embryos.

So, doing the proof-of-principle experiment with non-viable embryos or animal embryos is ethically more compelling than with viable embryos. The seventh experiment (⑦) is a little unusual. Instead of using tripronuclear zygotes or embryos, constructed embryos from somatic cells were used. The moral status of these embryos requires a long discussion but for convenience it is placed between the leftover embryo and the produced embryo.

I think the research conducted by mitallipov's team (④) is the most ethically problematic because they produced embryos for research. Even compared to the third experiment (③) it is more problematic, because the latter used 131 embryos, while the former used only 6 embryos. Acknowledging this, they are trying to give the impression that this experiment has been conducted for therapeutic purposes to move to more ethically compelling category.

How can we justify the experiment? Do we have to experiment with the embryo? In case the goal is compelling, it will be justified to use embryos for experiment.

The use of embryos for therapeutic purpose can be considered to be more acceptable for humanitarian reasons. In contrast to this, the use of embryos for enhancement purpose might be the least acceptable. In some cases, though, it is hard to tell therapy from enhancement.

In therapeutic research and enhancement studies, it is difficult to experiment with non-viable embryos because a fully developed embryo is needed. Basic science research can sometimes be conducted with non-viable embryos, but if development patterns are different from those of other animals, experimentation with a viable embryo would be acceptable.

Proof-of-principle studies are more valid than enhancement studies, but less valid than basic studies.

Matrix to regulation

Firstly, the genome-editing purposes are categorized as therapeutic, basic science, proof-of-principle, and enhancement. from top to bottom the purposes may potentially increase the regulatory relevance. Even for those who advocate germline treatment, the other puposes such as enhancement could be treated differently from a regulatory viewpoint. Secondly, germline cells were subdivided based on the possible use or disposal, in order to map these embryos according to their regulatory relevance.

Using leftover embryos for research is considered to be less problematic and thus less subject to regulations than making new embryos for research. Some legislative systems allow the use of surplus embryos while inhibiting embryo production for experimentation reflecting on this concept.

Concluding remarks

I propose that the regulation bodies should consider introducing regulation standards drawing the line between cells. For therapeutic purposes, we can reconsider moving the line ahead if technical difficulties are sufficiently resolved and benefits outweigh the risk.

Such a cautious approach would contribute to harmonizing countries that show a regulatory divide on germline editing.

The recent report from an international committee convened by the U.S. National Academy of Sciences (NAS) and the National Academy of Medicine concludes that such a clinical trial of editing the DNA of a human embryo to prevent disease in a baby "might be permitted, but only following much more research" on risks and benefits, and "only for compelling reasons and under strict oversight."

In the gene editing era, the medical practices developed by advanced genetic engineering are not hampered by technological aspects only, but by understanding and acceptance of such technologies in society. Researchers, the public, and regulatory bodies should discuss the socially acceptable integration of germline gene editing. And I hope this kind of matrix can help resolve the regulatory challenges.

Heritable gene editing – Whose burden is it?

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Abstract

In 2018 Dr. He Jiankui announced the successful performance of gene editing on human embryos. This paper examines Dr He's claim beginning with its scientific foundations, and advancing through a series of ethical considerations to a larger perspective, examining Jiankui He's acts into the frame of contemporary society.

Introduction

A couple of months have already passed since the world became aware of Dr. Jiankui He's pretentions of having obtained the first gene edited babies in history. His claim has not been independently confirmed yet. A record pertaining to Dr. He's project (Chinese Clinical Trial Registry 2018b),

linked at the project's page (Chinese Clinical Trial Registry 2018a) on the website of the Chinese Clinical Trial Registry shows genetic data of two embryos who share some inherited gene variants, and even one *de novo* variant of a gene. Are those the records of Lulu and Nana, the supposedly gene edited twins? Has Dr. He really gene edited human embryos? If he has, what are the implications? Could Jiankui He have taken a major step in science, even though he did not scrupulously follow a certain approval procedure (Cohen, 2018) or should he have refrained from [CCR5] heritable gene editing, even if approved by thousand committees? And, if there is a burden of ethical consequences to bear, should Jiankui He contemplate it alone, or should his deed be examined into a larger context and his responsibility at least symbolically shared by others?

CRISPR-Cas 9 in gene editing

The theory of gene editing is pretty simple – use molecules that can cut DNA in order to modify it. The practice is very difficult – DNA modifying tools are hard to deliver and control and the final process obeys the in-built constraints of the cellular environment, so that 'gene editing is an inherently stochastic event occurring in only a fraction of the cells in which the nuclease is expressed' (Morgan and Gersbach, 2016).

CRISPR-Cas 9 is an RNA guided nuclease originating from microorganisms. RNA associated Cas9 binds at complementary sequences in the target, guiding the enzyme to cut the DNA. Subsequently the cells try to repair those cuts and one of the repair mechanisms might be used to induce specific modifications in the genes. The difficulties of employing this system are significant. Proper packaging and distribution of the editing tools, as well as the immunogenic potential of the 'vehicles' carrying them represent serious challenges. But the main problem with the Cas9 enzymes is their lack of safety, the potential to induce 'off-target' effects – uncontrolled and possibly harmful modifications of the genetic material. Other issues are the inefficacity of the cellular repair system, poor survival of the altered cells and the problematic *in vivo* translatability of the *in vitro* editing protocols (Dai *et al.,* 2016).

Sharma et al. (2017) review the use of CRISPR-Cas9 in animal models and after listing some apparently promising results conclude that "the safety and efficacy of its application in gene therapy require further improvements and extensive validation". The paper mentions "the prevalence of off-target effects" in a certain study, and the presence of "very few off-target effects", and "little off-targeting" in other studies. In [clinical] practice, the consequences of "very few/little off-targeting" of an enzyme cutting into a patient's DNA can range from neutral to devastatingly pathogenic and are by all means unpredictable. In fact, after CRISPR-Cas9 has been presented for many years as 'reasonably specific' – in spite of the paucity of experimental data – Kosicki et al. (2018) showed that not only the off-target but also the on-target activity of Cas9 is dangerous, leading to large deletions and complex genomic rearrangements in various cell populations of different origins (stem cells, mouse hematopoietic progenitors and a human differentiated cell line) both on-target and on spots distal to the cut site. Strategies intended to reduce the off-target effects also lower the on-target activity and impact on delivery of the system into the cells. Also, an increase in the efficiency of employing Cas9 in human pluripotent stem cells – potential candidates for many therapeutic applications – revealed that Cas9 is actually highly toxic for the cells and tends to kill them via a P53/TP53 dependent mechanism; therefore, the cells surviving will be those that have dangerous mutations in the tumor suppressor p53 and consequently cannot be safely used in patients (Ihry *et al.*, 2018). Furthermore, the methods aiming to detection of the off-target modifications cannot detect their entire spectrum throughout the genome, a problem that might be alleviated but not eradicated by combining various approaches (Gori *et al.*, 2015).

CCR5 and its avatars

A series of problematic aspects can also be discussed in relation to the gene that Dr. He Jiankui and his team targeted, CCR5. The C-C chemokine receptor type 5 (CCR5) is a protein found on the surface of immune system cells, such as macrophages, monocytes, T lymphocytes and dendritic cells. It is known as a co-receptor for the M tropic R5 HIV viral strains that have affinity mainly for macrophages and monocytes (Munjal, 2012). Individuals with 32-bp deletions in the CCR5 gene are either immune (CCR5-Δ32/Δ32) or less susceptible (CCR5-Δ32/wt) to invasion by the M tropic HIV-1 strains, which account for about 95% of the infections. The CCR5-Δ32 polymorphism is rare in European Caucasians (with an estimate of 1% homozygotes and 20% heterozygotes in the population) and absent in Africans and East Asians (Marmor *et al.*, 2006). Other effects of the CCR5-Δ32 variant that are considered positive are resistance to hepatitis C virus (OMIM®, entry # 609532), and possibly a lower risk for rheumatoid arthritis (Lee *et al.*, 2017). In certain human populations CCR5-Δ32 seems to be protective in multiple sclerosis, being possibly associated with a less severe phenotype resulting

from lower inflammation associated with the immune response at the CNS level (Troncosoa *et al.*, 2018), while in others might predispose to the chronic course of the disease (Pulkkinen *et al.*, 2004) or exert no effect on the disease onset and progress (Ristić *et al*., 2006; Song and Lee, 2014). Again, in lupus erytemathosus, the deletion seems to be a protective factor in certain populations and an aggravating factor in others (Schauren *et al.*, 2013; Baltus *et al*. 2016). Also, a positive correlation has been shown between the 32-bp insertion/deletion and diabetes mellitus (OMIM®, entry # 612522), and susceptibility to aggressive symptomatic West Nile virus infection (Lim *et al.*, 2010**;** OMIM® - entry # 610379). It is known as well that CCR5 is involved in bone metabolism by its influence on the functional regulation of osteoclasts *via* establishment of their proper architecture, on chemotaxis, on their interactions with the osteoblasts, and on other still unidentified mechanisms (Lee *et al.*, 2017). It is obvious that the functions and interactions of CCR5 are not simple to understand, describe and place into the general picture of the organism's economy and that the effects of the naturally occurring CCR5 gene disruption vary considerably among populations and individuals.

Burden of unnecessary risk in CCR5 editing

To sum up, a procedure like that performed by Dr. He Jiankui confronts 1) the unpredictable effects of the utilization of CRISPR-Cas9; 2) the unforeseeable effects of the disruption of the CCR5 gene in general, and 3) the unknown effects of the disruption of the CCR5 gene at the individual level. Last but not least the burden of futility might be easily associated with such an experiment, as the CCR5 receptor does not need to be disrupted permanently in HIV therapy. It can be targeted by reversible antagonists that block it in order to prevent viral invasion. Maraviroc (MVC, Pfizer) is such a product that has been approved in the USA, Canada, by the European Commission, and several other countries for the treatment of patients infected with HIV-1 and it was shown to be efficient, well tolerated (Woollard and Kanmogne, 2015; Giaquinto *et al*., 2018) and with potential for an advanced treatment of HIV infections, also aiming to eliminate the latent viruses whose persistence in the organism is a major issue in HIV therapy (Madrid-Elena *et al*., 2018). As for treating HIV patients through gene editing, experimental limited disruption of CCR5 by means of a promising approach that could be much safer than a general disruption of the CCR5 gene in embryos was for example reported by Tebas *et al.* (2014).

Whose burden is it?

It can be undoubtedly concluded that we are not yet technically competent to safely perform gene editing in embryos, as underlined by the specialists calling for a global moratorium on heritable gene editing (Lander *et al*., 2019), quoting the documents of the First International Summit on Human Gene Editing held in December 2015 that spoke about the need to solve the safety and efficacy issues in gene editing. Not only heritable editing, but all applications should be carefully examined in terms of safety.

Did He Jiankui ignore ethics? Yes, he did ... if he did it! If he did edit the embryos, he ignored what is generally considered an ethical must – not to induce heritable modifications. He has as well contradicted the principles presented on his laboratory's website, where he stated, among others, that "Performing gene surgery is only permissible when the risks of the procedure are outweighed by a serious medical need" (The Jiankui He Lab, 2018).

Some very practical questions arise. As Dr. He underlined himself in the above quoted *Ethical Principles of Therapeutic Assisted Reproductive Technology*, "genetically engineered" humans are humans and they should not be treated otherwise. Will nations agree, or will gene edited individuals be labeled as victims in some countries and as biohazard in others? What if the "gene surgery" procedure leads to unforeseen unpleasant results? What should the society or the state do? Keep an eye on the gene edited subjects for their entire life – with or without their consent? Which are the adequate measures in the event that they experience detrimental effects of the genetic modifications? Describe them the situation and wait for their euthanasia request so that the "mistakes" be erased from the species and the history of science? Ban them from reproduction? Make them use "therapeutic assisted reproduction" in order to reverse the modifications for future generations – of course, with no guarantee that the procedure will not issue yet another series of troubles? What if the undesirable consequences do not show in the first generation, but further in the future?

Maybe we should also wonder about the larger picture. Communist China was indeed blamed for its 'climate where scientists are exhorted to produce world firsts' (Cook, 2018c), where 'ethical considerations and the ultimate moral goals of science and medicine can be compromised or alienated by the unchecked pursuit of personal ambition, financial interests, interests of the Party-governments and institutions, economic growth, or national glory' (Nie and Pickering, 2018). But, in the rest of the world do scientists really enjoy a milder

climate? Are the members of the other nations immune to personal ambition, financial interest, etc.? Are capitalists selfless and ascetic, as opposed to the ambitious greedy communists in China? Which country is not subject to 'interests of party-governments and institutions, economic growth and national glory'? Is China competing with itself, or with other powerful countries seeking to outride each other in the 'science chase', as in every other field? Would Jiankui He have done the same not only in China, but in a *world* less centred on pride and achievement? Would he have done it provided he had no worldwide public for his spectacle? It is interesting to examine Dr. He Jiankui's motivations, but what about the motivations of those promoting compulsory progress in research all over the world, either under the knightly motto "Publish or perish" or under other – supra-individual – mottos. Studying the factors implicated in research misconduct, Davis et al. (2007) identified seven clusters of personal and professional stressors – among others, the pressure to produce, being overworked and stressed, job insecurities, factors that are not particular for researchers but common to an entire world sunk into rivalry. In a world of generalized fierce competition, we ask Dr. He why he could not wait.

Last but not least, if citizen Jiankui He's action is perceived not as a simple, surprisingly gross mistake, but as a worldwide scale social experiment, then the results might be considered quite interesting. While many individuals and organizations strongly disapproved of his work, still Dr. He – or rather the type of research he was involved in –included some renowned scientists from prestigious institutions as advocates (Cook, 2018a). Whilst 'generally regarded as' unethical, heritable gene editing has its fans, dreaming of new eugenic promises: "I don't think the research is controversial, but everyone agrees it should be kept away from patients for now… In the future, people will go to clinics and get their genomes tested, and have the healthiest baby they can have" (Werner Neuhausser, Harvard's Stem Cell Institute, *apud* Cook, 2018b). Ideologies do not perish – they just travel through ages and contemplate progress in their potential tools.

