

**WHAT TO BE KNOWN AND WHAT TO BE UNKNOWN
IN BIOMEDICAL RESEARCH
A VIEW FROM BUDDHISM**

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1. According to Buddhism, there are two aspects of knowledge: the first is *positive* knowledge, the second is *negative* knowledge.

2. These two aspects are of one thing; that is, Buddhism considers knowledge in terms of an ability naturally placed inside human life and this ability manifests itself through these two aspects. There are many kinds of ability found in human life; what called knowledge is the ability to lead life itself up to higher states. From this view, some ability in human life plays a role in raising life up to higher states while some does not. A thing playing a role in raising life up to higher states is called by Buddhism '*moral ability*.'

3. Exactly, Buddhism does not talk about knowledge in a common meaning understood by people now, but it talks much about wisdom. In this paper, when we talk about knowledge in Buddhist perspective, please be reminded that the term is used as an equivalent word to wisdom.

4. As said in § 2, knowledge is moral ability, meaning that what to be called knowledge in Buddhist perspective must carry a property to raise our life up to higher states. Knowledge as understood by people of these days is not necessarily a tool to raise our life up to higher states. Even though Buddhism does not consider knowledge in that meaning, Buddhism accepts that in worldly community that meaning of knowledge is not problematic as far as it does not lead to immorality.

5. Scientific research is normally understood by people in general as an activity aiming at knowledge. But what kind of knowledge, under which we can put scientific activities, is it? Some people would imagine a picture of science as a kind of intellectual journey to the dark land. Under this kind of imagination, sometimes scientists could be viewed as the heroes to throw the light on the darkness of ignorance for humankind. Buddhism admits that science has done so many things that can be interpreted as a throwing of light on the dark. However, a point that Buddhism advises us to consider and question is: what kind of the dark that the light from science tries to overcome?

6. Normally, Buddhism distinguishes between the outer world and the inner world. The outer world is anything placed around our life, and the inner world is nothing but our life. Even in the case of life, the body is counted to be included in the category of outer world. It is included in the outer world for the reason that it cannot be controlled by us. The Buddha says that if something were our real self or existence such a thing must be controllable by us. So, what can be called exactly 'inner world' is some part of the mind. Even the mind itself, Buddhism considers that some part of it is beyond our control while some part is controllable. The part that we cannot control is like the body in a sense that it is not our real existence. Or exactly speaking the mind in that category is of the body or produced by the body. They are ultimately one system. Our real self is another independent system. So the body and the mind as one independent system from our real existence are counted by Buddhism as the outer world. Of these two worlds, Buddhism is highly interested in the latter

7. All activities done in biomedical research are viewed by Buddhism as an attempt to deal with the body. Looking from this point, it seems that in the eye of Buddhism biomedical research is merely a touch of outer world. In the case of cloning, Buddhism strongly believes that what we can do is merely a copying of body. In the same manner, an attempt to modify human genes is viewed by Buddhism as merely action done to the outer world as well.

8. To understand the position of Buddhism concerning biomedical research, a Buddhist concept of body and mind is very useful. Shortly speaking, Buddhism considers the body as independent system from our real self. Buddhism thinks that inside our life (the whole body plus mind), some part is not our real existence while some part is. The body as independent system is not our real existence. The Buddha talks about the body as something being impermanent, decaying, and out of control. These properties, we mean the way that the body is, in the view of biologists are determined by genes. To be born as a Thai person who carries a set of biological properties such as black hair is not our choice. Buddhism has a principle that anything that is beyond our responsibility and beyond our choice has not much meaning. So, the very first principles in Buddhist ethics are summed up into the advice “distinguish which has the meaning and which has not in our life.”

9. The body as an independent system from us has its own intelligence. Buddhism says that the consciousness occurring in our head is shared by *us* and by the *other*. Wisdom in Buddhist perspective has one meaning as an ability to know that a stream of thought occurring in our head is possessed by us or by the other. The term ‘us’ is used by Buddhism to refer to the real our existence, and the term ‘other’ is used to refer to the body. Buddhism argues that so many activities in human life are run by the other, not by us. It seems that all kinds of scientific research including biomedical research are run *by the other and for the benefits of the other*.

10. Imagine the Buddha has returned from somewhere to the world of these days. He finds a scientist who is undertaking a research on human genetic modifications. He asks the scientist, “You see what benefit in doing such a thing?” The scientist replies, “Certainly sir, we have found so many benefits in doing this thing. For example, some kind of disease cannot be cured except by genetic treatments.” The Buddha says further, “So, could it be said that all the actions done by you and other scientists tend to make a well being to humankind?” The scientist replies, “Absolutely sir.” At this point, the Buddha makes a comment, “But as I have said, life in terms of body is not our existence. It has its own way. You as biologist know best that the gene has its so long history back to the past many million years. A body is just a tool used by the gene to prolong and protect its history. Being impermanent of the body is determined by the gene as it finds that the old body has lesser potential to carry the gene than the new fresh one. How do you imagine you can make a big change inside the body? I mean—can all done by you make the body live up to a thousand or hundred years? Or can it overcome the impermanence of the body? I don’t think so.”

