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## Buddhism and Biotechnology

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## 佛教與生物科技 Buddhism and Biotechnology

法界宗教研究院研究教授 舊金山州立大學哲學系講師易象乾博士講於AHIMSA第六屆年會：

主題「吾人科技之未來發展及其對宗教精神的影響

一九九八年十月三日柏克萊加州大學國際學舍

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這次討論會的主題是「生物科技——宗教精神發展上之福星或煞星」。現在人常說我們是處於生物世紀的開端，而且相信各位都很清楚地瞭解基因工程在許多方面--經濟上、政治上、科學上，尤其是醫藥及環境上，將使地球的生活改頭換面。對我們全體而言最重要的是這不可思議的科技與人類宗教精神本質的關係。雖然市面上有大量生物科技的著作問世，但是很少涉及於生物科技，尤其是基因工程與人類宗教精神上的關係。

本人願指出基因工程在兩方面，正深遠地影響著我們全體的生活：

第一是美國政府目前正在考慮是否允許醫學家插手改變人類遺傳的基因，也就是說，去設法改變人類基因的結構，而遺傳於後

The topic of this panel is "Biotechnology: Boon or Bane for Spiritual Development." It has very often been said that we are on the threshold of the biotech century, and I am sure that all of you are very clearly aware that genetic engineering is going to totally reshape life on this planet in many ways: eco-nomically, politically, scientifically--particularly in terms of medicine, and also environmentally. Most important for all of us is what the relationship of this incredible technology will be to the spiritual nature of human beings. Although an enormous amount has been written on biotechnology, very little has been written about the relationship between biotechnology, particularly genetic engineering, and the human spirit.

Allow me to mention two ways in which genetic engineering is profoundly affecting all of our lives.

First, at this very moment, the United States government is considering a request for medical scientists to intervene in the germline of human genetics, in other words, to change the human genetic structure in a way that would be transmitted to future generations. This means that human evolution in its traditional

世。這表示傳統的人類進化方式即將結束。將來我們不但要接管人類進化的責任，而且還要接管其他各種在地球上的眾生；包括有情及無情之進化的責任。

第二是基因工程直接地影響我們的生命，也就是將基因工程用於生物戰，幸運的是目前尚未付諸行動。當我現在演講時，許多國家的政府，可能也包括一些恐怖份子的組織，都在積極地設法將經過基因工程製造出來的微生物用於戰爭方面。

上述兩點就是新紀元生物科技所許下的諾言中，我們必須應對處理的兩樁事情。

我們的思想體系是我們看問題的鏡片，其有助於調整焦距，可以澄清，或許也會扭曲我們如何去看問題。待會泰德·彼得斯教授和瑪格麗特·麥克琳教授會主要從天主教的思想體系來談論；休斯頓·史密斯教授已經說明「科學至上主義」是我們文化中最有勢力的思想體系，兩者都未涉及一系列完整廣泛的重要思想體系。身為佛教學者及行者，我想簡單扼要地介紹一下佛教的思想體系，對基因工程的關係中一些特殊的要點。

佛教的思想體系有四方面與最有勢力的科學至上主義不大相同，與基督教之思想體系，亦在多方面都不很相同。第一面，我要提出的是「Ahimsa（不傷生）」。

meaning is coming to an end. We will be taking over responsibility, not only for the evolution of human beings, but also for the evolution of many other forms of life on the planet, both sentient and nonsentient.

The second way in which of genetic engineering is directly touching our lives, that fortunately, insofar as we are aware, is not yet operational, is the use of genetic engineering in biowarfare. As I am speaking, many governments are actively working on the use of genetically engineered organisms in biowarfare, and presumably so too are terrorist organizations. These are two things, which are part of the "promise" of this new biotech century, that we are going to have to be dealing with in the immediate future.

Paradigms are lenses through which we see issues that aid focusing, clarifying, and perhaps also distorting how we look at issues. Professor Ted Peters and Professor Margaret McLean are both going to be talking primarily from Christian paradigms. Professor Huston Smith has already mentioned Scientism as the dominant paradigm of our culture. That still leaves a whole wide range of important paradigms. As both a Buddhist scholar and practitioner, I would like to briefly introduce some distinctive features of the Buddhist paradigm's relation to genetic engineering.

Four aspects of the Buddhist paradigm are somewhat different than the dominant paradigm of Scientism and many of the paradigms that we find within Christian theology. The first aspect that I'd like to mention is *Ahimsa*\*\*, which is particularly appropriate to our gathering here today. *Ahimsa* means nonharming; it is the principle of respect for the intrinsic value of the life of all sentient beings, not just human life. This paradigm respects sentient beings not merely for their usefulness to us as tools or means to ends. Out of this principle of respect for life comes the notion of selfless compassion as a guiding principle in our actions, so that, in terms of genetic engineering, it would exclude any instrumental