Where there is crime, attention should also be payed to the bad influences that might contribute to individuals committing the crime and to accessories that might encourage them to engage and persist in action. If what Dr. He did – if he did it – is to be considered a 'heritable gene editing crime', then maybe we should wonder how the actual climate in science and society might encourage individuals to commit such deeds, in spite of all the talk about ethics.

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Revisiting the proposal of Asian principles of bioethics

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Abstract
There are sets of principles of medical ethics. The ancient Hippocratic teachings of nonmalificense and benefifence lay the ground for bioethical deliberation. Georgetown's four principles published in 1973 had set the tone for the modern discussion of medical ethics. A European commission of the biomed-II project for basic ethical principles in bioethics and biolaw during 1995-1998, under the leadership of Peter Kempt and Jacob Rendtorff, proposed autonomy, dignity, integrity and vulnerability as basic ethical principles in European bioethics. Asian scholar Prof. Michael Tai proposed principles of bioethics with Asian spirituality in 1999 at the second Asian Bioethics Seminar held at Nihon University in Japan [1]. Twenty years has passed since these Asian principles were suggested but the proposed Asian principles have not been widely discussed since it was not pubslihed in a well-known journal. As we look back to the last 20 years, we find that these Asian priciples are not only still valid, they should also be widely circulated for the bioethical world to ponder, as these principles are based on Asian cultural ethos effecting one fourth of the world population. Principles of bioethics must include cultural passion in order to reflect on the ways people live and act. The set of principles suggested by Porf. Tai are rooted in Asian culture, and include Compassion, Ahimsa (nonmaleficence), Respect, Righteousness and Dharma (responsibility).

Introduction
Much discussion and debate have taken place after the publication of *Principles of Biomedical Ethics*, co-authored by Georgetown University's bioethicists, Beauchamp and Childress who implied that the four principles they promoted reflect not only the common concerns of the world but also are trans-cultural in nature [2]. In other words, these four principles, based on common morality theory, can be universally valid.

At first glance, one cannot but agree with this arguement. But on a closer examination, one will notice that these four principles are more Western than Eastern, let alone universal, despite the fact that Asian religious and philosophical thought share similar concerns.

Principles of medical ethics with Asian spirituality

Biomedical ethics have been guided by a few broad principles, for instance veracity, autonomy, beneficence, nonmaleficence, fidelity, confidentiality and justice, [3] but Beauchamp and Childress listed only four and saw the other three as derivatives. Both Hippocratic tradition and Goergetown scholars listed non-malificence and beneficence first. Indeed, these two reflect the basic humanistic ethical teachings yet Asians will see compassion as the foundation of all endeavours.

1. Compassion

Compassion is not only a Buddhist teaching, Confucian and Shinto virtues also emphasize on its importance too. It is like beneficence stressing the importance of doing good for others. Mencius, the second sage of Confucianism believes that all men are endowed with a concern toward others. In his own words, "all men have the mind which cannot bear to see the suffering of others…. a man without the feeling of commiseration is not a man. The feeling of commiseration is the beginning of humanity…" [4] Buddhism has taught compassion for all living creatures, animal life as well as human. In ancient Japanese mythology, the Records of Ancient Matters written in 712 BC told that Susanoo, a younger brother of goddless Ameraterasu was expelled from heavenly court due to his mischievous act. Once he descended to earthly world, he noticed an eight headed dragon had disturbed a poor farmer and his family; the inner nature of compassion within Susanoo sprung out right away so that he decided to assist this poor farmer and killed the evil power represented by this eight-headed drageon. Later he even married farmer's daughter and presented the sword he used to slain the evil power to Amaterasu which became one of the symbols of Japesnese emperor [5].

Islam has been regarded as a Western religion, but many Asian countires have adopted this faith such as Indonesia, Malaysia, Pakistan, Bangladesh…, etc. Koran teaches that compassion towards the weak and defenseless persons of the community is a reflection of the compassion of God. Widows, orphans and females in general are of particular concern in the words of Muhammad and believers are exhorted to be compassionate to them.

Obviously, the main spirit of Asian cultures has been centered upon compassion which is directed not only toward humankind, but has an impersonal goodwill to all living beings too. Compassion is not based on sympathetic feeling; it is more empathy than sympathy. And this is what bioethical ethics should emphasize, that is to extend empathy toward suffering patients.

According to Mencius, the feeling of commiseration is the beginning of humanity. When commiseration is felt in medical settings, both healthcare providers and patients mutually benefit as the relationship is brought closer together. He further explained: " When I say that all men have the mind which cannot bear to see the suffering of others, my meaning may be illustrated thus: now when men suddenly see a child about to fall into a well, they all have a feeling of alarm and distress, not to gain friendship with the child's parents, nor to seek the praise of their neighbors and friends, nor because they dislike the reputation of lack of humanity if they did not rescue the child ". [4] From such a case, we see that beneficence and nonmaleficience are expressions of the feeling of commiseration which Mencius asserted as the beginning of humanity. From this, we see that Confucian thought regards benefience and malificence as more than principles to be promoted. They are part of human nature reflecting on human compassion. Without compassion, the good will people extended to others are but external expression lacking an inner firm motivating force.

2. *Ahimsa* or nonmaleficence

Asians have always upheld the idea of non-violence, especially in the Buddhist and Hindu traditions. Ahimsa goes beyond the concept of nonmalefience to extend "do-no-harm" to all living creatures. Ahimsa, from Sanskrit, is normally translated as nonviolence and reverence for life [6]. In practice, it means abstaining from animal food, relinquishing war, rejecting all thought of taking life, and regarding all livings as akin. This noble thought reflects on the idea of nonmaleficence to the point that we should not harm our fellow humankind or animals. This loving care is to extend to all living beings. This concept can be transformed into a biomedical principle to emphasize the spirit of nonmalefience. *Ahimsa* is native to Asians, unlike the Western nonmaleficence that bears a foreign tone. Thus, adopting *Ahimsa* to promote the idea of do-no-harm will be more far-reaching and effective in the Asian cultural sphere.

In Confucian tradition, *Ahimsa* is expressed through filial piety. What we have physically inheriated in our bodies are gifts from our parents and we must safeguard and cherish them. Mencius said "Body and hair are given by our parents, one must not harm them." It implies nonmaleficence not only to oneself but also to others. [7]

3. Respect

Respect, in Western bioethics is shown through the principle of autonomy affirming one's right of decision-making. In Asian understanding, it refers to respect as found in the spirit of filial piety.

According to Confucian tradition, children are required to pay due respect to their parents and elders. Furthermore, this piety is to be extended to a larger scope of family, where brotherly love is emphasized along with mutual respect required for social dealings. It also implies informed consent based on family decision-making rather than individual determination. For instance, the family head or father is usually the one whom the physician consults with in a medical decision-making situation. Individualistic autonomy is weak in Asian tradition. Thus, informed consent is done collectively in a family circle. Respect here therefore refers to the rights of the individual as well as the right of the family as a collective unit of individuals. Traditionally, Asians have worked as a collective unit in which the father or the eldest son, in case father is deceased, functions as the head of the family. Respect is due to this "collective individualistic autonomy". Although this collectiveness is gradually being reduced by the process of modernization, it remains strong in many parts of Asia. When we talk about informed consent, we must not neglect this Asian "collective-individualism". This respect has a two-fold meaning: respect toward the individual's individuality and respect to the traditional collective individuality. Autonomy thus has to be understood in a larger individualistic context.

Furthermore, this respect also pinpoints to the physician-patient relationship. Respect implies mutual trust. The lofty work of a physician is highly respected in Asian society. They are not only healers but also advisors in many instances in a village. This kind of privilege should not be taken for granted but rather it should reciprocate to patients in the manner of respect toward patient.

Mencius was once asked if men love their neighbors' children in the same way as they love their brothers' children; he answered: "treat the aged in your family as they should be treated and extend this treatment to the aged of other peoples' families. Treat the young in your family as they should be treated and extend this treatment to the young of other people's family" [8]. Here Confucian scholars lay the ground for a proper way of treating others and this becomes a good ground for medical ethics principle.

Although we can say that Asian society is very much paternalistic, Confucian teachings as well as other Asian ethos indicate that due respect should be given. His concept of respect is also expressed through the idea of righteousness.

4. Righteouness

Righteousness is an oriental way of expressing justice with a different emphasis from the west. It means the right thing to do as well as doing things right. Thus, righteousness and oughtness are standards for moral judgement.

The fundamental basis of this teaching is that one should act according to his conscience without having any desire to gain profit. So, righteousness and profit are two opposing terms. When one does things because of the potential profit, it is not righteous and therefore is not just. Confucius thus said: "the superior man comprehends *yi (*righteousnes*s)*, the small man comprehends *li* (profit)" [9], meaning that superior man will act according to righteouness while the small man will act because of profit.

Righteousness in Chinese understanding also refers to one's willingness to sacrifice himself for the sake of a noble cause, such as for patriotism or for filial piety. A person who died for such a cause is described as giving up life to opt for righteousness (*sur shun tsi yi*) or as bravely embracing righteousness when confronted with the situation to make a choice (*chien yi yiong wei*). When one betrays and denies his benefactor who helped or did him good, it is described as forgetting grace to be in debt of rightesousness (*wong un hu yi*). It is obvious that righteousness in Chinese understanding has moral and religious implications. Applying this self-giving righteousness to medical settings, the patient-physician relationship could greatly be enhanced. As from this understanding we can derive that a just physician, would try his best to take care of the sick regardless of gain and profit. Can we find any role model in this righteousness principle? Gandhi had emplified this. In the West, Dr. Albert Schweitzer and Sister Theresa were also good examples as they had devoted their lives for rightesouness sake.

The Asian social habit of gift-receiving or giving can serve as another example to explain this principle. The red Envelope is a traditional Chinese way of wishing someone good luck or expressing gratitude. Usually the gift is money put in a red envelope. The color "red" signifies good fortune. Children receive red envelopes on New Year's Day or some special occasions, such as birthdays or weddings. Red envelope is also given to congratulate the recipient for any accomplishment. Without such an envelope the physician might either refuse to take care of the patient or simply purposely extend no care at all in a hospital. A principle of righteousness will warn physicians that this demand for red envelope is bioethically unjustifiable and unrighteous. Givng care to patients is physicians' undeniable duty, thus receiving gifts is unrighteous and unjust.

In the Confucian tradition, justice is not understood as fairness but as righteousness and oughtness of a situation. Using filial piety as an example, the elders deserve their rights to have the

first share in time of destitution. It is not a question of being fair or not, but rather it is a question of oughtness as respect toward the elderly. The Western concept of fairness and equality are missing in Confucian society.

Secondly, everyone in society has certain things which he ought to do. If, however, he does them only because of other non-moral considerations, then even though he does what he ought to do, his action is no longer a righteous one. To use a word often disparaged by Confucius he is then acting for profit. Righteousness and profit are opposing terms in Confucian teachings. Confucius sees justice not so much as fairness but as oughtness of a person to be right. Justice thus to Confucians must be interpreted differently. It is not justice according to needs but justice according to what one deserves.

5. *Dharma* or responsibility

Dharma is a Hindu concept meaning "pattern of right living". Everyone in his/her social station is endowed with duties which must be carried out. Without following this, disgrace descends on all who flee their duties as illustrated in the Hindu epic the Bhagavadgita. In one passage the Hindu diety Krshna answered Arjuna, a warrior who was afraid to fight as a soldier in fear of acquiring *karma*. Krshna said that real duties of life must not be abandoned. Performing duties of station in life is a service to God; thus, no karma will be created. On the contrary if a person refuses to carry out his duties, disgrace descends upon him [10].

Applying this dharma to medical settings, taking care of oneself is one's dharma just like what Mencius said that body, skin and hair… are gifts to us from our parents and we must safeguard them. Any negligence in caring one's given life is irresponsible and thus is disgraceful. This implies that each person must not abuse their health. It is our inviolable responsibility to take a good care of our body. Failing to do so is irresponsible and thus unfilial.

The principle of *dharma* asserts that each person has a duty to take care of themselves not depending on medical insurance to ensure their health, nor should they take health services for granted. Each person must fulfill his duty of maintaining a good life-style and co-operate with physicians when sick to restore their health.

This principle of duty is also expressed in Confucianism through the concept of the Rectification of Names. Names refer to social status of each person. When asked what is the rectification of names, the master answered: "let the ruler be ruler, the minister minister, the father father and the son son" [11], meaning that each person should act according to what a person is expected to do in his profession and station in life. Every name contains certain implications which constitute the essence of that class of things to which this name implies. Doing should agree with names. The ruler must bring wellbeing to his subjects, the minister be loyal to his master, the father should care for his young and the son be filial to his superior. Every name in a social relationship implies certain responsibilities and duties. Ruler, minister, father and son are all the names of such social relationships and the individual bearing these names must fulfil their responsibilities: "Between father and son, there should be affection: between ruler and minister, there should be righteousness: between husband and wife, there should be attention to their separate functions: between old and young, there should be a proper order and between friends, there should be faithfulness". [12] In other words, the person who bears names ought to make sure that his action reflects the requirement of his names. A person who does so, is a man of *Jen*. By the same token, a physician must fulfil his responsibilities. His *dharma* is to care for his patients benevolently and the patient must cooperate with physicians besides dutifully taking care of himself or herself

Conclusion

The four principles advocated by Beauchamp and Childress have indeed expressed some moral concerns of the East, yet their emphases and implications are not quite the same for Asians. A set of principles based on the Asian ethos may make more sense to Asians, and in turn facilitate the implementation of medical ethics in Asia. These proposed principles are in no way in competition against the western concepts but rather help enrich them so that bioethical globalization can become contextualized to suit cultures across the world. Globalization does not mean universalism, rather it pinpoints to the global and universal endeavour to enhance human dignity and wellbeing for humankind in biomedical settings.

Despite the fact that Asia is not homogenous, (containing many different relgions and cultures), Asians share a similar ethical framework, thus the principles proposed above are suggested for consideration.

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Albert Einstein in 1935 on Electrosmog and Fake News

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Abstract
The biological impact of electromagnetic radiation on humans and other living beings still is controversial and inconclusive. In 1935 Albert Einstein called such an impact 'fake news', probably using the prestige of the Nobel Price as a powerful placebo. How should he and we deal with issues of electrosmog, placebo effects, and fake news today?
Key words: cancer, electrosmog, fake news, health, placebo, radiation.

In 1933, Albert Einstein left his professorship at the Berlin University and the Kaiser Wilhelm Physics Research Institute, renounced his German citizenship because of the Nazis, and shortly thereafter accepted a position at the Institute for Advanced Studies in Princeton, USA. From a vacation home in Lyme, Connecticut, he wrote to a young lady on August 29, 1935 on potential impacts of electricity on human health: "Dear Miss Davies: Excuse that I answer your letter only today. Electric rays, which in some way can be proven to impact human individuals remotely are not existing. The fact that such a belief widely exists among lay people, probably can be explained by the fact that they have been influenced by radio broadcasts which they did not understand. This is especially true for people who are nervously over-exited. Of course, there is no physicist who would fall a victim to such speculations. With my outmost respect A. Einstein. - On request of Mr. Rudolph Thielen sent to his address 325 East 84. Street, New York City, N.Y." (1)

Einstein's answer was a definite and very clear 'no' and he blamed the mass media of those days - the radio - for spreading 'fake news'. But issues are more complicated and the biological impact of electricity on humans and other bios had already been a hot topic since the early days of electricity in the midst 19th century. On September 1 and 2, 1859, a huge geomagnetic solar storm caused many of the few first electric power lines in the US and Europe to burn; widespread utility damages and a number of fires were also reported. (2) A similar solar storm today would wipe out electric power grids and the micro-electric infrastructure of the 21th century including microchips in cellphones, pacemakers, vehicles and machines. Such an electromagnetic pulse (EMP) could also be used by bad people, bad corporations, and bad governments to silence all or specially selected electric and microelectronic networks of other peoples, states and non-states. In foggy weather we hear a sort of roaring or mumbling under high voltage lines; mammals and birds recognize ultraviolet light emitted from those overland lines and avoid them later even when electricity is switched off (3). But the direct impact of low or high voltage on life forms still is not clearly documented and controversial (4). Microwave ovens, cellphones computers, televisions and radios create electromagnetic fields (EMF) of various intensities; some appliances such as microwaves claim to have inbuilt protection but manufacturers nevertheless suggest to stay not too close, when they are operating. Review of scientific literature argues that not enough qualified research has proven that exposure to wifi and other radiation has no biological effects (5). The introduction of much more powerful 5G technology for internets of people, of things, and everything will provide additional challenges not only to our ways of communication and cooperation with each other and with interactive and learning things, but also raises additional issues for our physical and psychological health and those of other bios and biotopes.

Nobel Price winner Einstein did not know Miss Davies personally, but her letter and maybe also Mr. Thielen might have given him the impression that she was a neurotic and nervous young lady. Einstein blamed the radio to produce fake news, but scientists also produce fake news for various reasons such as to intimidate people or to profit financially. The scientific medical 'law' that in humans sometimes pregnancy last up to 11 months is an example that physicians falsely and

deliberately stated a natural law to camouflage the time of conception by 2 more months from the 7th to the 11th week in order to protect sexual privacy of women from husbands and the public (6). Did Einstein and Mr. Thielen deliberately initiate a placebo effect (7) in the young woman using the high prestige of the Nobel Price to 'heal' her with 'fake' scientific information, or should Einstein have told her that science did not have a definite answer yet.

In May 1935 Einstein co-published a paper, asking whether our knowledge about physical reality ever will be a complete one, confirming 'that the description of reality as given by a wave function is not complete. Any serious consideration of a physical theory must take into account the distinction between the objective reality, which is independent of any theory, and the physical concepts with which the theory operates. These concepts are intended to correspond with the objective reality, and by means of these concepts we picture this reality to ourselves … the wave function does not provide a complete description of the physical reality' (8). Much earlier, in a 1919 letter to Hans Vaihinger, the editor of 'Kantstudien' and author of 'Die Philosophie des Als Ob', Einstein made a difference between 'Anschauung' (opinion, view, consideration) and 'Begriff' (term) and argued that while terms are clear and firm they nevertheless will be used in different contexts and models and that 'true culture' based on the sciences and using scientific terminology may comfort us in difficult personal situations. (9)

How would Einstein interpret the objective reality of electric rays of all sorts and the impact on biological tissue today? Do only lay people fall 'victim to speculation' initiated by 'fake news' from radio and other mass. What is 'scientific truth' in our ongoing discourses and debates in physics, medicine and other sciences? And how would or should Einstein warn Miss Davies about microwaves, cellphones, electro smog in general, X-rays and other rays, and about new high-frequency electromagnetic waves and 5G radiation in particular?

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6. AA Carranza: De patu naturalii et legitimo. Geneva 1630; cf. HM Sass: Diagnosing the 11-months Pregnancy, in: The Ethics of Diagnosis: Dordrecht: Kluwer 153-162.- This fake 'natural law' was particularly helpful in feudal societies when women could not inherit property after the death of her husband, but they could function as guardian for a male heir and his property up to his 18th birthday. Is this 'science' early evidence of feminist and medical ethics among physicians. Of course, a pregnancy of more than 9 months is totally impossible in humans; however, as evidenced by Rabelais' widely read novel, 'Gargantua' was said to have gotten his gigantean powers from being formed for fully 11 months in his mother's womb.
7. Placebo effects are well documented, cf. A Hrobjartsson, PC Gotzsche: Is the placebo powerless? Update of a systematic review with 52 new randomized trials comparing placebo with no treatment, in J Intern Med 2004, 256(2):91–100; H Wallach, WB. Jonas: Placebo Research: The Evidence Base for harnessing self-healing Capacities, in: The Journal of Alternative and Complementary Medicine, 2004, 10 (Suppl 1):103–112. – In European literature, Plato was one of the first who justified lying to achieve good therapeutic effects and speaking 'positively' to people, Politeia 389b, Charmenides 155c.
8. A Einstein, B Podolsky, N Rosen: Can quantum-mechanical Description of physical Reality be considered complete?, in: Physical Review (ser. 2) 48:78 (Received March 25, 1935)
9. HM Sass: Einstein ueber 'wahre Kultur' und die Stellung der Geometrie im Wissenschaftssystem, in: Zeitschrift fuer allgemeine Wissenschaftstheorie 1979, 10(2)316-319; I had discussed this very personal letter of May 3, 1919 from Einstein to Vaihinger on the role of science in 'true culture' at the Einstein Centenary on March 14, 1979, in Bern in the presence of Andre Mercier, Stephen Hawkins and other leading physicists.

Bargaining with positivism: Science's nexus to philosophy

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Abstract

This article pushes forward the idea that positivism, the philosophical system in the early analytic tradition that recognizes only those which are scientifically verifiable through logic and mathematical proof, is still embedded in an existential impetus of philosophical reflection. The extent to which science advances in the reflection of human life is seen for instance in the current research of transferring young mouse blood to old mice for rejuvenation, possibly rendering cure to diseases stemming from old age and ultimately immortality. The success of the experiment on mice is a jumpstart for its application to humans, and from there, one cannot but speculate whether this set-up is an irony to the supposed antinomy of science to demystify immortality elixirs and ancient cure superstitions. The set-up is open and though positivism will find it hard to accommodate philosophical reflection, it still needs such disposition to critically assess the loopholes of a sternly logical and mathematically inclined universe. Science has a social dimension and is connected to the social influence and importance of analytic philosophy and philosophy in general.

Science and the tension between positivism and meaning

Language is loose – its meaning lies in the ambiguity residing within concepts. In this sense, vocabulary too is context-dependent since the analysis of a given text varies on the convention upon which it is constructed. And this does not exempt the vocabulary of science. Scientific language would claim firstly – out of observable phenomena – a hypothesis, a proposition made as a probable guess to provide explanation. When the hypothesis is affirmed through the experimentation of its variables, it becomes confirmed – it is elevated into a theory. When the theory is further confirmed from its hypothetical manner of explaining phenomena, it is universally accepted – then, it becomes a law. But Cohen (2014, p. 560) points out that there is a discrepancy in systematizing the vocabulary of scientific language. He points that Newton's discovery is called *law* of gravitation but Einstein's reinvention and improvement of it is only called '*theory* of relativity.' Cohen then says that essentially, laws and theories are hypotheses and that they cannot stand as absolute claims of knowledge.

Positivism, which grounds its philosophical nut on the scientific process, composes the point that "laws have meaning only in the sense that they are abstracts from which statements can be constructed. This is the view which is generally entertained by Positivists of the Viennese Circle and related groups (Weinberg, 1936, p. 143)." It is to be drawn however that science is separate from logical positivism, the former being the systematized body of knowledge and the latter being the philosophical movement early in the Analytic tradition that insists on scientifically verifiable facts as its core. For Anchinstein and Barker (1969, p. 451) "science does not need positivistic interpretation; but, in the spirit of the best positivist work, it very much needs an analysis of its methods."

The Vienna Circle started with the Thursday evening discussion of Moritz Schlick together with 'philosophically-minded mathematicians and scientists (Caldwell, 2003, p. 11).'' On the relevance of science to philosophy and vice-versa, the Vienna Circle took it in an oversimplified manner to mean that philosophy had to become 'scientific' (Uebel, 1992, p. 11). Logical positivism or logical empiricism took its name when the Vienna Circle saved empiricism and gave it a positivistic light in the name of logic. Uebel labels this the 'marriage' of empiricism and logicism (1992, p. 8). But there is a weakness that positivism poses in philosophy.

> The greatest weakness of positivism, in the philosophy of mind as elsewhere, is that it tries to make the notion of meaning bear too heavy a burden. This is always a bad tendency in analytic philosophy, but it is fatal in a school which begins by scrapping the customary notion of meaning anyway, and which has seriously examined every science *except* linguistics (Anchinstein and Barker, p. 451).

While science and positivism compose logical structures to clarify analytically the terms of language into systematic procedures in order to verify knowledge, it dispels in the process the essential warrant for meaning. That is to say, that 'given the close connection between meaningfulness and knowledge, verificationism after the linguistic turn meant that there simply could be no defense of non-empirical scientific or non-metascientific philosophical knowledge (Uebel, p.10).'

The question of meaning is repressed, apart from knowledge, and albeit science and positivism try to clarify, they instead tend to proselytize. The relationship of science and positivism here endangers the crucial fact that concepts are never

dogmatic. They are in the first place open for new conventions and formulations. This perhaps risks the idea of knowledge as a cold realistic assessment of things: when meaning is transposed as a foreign element apart from knowledge, its scrutiny is likewise questionable when the austere measures it adapts are enacted in a manner similar to the medieval inquisitions and witch hunts.

The French philosopher and sociologist, Auguste Comte brings to light the essential nature of knowledge acquisition. Auguste Comte's positivism, although accounted as his own, is acted only in what for Comte as the founders of Positive Philosophy in the time of Bacon, Descartes and Galileo (Mill, 2005, p.3). For John Stuart Mill:

> The fundamental doctrine of a true philosophy, according to M. Comte, and the character by which he defines Positive Philosophy, is the following: We have no knowledge of anything but Phaenomena; and our knowledge of phaenomena is relative, not absolute. We know not the essence, nor the real mode of production, of any fact, but only its relations to other facts in the way of succession or of similitude. These relations are constant; that is, always the same in the same circumstances. The constant resemblances which link phaenomena together, and the constant sequences which unite them as antecedent and consequent, are termed their laws. The laws of phaenomena are all we know respecting them. Their essential nature, and their ultimate causes, either efficient or final, are unknown and inscrutable to us (Mill, 2005, p. 3).

Only in the sense that positivism knows its limits as confined by phenomena, it becomes aware of its own meaning. A scientist may project the life of an organism as normal to the detriment of any meaningful end, but it is narrowing the possibility of further probabilities in the relations of things. In order to illustrate this, one can only evaluate the existing question or hypothesis of current scientific advances.

Bargain: biomedical research, immortality, and life

The next big thing could be inclusive fitness: (in Genetics) the principle referring to the ability of an organism to pass its genes to the next generation. It might not be in the same cohesion as with, for instance, the harmony of a raga placed side by side in sync with the latest emo jam but talking about what will be the best for the upcoming generation must have something to deal with perfect continuity. The classic exitus-reditus scheme in antiquity and the middle ages (see Aristotle's *Physics*, 261a12, cf. Aquinas' *Commentary on Aristotle's Metaphysics*. I-I, 4.) once again has to put in the frontline its substratum of resolution towards a source that gets higher in degrees. Without signifying yet whether the Prime Mover of Aristotle is God, as baptized by Aquinas, Aristotle already acknowledges that substances that come from the same origin will move towards each other – hence, acknowledging that the perfect motion is a circular motion where substances return to their underlying similitude or 'quintessence'. In the exitus-reditus schema, perfection is achieved through a return.

Current biomedical researches (Scudellari, 2015; Shytikov, et. al., 2014; Conboy, et. al., 2005; Kaiser, 2016) thus adjudge it correct to look at its trail in such a 'return' perspective: the genes, cells, blood plasma, etc. of the young generation below age 25 could be medically injected to boost the vitality of the old ones. The wonder of our rodent friends is initiating wishes to come true, as the pioneering experiments of mice prove to be applicable to humans after all. Rejuvenation is the apt term, where youth reclaims its essence. Up-to-date, there are excesses and deficiencies of the process. But it would not take long before studies advance in the process' golden mean; its posology and bug fixes.