這對我們今天在這兒集會尤其合適。Ahimsa • • 就是不傷生，即是尊敬生命內在價值之原則；尊敬的不僅是是人類的生命，而是全體有情眾生的生命。這種尊敬有情眾生的思想體系，並非僅是為了對我們有用處，作為一種工具或達到目的之手段。由此尊敬生命之原則產生了慈悲無私之觀念，而成為我們行動的指導原則。因此就基因工程而言，即必須排除任何將人類生命或非人類的有情生命作為工具之使用。如果我有時間，我會報告一些生物科技公司為了追求利潤，以駭人的方式使用無情的生命，很不幸有時亦使用人類和其他有情的生命作為其工具。

第二點我要討論的是超覺；超覺與全人類發展出世智慧和解脫之潛能有關。超覺是無法用科學術語加以敘述的。從科學主義的觀點而言，也沒有方法可說明超覺所具有的意義。

第三點，佛教的思想體系，是其瞭解到宇宙是一個開放的系統。與之對比不同的是科學方法，其運作於假設的，人為的，及封閉的系統，如此去假定其具備某些有意義，但不完全且非完善的相應於「真實」的世界。以佛教思想體系的觀點來看，毫無疑問的科學方法因其先天的限制，而無法評估在一個開放的系統內，這個世界的生物被遺傳工程改造後，所可能引起的影響範圍。像

use of human or nonhuman sentient life. If I had time, I would go into the horrific instrumental use of nonsentient life, and sometimes unfortunately human and other sentient life, in the pursuit of profit by biotech companies.

The second aspect I'd like to discuss is transcendence. Transcendence refers to the potential of all human beings for developing spiritual wisdom and liberation. Transcendence cannot be couched in scientific terms. Nor is there any way to talk meaningfully about transcendence from the point of view of Scientism.

The third aspect of the Buddhist paradigm is the understanding that the cosmos is an open system. In contradistinction, the scientific method operates within hypothesized artificial and closed systems, that are assumed to have some meaningful, but incomplete and imperfect, correspondence with the "real" world. From the viewpoint of the paradigm of Buddhism, it is clear that scientific methodology cannot, because of its inherent limitations, assess the full extent of the possible effects of genetically engineered alterations on living creatures in a world that is an open system. Thus no certainty or reliable risk assessment is possible using the scientific model.

The fourth and final aspect of this paradigm that I would like to mention is its non-Cartesian nature. In other words, our minds and spirits affect our bodies, our bodies affect our minds and spirit, and body, mind, and spirit are nondual. Ultimately, they are neither mutually distinct, nor qualitatively different. Because body, mind, and spirit interrelate with one another and affect one another, the karmabased ethics of the Buddhist paradigm stresses the importance of the purification of all three.

I hope that you have been able to follow this explanation, which has been very brief because of our time constraints, of these four aspects the Buddhist

這樣使用科學的思想體系是可能沒有確定可靠的風險評估的。

最後第四點，於此佛教思想體系中我要指出的，是其不同於笛卡爾哲學的本質。換句話說就是我們的心和精神影響著我們的身體；而我們的身體也影響著我們的心和精神：我們的身、心、精神是「不二的」。究竟而言，三者彼此不可分開，而且性質上亦無不同。因為身、心、精神互相牽連，互相影響，佛教思想體系的道德是根源於因果報應，故其強調淨化三者之重要性。

由於時間的限制，我對於佛教思想體系四個方面非常簡要的解釋，希望能令您瞭解其與當今世界主流思想體系是非常地不同的。

最後我希望各位能花一點時間，思考這種可能性的存在，由於身、心、精神三者互相關聯，而且本源上是不二的，因而基因工程可能會不利地影響到有情生物完成其超覺與解脫的潛能。因為科學只能處理物質界，科學實驗或科學方法是沒法評估這種風險的。若基因工程即使僅有一點點的可能性，會嚴重影響到人類的精神性與達到超覺的潛能，這已是一件非常令人擔憂的事了。我想你們很多人會同意我的看法。

\* AHIMSA為英文 'Agency for Human Interconnectedness through Manifestation of Spiritual

paradigm, which is so different from the mainstream paradigms of the modern world.

Finally, I would like you all to take a moment to reflect upon the possibility, which exists because of the interrelation and ultimate nonduality of body, mind, and spirit, that genetic engineering may adversely influence the potential of sentient beings to achieve transcendence and liberation. Because science deals only with the physical realm, no scientific experiment or methodology can possibly assess this kind of risk. Even if there is only a relatively small possibility of genetic engineering having a serious effect on the nature of the human spirit and its potential for transcendence, I think many of you will agree with me that it is a very serious cause for concern.

\*The acronym AHIMSA stands for 'Agency for Human Interconnectedness through Manifestation of Spiritual Awareness.'

\*\**Ahimsa* is also a word in Sanskrit meaning nonviolence.

[Editor's note]: Further information can be found on Prof. Epstein's websites "Resources for the Study of Buddhism"

<<http://online.sfsu.edu/~rone/Buddhism/Buddhism.htm>>

and "Genetic Engineering and Its Dangers"

<<http://online.sfsu.edu/~rone/gedanger.htm>>

Awareness' 「經由精神覺知人類一體學會」之縮寫。

\*\* 梵文；其意為不傷害。

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佛學資料：

<http://online.sfsu.edu/rone/Buddhism/Buddhism.htm>

基因工程及其危險：

<http://online.sfsu.edu/rone/gedanger.Htm>

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