Moving forward to its incisive outcome, if this effect might come to mean not only reducing aging from its normal pace but also blurring the definition of a running age as it might possibly come to a stop and even move the physiological changes backward, then it carries in a nutshell the plausibility of immortality – its rigors, fascination, and deflating of the entire airship of ideas humanity has ever contemplated in its existential queries of finitude and oblivion.

It is not even a big bang. To have come up with the equation that deals with the young as the future, that is to say of 'what is new' to marvel the next generation, is nothing that merits a shock. The celebrated futurism tangled in the reveries accorded for the young is an age-old mentality of the passing idealists. What makes this a paradigm shift is the scientific breakthrough: how the whole thought process materialized into its effectiveness as a real-time apparatus.

This further sets forward the implication that to a large extent, the next decade or century is no longer a fatalistic perspective of the universe e.g. chaos has run down everywhere where there are glitches, inconsistencies, loopholes of all sorts, much that a widespread *adikia* roams through the natural fabric of human societies and its inevitable decay. But this reprehensively tarnishes the novelty of the future as it stands now, because the next face of human civilization is already verging in the glorious theft, not anymore of fire, but of eternity. The stage following Prometheus and Heraclitus will

fulfill a promise that upgrades reason and instability into the beginning of a stable end, a done deal with Comte or a more promising version of Fukuyama's end of history (1992) – for the last man is not anymore the calculable goal-driven picture Nietzsche (1969) presents but the last *man* in the present state: a stage of time's stoppage that signals the paradoxical emergence of higher men, and perhaps of supermen.

That science can provide men immortality is reflective of the demon Mephistopheles in Goethe's *Faust* where Dr. Faust gave up his soul for the sake of a limitless desire for knowledge and power. The irony here is: while science demythologized voodoo rituals, alchemists, demonic insurgences of medieval influence and primeval naturalism, it will now serve as the Mephistopheles setting up the bargain for humanity's immortal birthright: science's process shall bring forth men in the bloodline of Dr. Faust, uncovering their esoteric interests, animal impulses, in an infinite horizon opening both extremes of puritan self-mastery or the corruption of the whole moral order. The bargain does not even have to work both ways: the acquisition of immortality itself is the soul's disappearance.

However, its quest would also denote the Dionysian (Nietzsche, 1927) dissolution of reality: those who have the power to gain it will have to put hindrances for others to do the same. One science to rule them all. For advancement was never about success but monopoly – who gets there first, who suppresses the rest, who stands above the status quo. In this sense, life is not merely biological life but also social life and from here, bargaining becomes the social dimension that is positioned within the constellation of complex interlinkages. Hence, the sociality of science. Moreover, one can connect here Babette Babich's reservation (2017) in the contemporary post-human era: even if technologies will be produced through the advancement and improvement of humanity, she forwards the realistic claim that only the rich or those on the top of the food chain can afford such new technologies.

It will not, therefore, be an easy bargain, for souls – in desperation, gamble, chancing, and so on – will still need to be put in the line, in which the probability of succeeding has lesser percentage than a risky participation of Russian roulette. One still needs to go into the system of gaining more to get the prize and work within the systematic possibilities offered by the social environs of reality. Reality had to teach again the lesson that the ultimate basis supervening positivism is the idea that only in science can one find salvation, at least for those who control the modern Archimedes at gunpoint.

While the young are fed with vampirism fantasies and the old fascinate themselves with their long lost vivacity, the parabiosis that depicts both as one aspiration to an immeasurable life ahead is still in psychoanalytic standards a glaring impossibility of desire. The bargain for immortality remains, as it were, a formula that needs countless resolutions. It will therefore not dissolve totally the questions of human expiration, even as it may philosophize on an everlasting concept of matter. What the bargain may offer at best is an ethical choice, however complex it may seem – and within this realm, all the other social dimensions – psychology, economics, politics, morality, and social justice – are inherently constituted therein. It would not be a problem for a person, for instance, as the case may be if he has a lifetime to read all the books he wants to read or to write all the manuscripts to clear his head, and to discover everything that the old and new world opens. But – and here goes the limiting conjunction – what would everything, minus the hyperbole, mean: what would that differ to a lifetime lived in an authentic dealing towards death? How would that affect the weight of every word, every action, every relationship that governs persons, regardless of immortality? What would an infinity make of two persons who are in love to exhaust all the possibilities of a relationship – reevaluating the limits and maturity of monogamy and polygamy altogether?

The next big thing could not simply be a smooth transition to an inclusive fitness. A brave new world could be up ahead and science will not explain for us a theory of everything. It will then leave at best an open bargain that will guarantee still philosophy's search for meaning and how living coalesces every single sophistication along with it.

Tying the nexus of (analytic) philosophy's importance

Zabala and Davis (2013) opines in *Aljazeera* concerning Stephen Hawking's pronouncement that 'philosophy is dead,' and further asks which philosophy is dead. They emphasized that if there is a specific philosophy that is dead, it is analytic philosophy. They began reiterating the late Richard Rorty and French theorist Alain Badiou in their echo of Hawking that philosophy is dead. In Badiou's *Infinite Thought* (2004), particularly, one can draw the point that analytic philosophy's orientation and standard, beginning from Wittgenstein and Carnap in the Vienna Circle, is the specific philosophy that does not seek truth but polices it. The desire not to create idea but to demarcate a rigid standard for meaning and utterances is limiting. Hence, the orientation of analytic philosophy turns philosophy 'into a slave

to the hard sciences, especially physics,' and because this kind of philosophy cannot keep up with the sciences, it is thereby dead in Hawking's eye.

> For the essence of analytic philosophy focuses on meaning at the expense of openness to different and surprising truth-conditions that may appear beyond an assumed analytic structure, stipulating what philosophy can do or cannot do.
> If a person behaved like the vast majority of analytic philosophy does in our time, they would be diagnosed with having a death wish and imposture syndrome, by enslaving itself to a scientific elitism. In this respect, the Trojan horse of philosophy might just be analytic philosophy snuck into the city of Troy, which today has become ever-shrinking conservative philosophy departments in universities. Students in these universities are not only forced to read summaries rather than the great classics texts from the history of philosophy, but are trained, like scientists, to write articles instead of books (Zabala and Davis, 2013).

This would come as unsurprising given that even in Moore's conception of ethics, one cannot relay easily an 'ought' proposition, a prescriptive, apart from, a descriptive tendency of analytic language. For him, the term 'good' – the coinage in ethics that implies a force of action – is indefinable and that for his naturalistic fallacy, any attempt whatsoever to define 'good' is bound to fail (Moore, 1903, 11-16; cf. Glock, 2008, p. 57). One can also read in G.E. Moore's preface in his *Principia Ethica* (1903): "It appears to me that in Ethics, as in all other philosophical studies, the difficulties and disagreements, of which its history is full, are mainly due to a very simple cause: namely to the attempt to answer questions, without first discovering precisely *what* question it is which you desire to answer." This led Moore into proposing his ideal utilitarianism: "A utilitarianism that bases its judgments solely on pleasure and pain is hedonistic. Some theorists, such as G. E. Moore, have suggested that there are other goods that should be maximized, such as knowledge, friendship, health, aesthetic awareness; this is considered ideal utilitarianism (Edgar, 2003, p. 61)." G. E. Moore, whom Tom Regan (1999, xii) called "analytic philosophy's patron saint," then takes the approach that reflects a meta-ethical standpoint (Gunkel, 2012 p. x).

And yet on the other side of the spectrum, Glock (2008, p. 182ff) comprehensively analyzes that on the question "Is Analytic Philosophy Morally Neutral and Conservative?" analytic philosophy cannot absolutely be said to have excluded practical matters. Because the moral philosophy that 'logical constructionism' and 'conceptual analysis' analyzes is confined to meta-ethics, such as Moore's account above, analytic philosophy is often illustrated as neutral or conservative. But analytic philosophers are not silent in political matters. Glock says that "no philosopher of any age has every trumped Russell's political engagement on the side of the down-trodden and oppressed (p. 184)." In spite of Horkheimer – a representative of continental critical theorists of the Frankfurt school that is active in the socio-political sphere – saying analytic philosophy is apolitical, Glock notes that "the Vienna Circle was the most political philosophical group of note in the twentieth century (p. 184)." Despite the complexity of political times, philosophy insists and continuously penetrates into the socio-political arena.

However, this is not to say that analytic philosophy in itself is active even if the analytic philosophers who represent it are. It is not only the critical theorists attacking analytic philosophy who give rise to this critique, but also 'other philosophers have accepted the ethical and existential irrelevance of analytic philosophy (Glock, p. 188).' But if there is one thing that assures concerning relevance, it is that contemporary mainstream analytic philosophers accept neither the point that moral judgments are 'non-cognitive' and that philosophy 'should remain ethically neutral.' This goes to show that truth of analytic philosophy's relevance accommodates the critique of non-usefulness but also the point of politico-ethical involvement. In this sense, philosophy is still not passé.

Going back to the nexus of science to philosophy in general, David Purdie of Edinbrugh University discovers a letter whose author is Einstein (Malik, 2019). Against scientists who claim of philosophy's irrelevance, the letter states the importance of David Hume's *A Treatise of Human Nature* to Einstein's scientific work. Einstein was influenced by philosophers, from Mach to Schopenhauer, which suggests how 'science is not simply the accumulation of empirical data'… but also 'the questions we ask, the methods we employ to answer those questions, the conceptual frameworks within which we fit the facts (Malik, 2019).'

On a final note, the Slovenian philosopher Slavoj Žižek (2006) says that "the task of philosophy is not to provide answers or solutions, but to submit to critical analysis the questions themselves, to make us see how the very way we perceive a problem is an obstacle to its solution." Therein lies an opening for analytic philosophy and, by extension, the analyses offered by positivism in its verification methods. The task is not to bargain with the

thought in mind of dispelling meaning and any other philosophical venture that seeks it, but to constantly put into questioning – that is, into bargaining – truth with its manifold philosophical implications.

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Debunking the perceived loss of the Committee on Publication Ethics (COPE) moral compass: Conspiracy theory, or a genuine cause for concern?

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Abstract

The natural instinct for members of the Committee on Publication Ethics (COPE), which now number almost 12,200, as well as academia, is to assume that this organization works under strict and clearly defined ethical parameters, with a solid vision, and an independent mandate that is not influenced by power, think tanks, or partisan interests. Naturally, whistle-blowing and science shaming are not practices that one would usually associate with an ethics organization like COPE, because they involve ethically and morally questionable practices. Despite this, ethical borders have become blurred between the objectives of Retraction Watch and PubPeer, two self-moderated science watchdogs that rely heavily on these questionable practices, in their efforts to grow and survive, and the values espoused by COPE. A Retraction Watch post, in which the former COPE Chair, Virginia Barbour (2012-2017), made a claim of apparent harassment, is the most striking example of the dangers when collaboration may take place between science-shaming websites, and an ethics organization, COPE. These bonds appear to have been in development for a number of years already, with the inclusion of Elizabeth Wager, the

former COPE Chair (2009-2012), as a director of The Center for Science Integrity Inc. (CSI), Retraction Watch's parent organization. Retraction Watch was financed by, among other groups, the Laura and John Arnold Foundation (LJAF), whose leader, John Arnold, an ex-Enron trader, declared a "war on bad science", which may naturally include the destruction of aspects of science as well. Retraction Watch embraces several infamous pseudonymous personas under the broad umbrella of freedom of speech, liaising thereby with PubPeer. There is no doubt that errors in the literature need correcting, but this apparent connection with COPE raises questions about the basic ethical foundation of this relationship. Are scientists to embrace this bond between COPE and science watchdogs and pseudonymous whistle-blowers as the new normal in the correction of the scientific literature? This opinion piece puts forward arguments why the author believes that the ethical compass of COPE has become skewed.

Is COPE about industry lobbying or about publishing ethics, or both?

The Committee on Publication Ethics (COPE) has now become the *de facto* largest publishing ethics group, primarily for the biomedical sciences, having attained almost 12,200 paying members to date (COPE 2019). However, as is known by well versed academics, including Paul S. Brookes, of the University of Rochester Medical Center, COPE has primarily been a trade representative of for-profit publishers that has now gained a stronger mandate, although that mandate fails to represent authors' rights, or concerns with COPE member editors, journals or publishers (Teixeira da Silva, 2017a). Brookes, a well-known whistle-blower and prominent science activist whose website Science-fraud.org was shut-down as a result of an automatic insinuation that all papers critiqued on that blog were fraudulent, noted that COPE is a "lobby group for the publishing industry"[14]. Brookes called for the use of PubPeer to counter the toothless response by COPE regarding the dismissal of academic concerns in the literature of several COPE member journals and publishers, while COPE member editors were not fulfilling their ethical and academic obligations (Teixeira da Silva and Dobránszki, 2018) in correcting the literature according to COPE-established guidelines. COPE thus represents to many academics the model of publishing ethics and thus incorporates the publishing industry's moral compass and leadership. Thus, any concerns about the COPE leadership, or its purported focus, or deviations from its assumed or stated moral path, would affect the entire publishing industry and academics around the globe, because at stake would be the core values and ethics of the publishing industry. This opinion piece puts forward arguments why some relationships held by COPE or its current or former leadership that calls into question the direction of this organization's moral compass.

Does COPE shy away from, or cozy up to, post-publication groups?

PubPeer is primarily an anonymous whistle-blowing website that works closely with Retraction Watch, a website that is also associated with shaming science, the scientific establishment and scientists. Users of PubPeer and Retraction Watch, including pseudonymous entities like *fernandopessoa*, and others, often act in a highly coordinated approach, in what appears to be a bid to purge academia of its errors and its ills, but with as yet unclear or unknown consequences. Public humiliation and shaming does not drive social progress (Stryker, 2013). Calls by Susan Fiske, the former President of the Association for Psychological Science, in November of 2016 to end the culture of shaming in science (Fiske, 2016), which was largely fortified and popularized by Brookes, and sites like Retraction Watch and PubPeer, were immediately shot down by Retraction Watch's co-founders, Ivan Oransky and Adam Marcus (Oransky and Marcus, 2016). The defense offered for this ethically questionable practice, at least to some, resembled a similar attitude displayed by one of the PubPeer co-founders, Boris Barbour, at PubMed Commons[15], in response to an editorial by Michael Blatt, who described posts at PubPeer as "negative and occasionally malicious", the language as "tendentious, if not confrontational", the discussion as "devoid of ideas and polarized from the outset", and the commentators as "vigilantes" (Blatt, 2015). In a separate blog post, Brookes came to the passionate defense of PubPeer, referring to Blatt's editorial as a "piece of literary detritus", and calling in essence for the destruction of "their outdated business model", referring broadly to the traditional form of publishing as practiced by most COPE members (Brookes, 2015). These radical and destructive opinions were never publicly discussed or challenged by COPE or by COPE members, who were very obviously absent from this extremely important discussion about the fate of traditional peer review and the current publishing system, which is being ravaged – some may argue as a necessary purge – by PubPeer and Retraction Watch, and their supporters. An attempt to better

[14] http://www.psblab.org/?p=410

[15] https://www.ncbi.nlm.nih.gov/pubmed/26417050 (see comments section)

understand this attitude and mode of functioning, within the context of COPE-related members, by these science watchdogs (Teixeira da Silva, 2016a) and anonymous critics of the publishing status quo is a key objective of this commentary. As an academic that publishes in COPE member journals and even having been banned from all journals of a COPE member publisher (Taylor & Francis / Informa) for making "excessive" editorial challenges, it is of interest to know why COPE appears to be so distant from the conversation involving Retraction Watch and PubPeer, or the opinions and concerns expressed by Fiske and Blatt. The absence of COPE's voice as an ethical arbitrator leaves a moral vacuum within academia's discussion on the issue of how best to heal wounded literature. These are issues that all academics should be deeply concerned about, and involved with.

Is COPE encouraging, or threatened by, philanthrocapitalism?

A core problem of sites like PubPeer and Retraction Watch is that they are self-moderated, thus their own moral compass is focused on their own perception of right and wrong. If such sites truly represented the ethical and moral voice of global academia, then they would be open to critique by, and suggestions from, academics, including their critics, as well as from groups such as COPE, or even COPE members. Most importantly, to ensure that the discussion takes place in an accountable and transparent manner, such dialogues should occur in the open, not behind closed doors or at exclusive meetings such as the 5th World Congress of Research Integrity (WCRI)[16], as currently occurs. PubPeer and Retraction Watch are receiving or have received considerable funding from powerful interest groups that claim a philanthropic posture, but that appear to have much broader long-term social reengineering objectives in mind. One of the groups that has funded both PubPeer and Retraction Watch is the Laura and John Arnold Foundation (LJAF). The leader of the LJAF, John Arnold has retreated quietly, allowing his LJAF-sponsored sentinels – including PubPeer and Retraction Watch – to begin to purge, in a sector-by-sector denigration of science's current structures, "bad science", beginning with cancer research and psychology. The central planning unit of the latter is referred to as the "Reproducibility Project: Psychology", and of the former as "Reproducibility Project: Cancer Biology", which are centralized at the Center for Open Science, directed by Brian Nosek, and also funded by philanthropic organizations other than the LJAF[17]. This carefully planned purge is toppling legends along the way, and the fact that public shaming – even if the facts speak for themselves – is being used primarily behind masked individuals or groups makes the process imbalanced, or unfair, and thus all the more destructive, a point that both Blatt and Fiske tried to argue, albeit unsuccessfully. John Arnold has pointedly stated that his war is a "war on bad science"[18], but what is not being discussed is that any war that is declared on science – good or bad – will involve a frontal attack on science's current structures, including traditional editor boards, and traditional peer review. This in itself is not a bad thing because the system is in desperate need of reform (Teixeira da Silva and Shaughnessy, 2017). Close scrutiny of the PubPeer and Retraction Watch data-bases will reveal that a large proportion of the literature currently being scrutinized, and shamed, is in fact COPE member literature, emphasizing even more why COPE has a moral responsibility of being at the front-line of the battle in and on science, rather than conducting business as usual, quietly and silently, in the background, via position-neutral lobbying and membership recruitment.

The LJAF and related parties have failed to indicate precisely how much error in the published literature is considered to be "bad", leaving the option of open and indiscriminate attack on academia and on academic structures, including on COPE member journals. By leaving the debate of what constitutes "bad" wide, vague, and undefined gives PubPeer and Retraction Watch moral leverage to literally label any academic with an error, or retraction, as being "bad", if not only by mere association with these sites. Retraction Watch has tried, but in vain, to dilute its science-shaming image by creating a "doing the right thing" category[19]. However, this attempt at softening the shaming nature of that blog is tempered by the vast majority of cases published on that site, culminating with the retraction leaderboard, a punitive list of academics[20], which only serves to fortify the shaming nature of that site (Teixeira da Silva, 2018a). The LJAF-funded initiatives related to "open science" and "open data", including open peer review and preprints, has also become enmeshed in a culture of shaming. Brookes (2015) stated "Dr. Blatt accuses the founders of PubPeer of

[16] http://wcri2017.org/

[17] https://cos.io/about/our-sponsors/

[18] https://www.wired.com/2017/01/john-arnold-waging-war-on-bad-science/

[19] http://retractionwatch.com/category/by-reason-for-retraction/doing-the-right-thing/

[20] http://retractionwatch.com/the-retraction-watch-leaderboard/

unmasking themselves solely for the purpose of making money", followed soon after by this ideological nail to Blatt's editorial coffin: "It takes an exquisite amount of hipocrisy, to speak from the bully pulpit of an entitled publication, part of a multi-billion dollar enterprise, punching down at a non-profit foundation, and accusing it of being money-hungry. The only possible motivation I can think of for this Op-Ed, is an editor and an industry witnessing the slow decentralization of their control over information (for massive profit), seeking to discredit an upstart grass-roots organization that might disrupt the status quo." In fact, it turned out that Blatt had been perfectly correct, with the California-based PubPeer Foundation, with Brandon Stell as its president, receiving US$ 412,000 from the LJAF in November of 2016 for development between 2016 and 2019. Only months after having received this funding did PubPeer finally formally announce it publicly, on June 15, 2017, with the launch of PubPeer 2.0, the beta version. Yet, there was no media announcement, and no coverage of this important fact by leading journals such as Science and Nature, who had previously covered the unmasking of the PubPeer founders. Details about precisely how PubPeer and Retraction Watch are using LJAF funding, or about their interaction, had been masked from the public (Teixeira da Silva, 2017). This secrecy, or lack of opacity (Teixeira da Silva, 2018b), decreases trust in these organizations and their leadership, even as they demand of scientists, and the scientific publishing establishment, maximum transparency. This can only be described as a hypocritical moral and ethical stance. Even the issue of comment ownership and concerns related to comment manipulation at PubPeer raise doubt about the transparency of the arbitrage process in place at this science watchdog website (Teixeira da Silva, 2018c). Once again, COPE remains noticeably silent, and thus displaying opacity, when it should be demanding of PubPeer and Retraction Watch, maximum transparency, especially since many of its members are being shamed by these blogs. Perhaps the silence is a subtle recognition that peer review has failed in COPE member journals, even as some of them achieve record profits through subscriptions and open access fees. Are there financial conflicts of interest (COIs) that prevent COPE from being more vocally critical of its members and its allies?

Does COPE support the notion of retractions as trophies?

Retractions are treated as trophies by Retraction Watch. One such case of a trophy for the LJAF-funded axis of science activists is Carlo M. Croce[21], a close and long-term research partner in cancer research to Alfredo Fusco, and chair of the Department of Cancer Biology and Genetics at The Ohio State University (OSU), who has been shamed, possibly even hounded, for years – with undoubtedly much more to come until Croce loses all of his prizes, having already lost his position as department chair at OSU. Croce still undoubtedly faces a long road of shaming and a public lashing at PubPeer [22] and Retraction Watch, with pseudonymous *fernandopessoa* leading this charge. The LJAF and its science-shaming sentinels are now beginning to place their trophies proudly on the "destroyed science/scientist" shelf, including Haruko Obokata, Olivier Voinnet, Paolo Macchiarini, and many others, as the pile of bodies of "boom-to-bust" legends (Teixeira da Silva et al., 2016) begins to stack up. This is not a hyperbolic image, it is a reality. It may be reasonably argued that the legendary status of an academic is self-created, and that the responsibility with academic records lie with academics themselves, but the path to that destruction or staining of the legendary status is being speeded up by the existence of sites like PubPeer and Retraction Watch. What about the silent victims of the LJAF-funded war, like Yoshiki Sasai[23]? What role, and responsibility, does the LJAF and its funded organizations like PubPeer and Retraction Watch that heavily and negatively profiled Sasai and his work, play and have, in the collateral damage suffered by co-authors of retracted papers that have been subjected to PubPeer- and Retraction Watch-induced public humiliation? The picture that began to be painted in about 2010-2014, when PubPeer and Retraction Watch were still in their establishment phases, prior to receiving funding from the LJAF and others, and apparently free of financial or other visible COIs, was that academia was dealing with groups who appeared to genuinely care about science's integrity and that dearly wanted to see the literature corrected. However, only after these groups received LJAF (and other) funding, did academia begin to appreciate the true dark nature of this apparent conspiracy against science, heavily profiling COPE member journals and publishers, but curiously also in collaboration with COPE and/or its leadership, which embodies the publishing establishment, as was noted by Brookes.

The LJAF-COS plot and the PubPeer and Retraction Watch plan have now been partially debunked. From 2015-2019, it has become clearer

[21] http://retractionwatch.com/?s=carlo+croce

[22] https://www.pubpeer.com/search?q=+Carlo+M+Croce

[23] http://retractionwatch.com/2014/08/04/stap-stem-cell-co-author-commits-suicide-reports/

that PubPeer and Retraction Watch are now part of a highly coordinated attack on science, including on bad science, using errors and flaws as excuses to advance the political and social agenda that John Arnold has clearly mapped out, not only for the USA, but also for the UK, and possibly even at a wider global scale, as evidenced by LJAF sponsorship of the 5th WCRI. The problem with making the moral and/or ethical waters murky, by mixing bad science with unintentional errors, is that many innocent academics may be defamed, or even psychologically damaged. Yet these tales are not being told, and these issues are not being openly or properly discussed, and it is here that COPE could play a decisive moral voice for the academic community and publishing industry, by serving as a moderator between these feuding parties, imposing a just ethical stance that is critical of both ethics-infracting COPE members, and also public shaming PubPeer and Retraction Watch. Valid arguments aside, reputations of individuals, institutions, editors, journals and publishers, including of COPE members, are being destroyed, and an industry that had perceived itself to be academically rock-solid – except for the threat offered by the "predatory" open access and fake science movements (Al-Khatib and Teixeira da Silva, 2017a; Teixeira da Silva, 2017c) – may be in a potential state of collapse. As the retractions begin to pile up, and when it becomes evident that a critical mass of flawed papers that are now either retracted or corrected, had been sold either as subscriptions, or as packages to research and academic institutions worldwide, resulting in sometimes billion dollar profits (Larivière et al. 2015), what moral argument can COPE put forward in defense of its paying members?

RePAIR Consensus Guidelines: publishing's "destroy and replace" policy

What might be one the game plans of the LJAF-funded "war on bad science" and of COPE-supported and LJAF-funded PubPeer and Retraction Watch? By betting on science's collapse, including the powerful institutions that are currently holding this fragile support structure in place, John Arnold has, as indicated in his interview published by a student, Sam Apple, ample time to wait for science to implode, which would allow Arnold-envisioned measures to be gradually, but aggressively, introduced, to replace the current structures. This might include the replacement of traditional peer review, as practiced by many COPE members, with LJAF-funded open peer review, open data and open access projects, spearheaded by COS. With contacts deep within the NIH, such as Hilda Bastian who heads an equally opaque and now defunct PubMed Commons (Teixeira da Silva, 2018d), and other academic and government institutions, primarily in the USA and the UK, as well as with COPE, a powerful "destroy and replace" policy is already in the implementation phase. This can be clearly observed by a new set of "ethical guidelines", the RePAIR Consensus Guidelines[24], that began to be crafted in Fort Collins in June of 2016, and that have reached a statutory level. Fear has successfully spread, using powerful media like Retraction Watch and others, anger has been stoked, tension is high among academics who see their literature in unsafe repositories, and there may be a sentiment that science is under imminent collapse. This current negative sentiment within publishing is being projected as an "opportunity" only by those who are benefitting from science's collapse, namely the LJAF and its funded groups, by COS and its philanthrocapitalist partners, and by for-profit publishing entities that craft their business models and their ethics policies, to suit the flavor of the day. Retraction Watch serves as the LJAF public voice and media portal, transmitting weekly primarily negative criticism of science and its foundations, in "Weekend reads"[25].

COPE: playing devil's advocate while sleeping with the enemy

The relatively unknown marriage between the LJAF and COPE has been a strategic one, including in the new RePAIR Consensus Guidelines, gradually achieved silently behind closed doors and in meetings dotted with industry "ethicists", but not a union that has been made too obvious in the public domain, nor in consultation with ground-level academics and scholars. The COPE-led ethics industry has assumed a morally superior position, similar to the for-profit publishing industry, with little regard for grass-roots academics' opinions. Like many of the LJAF-funded anti-science or anti-bad science groups currently operating to degrade science's image and integrity, but masqueraded as a pro-integrity movement, the union with COPE has come through the smart association between COPE and Retraction Watch. However, has that association been established under stress, threat, or duress, for example the threat of collapse of the COPE member establishment, as was suggested by Brookes? The LJAF and COS, and their allies will obviously, and expectedly, push back and defend their plan, labeling these views as a nonsense conspiracy theory, a typical psychological strategy to attempt to derail criticism and avoid scrutiny.

[24] https://publicationethics.org/files/RePAIR%20Consensus%20Guidelines.pdf (dateless document that has not changed between 2017 and March, 2019)

[25] http://retractionwatch.com/category/weekend-reads/

There is evidence that critics will be smeared on PubPeer and Retraction Watch, and thus their criticism will be aggressively silenced. The President of The Center for Science Integrity Inc. (CSI), Retraction Watch's parent organization, Ivan Oransky, has been associated with and/or dealing with COPE for years, having first recruited Elizabeth Wager, the former COPE Chair (2009-2012), as a director of the board of directors of the CSI[26], a carefully timed maneuver, coincidentally just prior to receiving funding from the LJAF and other philanthropic organizations. One can also observe, with no publicly stated COIs, that Ferric Fang, a director of the CSI, is also one of the authors of the RePAIR Consensus Guidelines. There are dozens of hidden professional and personal relationships and COIs – which COPE considers a serious ethical infraction[27] – among the groups being discussed in this paper that are influencing ethics policies, but that are – surprisingly – not yet being openly debated and scrutinized by any member of the global academia. This serves as direct evidence that the LJAF has infiltrated the global ethics platform, through Retraction Watch, in a carefully crafted alignment of allies. A Google search for "ethics" meetings and symposia will quickly reveal how close the relationships have become between the LJAF-funded groups and COPE, and also with key entities within the US Government and/or academic institutes, including Shara Kabak (DHHS Office of Research Integrity (ORI)) and James Kroll (National Science Foundation (NSF), Office of the Inspector General (OIG)), who are, as astute readers of this opinion piece may already have guessed, co-authors of the RePAIR Consensus Guidelines. The LJAF play is in full swing, the props have been carefully placed, the company has been selected, new recruits are being sought, and the first two acts (cancer and psychology research) are currently on display. But who is applauding? Only those within this tight, closely controlled net of individuals and interest groups that are putting in place a set of ethical guidelines like the world has never before seen, deeply impregnated with clauses, rules and restrictions that will turn research and science publishing into a veritable battle ground, and further restrict authors' rights freedoms (Al-Khatib and Teixeira da Silva, 2017b). Will these powerful, well-connected individuals with political aspirations, be seeking to introduce criminal penalties, incarceration, and other US-influenced principles of justice into science and science publishing? Kenneth D. Pimple, who is one of the RePAIR Consensus Guidelines co-authors, and a close Retraction Watch supporter, has been one of the most hawkish members advocating for increased legal and criminal intervention in science fraud, referring euphemistically to this militarization and criminalization of science (Teixeira da Silva, 2016) as "reform". The criminalization of scientists was a key focus of the 5th WCRI.

In mid-2017, academia suddenly woke up to a reality where only a tiny number of non-LJAF-associated academics have begun to understand that science and science ethics have gradually become somewhat hijacked by LJAF-funded groups, on both sides of the Atlantic, for example AllTrials by Sense About Science[28] in the UK, whose US branch is funded by the LJAF[29] ("A note on funding: Sense About Science USA is being established with a grant from the Laura and John Arnold Foundation. We would like to achieve similar funding to Sense About Science in the UK, where 95 percent of donations are from members of the public and scientists."). Like most philanthropic groups seeking to influence public policy and ultimately score political points and rewards, such initiatives, groups and sites are brilliantly worded, with carefully crafted marketing punch-lines that give the impression of a savior-like mission. Take, for example, the mission statement of this organization, which appears prominently on its UK top page: "Sense about Science is an independent campaigning charity that challenges the misrepresentation of science and evidence in public life. We advocate openness and honesty about research findings, and work to ensure the public interest in sound science and evidence is recognised in public discussion and policymaking." What that marketing blurb fails to state is that parts of this objective, most likely as part of the "Ask for Evidence" campaign, is being achieved through science and scientist shaming using primarily PubPeer and Retraction Watch, failing also to note the network of LJAF-funded groups that are colluding to achieve this objective, i.e., hidden COIs, and giving the misleading impression, to academia and the public, that this is some random independent socially conscientious group that is operating in the UK with a branch in the USA. Does the public and academia not deserve to know, in a prominent public notice, that the funder of Sense About Science USA is the LJAF, and that the LJAF is also funding (or have funded) PubPeer and Retraction Watch, which are using less-than-desirable techniques to exploit science's weaknesses? Once again, COPE, which is based in

[26] http://retractionwatch.com/the-center-for-scientific-integrity/board-of-directors/

[27] https://publicationethics.org/competinginterests

[28] http://senseaboutscience.org/

[29] http://www.senseaboutscienceusa.org/about/

the UK, is visibly absent from the public discussion. Curiously, Ben Goldacre[30], the founder of AllTrials, is on the editor board of a COPE member BioMed Central journal, *Research Integrity and Peer Review* (RIPR), in which Elizabeth Wager, the former COPE Chair, serves as the editor-in-chief, and whose editor board is riddled with individuals with deep professional COIs, none of whom have any COI statements[31]. As one example, the recently retired COPE Chair (2013-2017), Virginia Barbour, is also on the editor board, as is Miguel Roig, a staunch defender that self-plagiarism constitutes misconduct, and a CSI co-director. These unstated, hidden COIs and relationships between the global "ethics" establishment, that extend between COPE and LJAF-funded Retraction Watch place academia in a very serious ethical bind: how can global academia trust any of these individuals or groups, including COPE, when they are all colluding to advance their own financial and political agendas?

COPE collusion with groups: fact, myth or conspiracy theory?

How did global academia suddenly wake up to this sickening reality that the barrage of rules and regulations that have hit them has been a carefully crafted experiment behind closed doors, without their consultation? When will global academia demand that the same parties that appear to be colluding – for what appears to be some years now – to craft rules and regulations for millions of academics, primarily in the biomedical sciences, involve an odd and uncomfortable mix of a giant ethics lobbyist (COPE), US Government regulatory bodies (ORI, NSF, OIG, NIH), and whistle-blowing, science-shaming websites like PubPeer and Retraction Watch, the latter two funded by philanthropic organizations like the LJAF with initial morally dubious sources of funding (i.e., Enron)?

Striking evidence of this apparent take-over of the ethical establishment, and the potential collusion with COPE, with the objective of creating an indestructible globalist front, is the accumulation of LJAF-funded or -associated groups who united to celebrate their successes, and expanded their future plots, in the 5th WCRI[32]. It is unclear who paid for the attendees' expenses nor were COIs – ethical, financial, professional and other – indicated on the 5th WCRI website. John Arnold's "destroy and replace" marketing campaign campaign has been carefully planned, advertised with morally perceptive catch phrases such as "greater transparency" or "increased reproducibility", masquerading thereby the anonymous and pseudonymous background campaign of shaming, i.e., including of COPE members. Another high-profile successful "capture" was of *Nature*, whose solutions to science were usurped by LJAF-funded COS[33].

This apparent usurpation of ethical values by the LJAF, epitomized by the literal dominance of the 5th WCRI, in a bid to replace the current research and publishing systems with an Arnold vision of science and society – clearly with political ambitions on the horizon, and ultimately lucrative returns in the form of science-based laws and criminalization – places COPE in a very ethically uncomfortable predicament. By offering anonymous or pseudonymous critics legal protection – in the form of powerful legal "civil liberties" groups such as the ACLU (American Civil Liberties Union), as occurred in the Fazlul Sarkar case[34] (Teixeira da Silva, 2018e) – academics, academic institutes and publishers will feel pressured by LJAF's objectives. The need to correct errors or retract highly erroneous or fraudulent papers is reasonable, but the sugar-coating with marketing-laced visions for better science, greater reproducibility and a more robust research infrastructure that is spear-headed by philanthropic organizations and science watchdogs that operate with opacity, seems to be counter to the core COPE ethical principles of transparency[35].

It is under this climate of LJAF increasing expansion into ethical territory that a to-be-expected, yet somewhat incredible, event took place on March 23, 2017. Virginia Barbour used, while still COPE Chair in her second term, Retraction Watch[36] to publicly lament claims of harassment, anonymously attacking Klaas van Wijk, a Dutch ornithologist. van Wijk, who later admitted by email to be the target of the Barbour shaming campaign, has been passionately rallying against the validity of the findings of a paper published in a COPE member (Taylor & Francis / Informa) journal that he and other ornithologists claim is fraught with errors, and possibly fraudulent data (Teixeira da Silva, 2017d), in an almost tragic-comic display of total lack of professionalism. Why did Barbour not use her own private blog or the COPE website

[30] https://en.wikipedia.org/wiki/Ben_Goldacre

[31] https://researchintegrityjournal.biomedcentral.com/about/editorial-board

[32] http://www.wcri2017.org/images/Program_at_a_glance_5th_WCRI_2017.pdf

[33] http://www.nature.com/news/announcement-transparency-upgrade-for-nature-journals-1.21627

[34] http://retractionwatch.com/category/by-author/fazlul-sarkar/

[35] https://publicationethics.org/files/Principles_of_Transparency_and_Best_Practice_in_Scholarly_Publishingv2.pdf

[36] http://retractionwatch.com/2017/03/23/agreed-listen-complaint-paper-harassment-began/

to vent her personal frustrations? Why was Retraction Watch used as her bully pulpit? In a clear sign to the scientific community by the LJAF that the reigns of science and ethics are being taken over, by force and if necessary by embarrassment and shaming, COPE has now officially succumbed to the pressure of the hooded masses and the Retraction Watch – PubPeer – LJAF form of science responsibility through social justice, i.e., science's kangaroo courts[37]. Has the ethics movement been kidnapped or hijacked? Curiously, even ironically, in her public rant, Barbour stated: "COPE, by contrast, aims collectively and individually to practically address the problems that occur in publication and research integrity in a rigorous and professional way. Yet we are increasingly witnessing that an acknowledgement by authors or journals of a mistake and a subsequent correction is not seen to be enough. Vilifying authors or editors with public humiliation – driven often by a crowd mentality — seems to be what some in this arena want. As one tweeter said (hopefully ironically)– a "public lashing" may even be expected. We strongly refute this way of thinking. With such a climate it is hard to see how we could ever develop a culture of no blame correction, which is a prerequisite for a reliable published record."

In brief, Barbour's personal lament using a perceived – at least by some – anti-science whistle-blowing blog, Retraction Watch, to express her views to a monthly audience of several hundred thousands of viewers, shows how COPE and the primarily for-profit publishing industry's ethics movement, has now been usurped. It is inconceivable – morally or ethically – that COPE could be working with, or alongside, Retraction Watch and PubPeer, in any capacity. Even more so since Oransky and Marcus, with their own retraction, have not listed themselves into their own retraction database, displaying a clear case of double standards (Teixeira da Silva, 2017e). Such relationships would not only reflect deeply concerning COIs, but pose deeply troubling ethical challenges. By allowing Barbour to shame herself in public, COPE has now been placed in a deeply embarrassing situation of promoting – or at least accommodating – LJAF-based ideals and methodologies, and by succumbing to potentially anti-science LJAF ideologies. Most importantly, COPE has now conceded to the shady science-shaming practices employed by LJAF-funded groups like PubPeer and Retraction Watch. This alignment with groups that use ethically questionable methods to "correct the literature", in essence usurping the post-publication peer review movement, has clearly placed COPE in a very complex and perhaps unretractable ethical bind.

COPE's flopped reform policy amid hidden conflicts of interest

Fearful of the massive fall-out of the ravages to be inflicted by the LJAF-funded groups on the COPE membership establishment, Barbour and select allies published a badly envisioned reform policy to current retractions, as a preprint (Barbour et al., 2017a), which was then republished almost without any improvements in *F1000Research* (Barbour et al., 2017b), proposing that retractions be replaced by amendments, with the hope of buffering the negative damage caused by Arnold's deeply destructive war on "bad science". In doing so, COPE exposed itself again as a weak and toothless proponent of the for-profit publishing industry that is now suffering severe reputational damage at the hands of PubPeer and Retraction Watch, but is now left in a highly uncomfortable position of having to deal with the hooded and masked whistle-blowers, in all of their gloriously innovative pseudonymous forms, who have the power of erroneous literature, as their weapon to take down the industry and replace it with Arnold's vision. Almost apologetically, and once again dealing a significant psychological and reputational blow to COPE, Barbour and colleagues – curiously referred to as "publishing experts" and not as "ethical experts" – once again found themselves having to explain, very ironically, their positions to the public on the shaming platform, Retraction Watch[38]. Not only was this preprint signed as "on behalf of COPE working group", a group whose constituency is as enigmatic as the content of this preprint, the COI statement was incomplete and thus highly misleading, and therefore unethical. The COI (competing interests) statement states: "Virginia Barbour and Theodora Bloom are both on the Eighth International Congress on Peer Review and Scientific Publication Advisory Board. Virginia Barbour is the Chair of COPE. Elizabeth Moylan is on the COPE council." It is well known that Barbour also serves on the Ethics and Policy Committee of WAME (World Association of Medical Editors)[39], while Barbour and Moylan served on the editor board of *RIPR*. Why were these incredibly important COIs allowed to be hidden by this ethical elite and why was this reprint not retracted on the basis of clearly false COI declarations and hidden COIs[40]? Elizabeth

[37] https://en.wikipedia.org/wiki/Kangaroo_court

[38] http://retractionwatch.com/2017/04/04/problematic-papers-dont-retract-correct-say-publishing-experts-amend/

[39] http://www.wame.org/about/wame-executive-board-and-committees

[40] http://retractionwatch.com/category/by-reason-for-retraction/failure-to-disclose-coi/

Moylan, the last/senior author of this preprint, is also an editor of *RIPR*. Requests to the authors to explain these hidden COIs were not responded to. And, not surprisingly, the *RIPR* editor board is riddled with COI-impregnated individuals, such as an LJAF-funded *protégés*, Ben Goldacre, a COPE trustee, Chris Graf, the Director of Research Integrity and Publishing Ethics of Wiley Blackwell and the current COPE Vice Chair[41], Ana Marusić, who was the President of the European Association of Science Editors[42], Elizabeth Wager and Miguel Roig, who are two among 10 directors of Retraction Watch's parent organization, the CSI, and several others. It is thus very and plainly evident that Barbour et al. have not accidentally forgotten to declare these COIs, they have purposefully omitted them. It therefore comes as no surprise that comments indicating these hidden COIs are not published on the LJAF-funded PubPeer page for this publication[43]. If COPE and others consider hidden COIs to be unethical, then why are the links (i.e., COIs) between these anti-science groups, COPE, other ethics organizations and the main for-profit publishing establishment being hidden from the public?

COPE: crumbling credibility and selling out ethics

COPE has the responsibility, representing some of the most powerful and richest for-profit publishers, to publicly state, in no uncertain terms, what its precise association with the LJAF and/or LJAF-funded groups is. Questions and concerns about this alliance between Retraction Watch and COPE, and thus between the LJAF and COPE, have not been answered by all parties, in direct violation of advice offered by Bourne and Barbour (2011): "Rule 2: Do Not Ignore Criticism; Rule 3: Do Not Ignore People". Issues that have become the core topic at the heart of the "trust" crisis in science publishing are being deeply compromised by the opacity displayed by, among others, these parties: the LJAF, PubPeer, Retraction Watch and COPE. It is highly ironic, if not blatantly hypocritical, that these organizations are trying to hold, as part of their anti-"bad science" campaign, scientists' and editors' feet to the fire, demanding openness, honesty, transparency and accountability. COPE has a history of opacity related to its operations and address (Teixeira da Silva, 2017f).

COPE has been – since its inception in 2007 as a UK charity and charitable company – an organization that offers a service for payment, the service being providing "ethical" rules, or guidelines, several of which its members are unaware of, or do not follow. So as not to exclusively appear to be an ethics-providing service and brand for the publishing industry, COPE has diversified its services, such as workshops. Without creating new rules, COPE would become irrelevant. So, to promote its relevance, it has formed alliances with even questionable groups, like Retraction Watch and PubPeer, and tried to evolve and change the rules and guidelines annually, to justify its existence. Even as COPE sees an unprecedented increase in membership – owing in large part to the marketing prowess of some of its most powerful publishing members – it is now faced with a real dilemma: should it seen to be working with, and alongside, actual or perceived anti-science groups like the LJAF-funded Retraction Watch and PubPeer, or should it distance itself, physically and ideologically, from these groups, and evolve its own distinct working and ethical framework? The answer to what should in essence be a simple rhetorical question, seems to generate an almost ironic second question: is COPE being forced or pressurized into conforming to the LJAF's vision of science and society, through its direct links and infiltration in Retraction Watch, and as evidenced by the RePAIR Consensus Guidelines? Academics' eyes should thus be carefully fixed on this COPE alliance with LJAF-funded groups in their globalist effort to dominate, control and implement ethics and science "integrity" and to control a potentially profitable "ethics" market and its associated services (editing services, etc.).

In my view, COPE has to some extent, as a result of its business-like model, association with for-profit publishers and links to "radical" science watchdogs, lost its moral compass and standing. COPE sold out some core ethical values, firstly to the for-profit publishers, serving merely as a marketing agent or service provider selling COPE membership and services (i.e., ethics and ethics guidelines), and now to the anti-(bad) science LJAF establishment, and its financed allies such as PubPeer and Retraction Watch. Is it time for global academia to rebel against this usurpation of research and publishing ethics?

The issues underlying science publishing are complex and no easy or quick solutions are in sight, although many influential and powerful individuals, groups and vested interests are all vying to make change, enact reform, and thus proudly announce their part in science's Renaissance, or lay a claim of victory in its collapse. Yet, the issue of transparency, openness and accountability are grossly disproportional, and many inconsistent or even hypocritical stances by the very same entities

[41] https://publicationethics.org/about/council/chris-graf

[42] http://www.ease.org.uk/about-us/organisation/ease-council-2018-2021/

[43] https://www.pubpeer.com/publications/4F308D8E8BCC398C4106F4F482C297

attempting to impose these ethical norms upon academia are themselves violating some of the norms that they are preaching. COPE is a large and powerful ethics organization, maybe the largest globally, with much influence and sway among many of the entities discussed in this commentary, and yet its distinct silence and absence from the public arena of debate of so many critical issues suggests that COPE has lost it moral compass, or does not have a robust enough one to guide academia through these troubled times.

A final cautionary note to readers

This commentary represents the perspective of a single individual. While concerns about specific individuals and/or their relationships with specific organizations or groups may have been critically examined, the ultimate objective is to provide an alternative perspective on these relationships since they affect the background ethical framework of STEM publishing for the vast majority of academics around the world. While the author can in no way assess the good or bad intentions of those who are critiqued in this paper, knowing full well that the underlying intentions of such individuals and organizations is hopefully for the greater good of science, academics deserve to be able to have a point of departure related to alternative, and possibly controversial, views on the publishing ethics "market".

Conflicts of interest

The author and his work have been profiled by PubPeer and by Retraction Watch. The author has used PubPeer and Retraction Watch, both as a signed, registered commentator, and anonymously. The author has been banned from commenting at the PubPeer, Retraction Watch and Leonid Schneider blogs. The author declares no other conflicts of interest.

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Silence in Violence: A curse or a Goodwill?

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Abstract

Healthcare professionals face dilemmas regarding maintaining and breaching confidentiality while dealing with victims of sexual violence. The sensitivity of the cases of violence and the aim to prevent harm generates ambiguity for sound ethical and legal decision making. In Pakistan, maintaining silence is often preferred over breaking the silence. Thus, it is essential to view the risks and benefits of the conflicting positions keeping in mind the diverse perspectives and the bigger picture. Organizations, community and government can plan different strategies to put an end to this obscene game of "silence in violence".

Description of the issue

"Ssshhh… Don't talk about it! It is better to remain silent!" Sexual violence and intimate partner violence are always tagged as hush-hush phenomena in Pakistan (Ali & Khan, 2007). A survey by Human Rights identified that approximately 90% of females in Pakistan have faced some sort of abuse, among which 60% is related to physical abuse and almost 30% is reported as sexual abuse. However, due to the conservative and patriarchal societal system and lack of proper ethical-legal policies, the victims tend to keep the sexual violence confidential; therefore, it remains under-reported (Abugideiri, 2010; Pakeeza, 2015). Victims try to mask the occurrence of sexual violence through other vague reasons, and if a healthcare professional (HCP) identifies the case, patients force them to keep it confidential because of the fear of stigmatization and lack of socio-legal support (Andersson et al., 2010). However, few of the policies and laws like 'domestic violence bill and prevention of anti-women practices' encourage the citizens to report such events (Weiss, 2012). HCPs face dilemma regarding maintaining and breaching confidentiality of such sensitive events as reasonable ethical decision making is quite ambiguous in these situations. One of the clinical scenarios is described below.

A 20 year old female patient was admitted to a general surgery ward with rectal perforation. Further examination revealed multiple lacerations and cuts on her whole body especially on the breast and abdomen. Her husband said that few days ago patient fell down in the bathroom so these marks were due to the traumatic fall. However, on detailed interaction with the patient, the nurse identified that it was a case of intimate partner violence portraying physical as well as sexual abuse. Patient asked the nurse to keep this information confidential. The nurse was concerned about the patient so she shared this with higher authorities. The management paid no heed and insisted her to focus on nursing care. The nurse then tried to advocate for patient's right by talking with patient's mother about it. However, this created a chaos when patient's husband came to know about this situation. He filled the LAMA (Leave Against Medical Advice) form and discontinued his wife's treatment. Moreover, an observation was filled against that nurse by the management.

The ethical questions that arise from the above-mentioned scenario are: Does the duty to warn supersede the duty to maintain confidentiality of the victims? Does patient's safety override the principle of fidelity towards patient? Does breaching confidentiality rationalize beneficence or infringe on the principle of non-maleficence? Does one's job security outweigh one's responsibility of patient's advocacy? This paper will reflect on the scenario from diverse paradigms and find justifications based on ethical principles and theories.

Our position

We believe that in the aforementioned scenario and other similar circumstances remaining silent and maintaining confidentiality is ethically unjustified. The HCPs should breach the confidentiality in order to protect the patient from foreseeable preventable

harms and to put an end to this vicious cycle of "maintaining silence and promoting recurrent violence".

1) Confidentiality versus duty to warn

Privacy is the basic right of every individual that allows them to control their personal information, whereas confidentiality is a branch of informational privacy that highly demands non-disclosure of private information of patients by the HCPs (Burkhardt & Nathaniel, 2013). Liberalism theory also highlights that an individual is unique and is free to make decisions. Thus, the victims of violence can unrestrictedly make decisions and take choices regarding their privacy based on their values and beliefs, and it would be unethical to disclose patient's sensitive information without their consent. On the other hand, HCPs are obliged to warn individuals at risk. Thus, for the beneficence of vulnerable population, it is necessary to breach confidentiality (Burkhardt & Nathaniel, 2013). For instance, in this scenario, not warning the family members and the victims about the future risks could lead to more incidences of sexual violence, unstoppable harm and even the incidences of incest by the abuser. Duty to warn is based on two factors: (i) Potential threat (ii) Potential victims. In the scenario, both factors are foreseeable; therefore, breaching confidentiality is also justified.

The consequence of our position: Universal Declaration of Human Rights (1948) and the constitution of Pakistan (1973) clearly affirm that every individual's decision should be respected and they should be protected from undignified actions. Patient's ability to maintain privacy is an expression of autonomy, which safeguards their dignity (Beauchamp & Childress, 2013); breach in confidentiality of these victims may question the corresponding virtue of respectfulness. It may lead to stigmatization and loss of social relationships due to the taboo attached to sexual violence.

Counter argument for justification: In Pakistani culture, people live in extended families; thus the incidences of intimate partner violence not only affects the primary victim but also threatens the physical, social, emotional and mental state of other people in the family including children and elderly people (Ali, Asad, Mogren & Krantz, 2011; Widom & Wilson, 2015). Hence, dignities of all other family members' precious lives are under control of a single perpetrator. Utilitarianism theory asserts that maximum benefit (happiness) for maximum people is always at an upper hand than an individual's priority. It clearly justifies breaching confidentiality of a sexual violence case in order to warn a larger group of people at risk to prevent recurrent harm (Beauchamp & Childress, 2013).

2) Fidelity versus patients' safety

Confidentiality is one of the key aspects of patients' care mentioned in both the Hippocratic Oath and the Nightingale's pledge (Beauchamp & Childress, 2013). Thus, obligations of fidelity arise once an HCP builds a therapeutic relationship with a patient. Victims of violence are highly distressed; therefore, the role of HCPs is very crucial to rebuild their trust and to provide psychosocial support to them. This can be accomplished when the HCPs show trustworthiness by maintaining confidentiality. In contrary, HCPs are obliged to ensure patients' safety for patients' beneficence. The argument of maintaining strict confidentiality could be questioned based upon the probability and magnitude of a preventable harm. According to risk assessment criteria cited in Beauchamp and Childress (2013), if the probability of harm is high and the magnitude is major, then confidentiality could be breached (refer to appendix 1). In the case scenario, there was a high probability that patient could get abused physically and sexually after getting discharged from the hospital which could result in recurrent major psychological, physical and emotional harms, hence, confidentiality should be breached.

Consequence of our position: Breaching confidentiality could break the fiduciary relationship between HCP and a patient (Burkhardt & Nathaniel, 2013). Thus, the overall system of medical confidentiality and fidelity could get eroded. Hence, victims of sexual violence would never disclose sensitive information and would never opt for treatment despite the medical emergencies caused by violence (Ali & Khan, 2007). Furthermore, defying fidelity could also infringe on the principle of non-maleficence by creating an additional threat to the already compromised emotional and psychological well-being of the victim.

Counter argument for justification: Overriding fidelity may serve as a short-term source of maleficence for the patient; however, taking actions for beneficence may prevent harm and promote good for a long run. Females in Pakistan are financially and physically dependent on their husbands; therefore, the probability of recurrent violence is very high (Chatha, Ahmad & Sheikh, 2014). Islam also refers to sexual violence and intimate partner violence as "*Zina* and infliction of harm" respectively, and guides us to take actions to save one's life (Abugideiri, 2010). Hence, breaching confidentiality for the victim's beneficence may prevent the victim from life-long recurrent physical, psycho-social and emotional harms caused by

intimate partner violence, and it could also reduce the burden of hospital re-admissions. Thus, the principle of beneficence outweighs the duty to keep promises in this situation.

3) Job security versus patient's advocacy

Moral standards are of two types. Ordinary moral standards are the obligations of common morality that pertain to every HCP working in an organization, whereas extraordinary moral standards are the supererogatory acts that are performed by the HCPs who aspire to achieve moral ideals altruistically (Beauchamp & Childress, 2013). Unfortunately, the institutes and the healthcare systems in Pakistan are not flourished enough to demarcate the fine line between obligations, ordinary moral standards and moral ideals (Syed,2012). The hospital-based policies and top management force HCPs to just stick to their obligations and criticize them to perform supererogatory acts at times and vice versa. In our healthcare system, job description confines nurses to routine care activities and prohibits them from indulging in legal and personal matters like sexual violence. In the case scenario, although the nurse was criticized by the management, she altruistically advocated for the patient by going against the policies of the organization. Consequently, an observation was filled against her. Thus, these types of repercussions compel HCP to think about their job security and associated personal consequences rather than performing supererogatory tasks for patients' benefit.

In contrast, Kantianism theory emphasizes on rationales and reasons of an act rather than relying purely on consequences. Kant believes that an HCP's actions depend on his/her maxims that can be justified through categorical imperatives (Beauchamp & Childress, 2013). If HCPs do not advocate for their patient in order to save their job, then, do those HCPs believe that someone would advocate or care for them when they are in need? Will those HCPs presume that somebody would act to prevent them from foreseeable harm? Obviously not! Hence, advocacy should be given priority over personal means.

Consequence of our position: There is a threat to job security of HCPs because of unclear job descriptions and obligations. Due to the repercussions faced by the nurse in the scenario, nobody would take charge to talk about such issues in healthcare when faced with similar situations. Moreover, due to lack of ethical and medico-legal policies in an institution as in the mentioned case scenario, the abuser may deny the truth and may show his/her dominancy over the victim. As in this scenario, the husband discontinued his wife's treatment. Likewise, the abuser may threaten the HCP who reported the incidence of sexual abuse. Therefore, safety of the HCP is equally important as of the patient.

Counterargument for justification: It can be deduced that HCPs prefer to remain silent due to organizational constraints and lack of policies. Hence, it is an organizational issue rather than HCP's fault. However, advocacy for the victims of sexual violence is one of the fundamental duties which lie within the holistic care model of nurse-patient therapeutic relationship and it is an act that can easily become a universal imperative as per Kant (Burkhardt & Nathaniel, 2013). Thus, in this case advocating for the patient is justified as it is embedded in nursing and medical ethics. Hence, the application of Kantian ethics vindicates that it is unethical to remain silent over preventable harmful conditions for patients.

Recommendations for implementation

According to WHO's world report on sexual violence (n.d.), the following interventions could be strategized at organizational, community and governmental levels. Organizations must work in a coherent way so that patients and HCPs both can trust the system; therefore, hospitals must develop an ethics committee that should solve medico-legal and ethical issues. All HCPs should be trained to identify the potential cases of violence, to assess the victims and to handle these situations in a sensitive yet effective manner. This should be included in the nursing and medical curriculum as well. Besides, hospitals should have "sexual violence evidence kits" that include instructions for collecting medico-legal evidence and legal forms for proper documentation. Furthermore, a trio approach should be considered when dealing with victims. This includes emergency care nurse/doctor, hospital ethics committee and psychologist. Victims must be counseled regarding potential harm and the ways to deal with a situation. Moreover, hospitals must collaborate with legal authorities so that legal proceedings could be done against the perpetrator. Additionally, rather than criticizing, the institution must appreciate the HCPs who advocate for victims of abuse and organizations should provide job security and safety to its employees too.

At the community level, community-based projects should be run to empower victims. Life skills and other educational programmes should be initiated and men should be involved in such activities to support women. The stigma attached to the victims can be erased via community-based theatres, debates, public meetings and media. Community health nurses could propose psycho-social support programs and referrals for the

patients. Additionally, centers for providing comprehensive care to the victims could be established. Also, a helpline number could be initiated, where a victim can anonymously ask for help and opt for further guidance. Besides, exploratory researches should be done to dig out culturally sensitive solutions and to plan interventions accordingly.

Government must make strict laws and reforms for reporting abuse and must provide assistance and support to the victims. The sensitivity and speed of processing of sexual violence cases should be improved in the courts. Moreover, government based legal authorities should be linked with each and every hospital and it should consist of men and women both, so that victims could approach them according to their comfort and feasibility. Additionally, media should be discouraged to disclose the confidentiality of the victims for the sake of generating breaking news; however, perpetrators should be exposed. Furthermore, media should raise awareness regarding existing policies formed by the government such as "law for protection of women and a domestic violence bill". Last but not the least, the government should ensure the rigorous implementation of these policies and programs.

Conclusion

Various ethical, legal, and sociocultural perspectives create a dilemma for HCPs dealing with victims of sexual violence. The sensitivity of the cases of violence and the aim to prevent harm generates ambiguity for sound ethical and legal decision making. Thus, it is essential to view the risks and benefits of conflicting situations keeping in mind the diverse perspectives and the bigger picture. Organizations, community and government play an important role in providing social, financial, psychological and legal support to the victims, erasing the stigma of being a victim and providing job security to the HCPs in order to put an end to this obscene game of "silence in violence".

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Istanbul Communiqué on Looking Beyond Disaster 2019

1. We, citizens of all creeds, races and disciplines from disaster-affected nations in Europe, Asia, the Americas, Africa and the Pacific, gathered on 12-16 April 2019 in Istanbul, Turkey, at the Tenth Youth Looking Beyond Disaster Workshop (LBD10): ***Ethical Disaster Resilience for our Global Community***, organised by Beşikçizade Center for Medical Humanities (BETİM), Eubios Ethics Institute, American University of Sovereign Nations, Youth Looking Beyond Disaster; Youth Peace Ambassadors International and other partners.

2. Recognizing the increasing impact of natural and human-caused disasters, and their complexity in many parts of the world, we declare our determination to enhance our efforts to strengthen disaster risk reduction to reduce losses from disasters worldwide.

3. We express our solidarity with the people of Christchurch, New Zealand and all across the world who lost their lives and loved ones on 15 March 2019, and were affected by the terrorist attack on persons praying in mosques. Senseless terrorist attacks against persons of all faiths, religions, and ideologies, are human-made disasters that contradict the love of life. We need to ensure education and social maturity that embraces all persons in love and peace as members of local communities and the global community. We applaud the swift responses by government and citizens in New Zealand to overcome the hatred, and we support the project of Legacies of Love, Peace and Hope.[44] We choose the politics of love over the politics of hate.

4. The inhumane terrorist attack on the Al Noor Mosque and Linwood Mosque communities in Christchurch, New Zealand, caused 50 people to be killed. This unfortunate event deeply saddened the conscientious people all over the world. We believe that in the face of such an event, everyone who has a share of human dignity, regardless of their faith, nationality and ethnicity, should take a stand against terrorism, racism and social discrimination.

5. Calling the perpetrator of this appalling attack as simply "a lone wolf" or "psychopath" does not only lead to ignore the context in which action takes place, but also neglects the fascist, racist and Islamophobic discourses and attitudes, which are increasing day by day all over the world, West and East, South and North. Also, this attitude causes the attacker to be freed from his responsibility or to moralize his action on an individual basis. However, it is not possible to solve the problem without taking a stand on the rhetoric and social dynamics that terrorism and racism feed on. In this respect, we must raise our voices against the growing fascism and anti-Islamic rhetoric by focusing our attention on the ground where the issue is nourished, and we should come out against and put an end to all these subversive ideologies and actions.

6. The participants of the workshop express their solidarity with the victims of ongoing disasters at the time of this workshop, such as the devastating floods in Iran, and all other disasters that afflict every nation of the world. We reinforce the statement in the Sendai communique on the responsibility of the media to accurately and openly report disasters in all parts of the world.

7. When faced with disasters, youth are proactive agents of change for rebuilding their communities worldwide. After exclusion as a stakeholder from the *Hyogo Framework for Action 2005-2015*: *Building the Resilience of Nations and Communities to Disasters*[45] during the past 10 years, we highlight that youth have since 2011:

a. shared their disaster experiences as part of Looking Beyond Disaster (LBD)[46], a series of international youth fora held at various locations in the Pacific, Asia, America and Europe, including:

- LBD1 Christchurch 2011
- LBD2 Sendai 2012
- LBD Auckland 2012
- LBD3 Kobe 2013
- LBD Padang 2013
- LBD4 Manila 2014
- LBD5 Yogyakarta 2014
- LBD6 Arizona 2015
- LBD Vanuatu 2015
- LBD7. Kathmandu, 2015
- LBD8. Bangkok, 2016
- LBD9. Kumamoto, 2017
- LBD10. Istanbul, 2019;

b. declared their commitment to disaster risk reduction in the Christchurch Communique 2011 and Sendai Communique 2012 produced at LBD fora*, which were used in the Sendai Framework

44 http://www.eubios.info/legacies_of_love_peace_and_hope

45 http://www.unisdr.org/2005/wcdr/intergover/official-doc/L-docs/Hyogo-framework-for-action-english.pdf

46 http://www.eubios.info/looking_beyond_disaster

for Disaster Risk Reduction 2015-2030 preparatory process from July 2014 to March 2015[47]; and
c. created international, interdisciplinary, and intercultural action plans at LBD fora*.

8. Taking into account the heavy disaster losses suffered within that same 10 year period*, we value the inclusion of youth in the Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework). Youth and all people are committed to the implementation of the Sendai Framework to enhance all efforts for the future. Specifically, we agree that:
a. Governments should engage with youth in designing and the implementation of policies, plans and standards, in accordance with section 7 (of the Sendai Framework).
b. An age perspective should be integrated in all policies and practices and youth leadership should be promoted, in accordance with section 19d.
c. Youth are agents of change and should be given the space and modalities to contribute to disaster risk reduction, in accordance with section 36aii.

9. We are aware that implementation of the Sendai Framework depends on our unceasing and tireless collective efforts to strengthen resilience to hazards for the benefit of the present and future generations. To this end, we believe that implementation of the Christchurch Communique 2011, Sendai Communique 2012, and the Sendai Framework for Disaster Risk Reduction 2015-2030 can only be achieved with the full and meaningful engagement of young people.

10. We consider that LBD needs a continuing commitment from all stakeholders, working together, to provide visible ongoing mentoring, financial and monitoring support for action plans related to policy-making, practical action in disaster prevention and recovery, and sustaining and increasing innovative youth engagement in reducing disaster losses. We welcome all partners and stakeholders to achieve this full and meaningful engagement of young people through the ethos of LBD, including all LBD alumni and LBD Ambassadors.

11. Community resources and educational degrees and programs for ethical disaster risk reduction, can provide a safe 'space' for people to share their disaster experiences and LBD action plans provide 'modalities' for meaningful contributions to disaster risk reduction, in accordance with section 36 a ii of the Sendai Framework.

12. We call upon all stakeholders to make a life-time commitment to support the role of youth as contributors to DRR, through annual budget allowances which will:
i. enable youth experiences of disaster to be shared at regular LBD fora held at various locations globally;
ii. ensure work-to-date on LBD action plans are documented, made accessible to youth internationally and online, and advanced further.
3b. Support the inclusive global LBD governance structure:[48]
i. empower any party wishing to use the LBD, AUSN [49] and other resources at any location worldwide;
ii. provide on-going mentoring, financial support and monitoring for implementation of LBD action plans;
iii. catalyse a coherent global movement of young people in DRR through a community of practice.
13. We thank all individuals and organizations involved in all LBD fora from the first in Christchurch to the tenth in Istanbul for their commitment to youth and advancing disaster risk reduction in the global development agenda.

14. All persons of every specialty have an imperative to be engaged in disaster response and collective action responses.

a. Recognizing the commitment of youth, and continued call for recognition at the highest Governmental and International level, for collective action responses on disaster,
b. Recognizing the imperative to engage youth, to avoid their disenfranchisement in a warming, and more disaster prone world,
c. Recognizing the need to train, develop and nurture the development of leaders in disaster response and risk management,

15. Humanitarian relief from disasters should never be subject to restrictions because of sanctions that impede the ability of a community, and those from outside the community who are invited to offer humanitarian assistance. Politics should not sacrifice the lives of persons living with disasters, and wars that lead to loss of lives are disasters and crimes against humanity.

16. We make the following recommendations to that effect:

a. Support nascent youth engagement and interest in disaster risk recovery.

[47] http://www.wcdrr.org/preparatory/prepcom1

[48] http://www.eubios.info/youth_ambassadors

[49] http://www.ausn.info and http://www.eubios.info

b. Build capacity for youth, including training programs, mentoring opportunities to ensure youth engages in a responsible and sustainable way.

c. Involve such trained youth in all policy making and evaluation of its implementation.

d. Work together to develop and implement global educational degrees and courses to build up the capacity and resilience of societies to prevent disasters, and to recover from them.

e. We, as BETİM based in İstanbul and Eubios Ethics Institute based in Christchurch, condemn the abomination cited above that coincides with our joint organization of the LBD10 forum. We also note the recent signing of a Memorandum of Agreement between the Turkish Red Crescent Association and New Zealand Red Cross. We hope that this meaningful workshop organized by institutes from both countries, and attended by persons from all inhabited continents of the world, will promote the deep understanding of how we need to construct a global society based on love and coexistence of all people in the world in harmony with human dignity.

For further information please contact: Email: darryl@eubios.info; tayyibe.b@gmail.com

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For forthcoming conferences see: www.eubios.info
Email to Darryl@eubios.info.

We are all shocked and heart broken by the terrorist attack against worshippers in Mosques in our hometown, Christchurch, New Zealand. We invite contributions for a new book from Eubios Ethics Institute: **Legacies of Love, Peace and Hope: How Education can overcome Hatred and Divide.** The number of contributors will equal the deathtoll of the hateful senseless massacre that occured on 15 March 2019. This is counter to the decades of work for intercultural dialogue all around the world and reflection on a good life for all - the very reasons we were founded to achieve.

For contributions in writing please submit your writing, up to 5,000 words in English. Anyone can contribute, no matter what your age, gender or nationality. For those who would like to submit a video presentation or other memorial, the Legacies project will also have a playlist on the website of the American University of Sovereign Nations (AUSN) youtube channel.

Please email to Prof. Darryl Macer,
Email: darryl@eubios.info
https://www.eubios.info/legacies_of_love_peace_and_hope

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