11. The suggestion by the Buddha in imagination above says two important things. *First*, it suggests about the status of scientific research in the view of Buddhist ethics. This kind of activity is run by the body itself and primarily for the benefits of the body. As we have said above, some streams of consciousness occurring in our head are of the body. So, the mind of the scientist which plays the role behind biomedical research could be view as belonging to the scientist’s body, not his real existence. To distinguish between

the thought of the gene and our thought is to question: such a thought tends to raise our life higher in terms of morality or not. For example, a man has a dish of food before him. He is going to eat. But he finds a hungry dog looking at him; its eyes say something that makes the man decide to give the dish of food to the dog. The man is also hungry, but he thinks that the dog seems to be hungrier. A thing that makes the man do what we have said is the real self inside his life. Suppose the man thinks, "I am hungry. Go away you the dog!" This thought, in Buddhist perspective, is not from the real self of the man, but from the body. It is a thing we call 'instinct' that plays the role in the thinking selfishly. Certainly, this kind of thinking can be traced back to the gene.

Second, as the body is not ours, any attempt to modify it must have a certain limitation. The biologist might know best that the state of natural things is a result of the so long evolution. Every species has its own history which differs from the history of other species. Along each history of the species, the gene plays the important role as the dictator. The gene designs the form and the quality of life as it thinks best. But as we know, some genes are successful while some are not. The extinction of some species from the earth can be explained through this. Natural selection given by Charles Darwin is nothing but a free competition between the species which are different. Looking from this perspective, the gene is much more powerful than a member of the species; or we can say that a member of the species is just a tool used by the gene to prolong and protect the species. In Buddhist texts, the state of natural things are said to be determined by the *Law of Seed*. This law as a law of nature is viewed by Buddhism to be included in the external world. So, Buddhism and modern biology seem to share the idea of evolution by natural selection. However, Buddhism might be different from biology in that Buddhism believes that inside biological life there exists the real self of human being. As Buddhism considers genetic research as an activity run by the human genes or human species, this activity thus should be viewed as having not much utility to our real existence.

12. The problem in studying our nature, according to Buddhism, is that we can hardly notice *when* our real self occurs. It could be possible that ultimately all activities done by the geneticist solely belong to the body which is not ours. If so, the question is: why we have to discuss the things that are not ours? The answer for this question is not difficult to find. As the body is used both by the body itself and by us, the action done to the body must affect us too. This can be illustrated by the picture of a house where we and our stranger friends live together. Anything happening to the house will affect us even though we are not the persons who do such a thing to the house.

13. It is recorded in the Buddhist texts that before being enlightened the Buddha has adopted the ascetic practice taught by some Indian gurus at that time. Later the Buddha has realized that this kind of practice can never lead to the cessation of suffering. Ascetic practice adopted by the Buddha is a strictly torture of the body done under a belief that the body is our enemy and the liberation of the soul will be found when the body is extremely tortured to some certain extent. The Buddha concludes to himself that the weak body cannot be used as the base for the liberation of the mind. This story tells that Buddhism does not look at the body as the enemy of the mind. It is true that the body is not our essence, but this does not mean that we should treat it as the enemy. It could be said that Buddhism thinks that we should view the body as a tool to cultivate the mind.

14. Logically, to make anything a tool is needed. We can look at the body as the tool for moral cultivation in two aspects. First, the body is the negative condition to support being a perfect person. Second, the body is the positive condition to do the same thing.

The body that plays the role as negative tool is the body that free from pain. The Buddha decides to stop practicing the ascetic rules as said above on the ground that it provides the pain to the body and that pain is transferred to the mind. It is true that the pain that occurs to the mind belongs to the body, it is not ours; but as the mind and the body are closely connected as one single system, finally bodily pain will affect the practice to liberate the mind. One necessary condition for the liberation of the mind according to the Buddha is we must have the normal body.

15. It seems that looking from religious perspective, merely being the negative condition of the body is enough. At the time of the Buddha medical science cannot be compared with the one we have at the present, meaning that the body of ancient people is less healthy than the body of people in the modern world especially those in developed countries. But at that time, a number of enlightened persons are very high. This means that medical science as known by Indian people at that time is enough to be used as the basis of healthy body for liberating the mind.

16. The things done by medical scientists these days can be named as the positive attempt to do something with the body. That is, medical science as understood by us is not merely for making the body normally functional. We try extremely to add some things we think valuable to the body. The things that we add to the body even though biological could be counted as artificial things in a sense that they are not provided through the long-term evolution. For example, genetic modifications are done under a belief that we can modify genes from natural states to the new states designed by us. Certainly, it may be possible that finally we can do it; but the question is: how far a member of the species can modify the work done by the gene or the whole species through its so long history. At this point we could find that Buddhism would argue that the positive attempt in biomedical research can be questioned: (a) is it not necessary as it has nothing in connection with the liberation of the mind, and (b) is it aiming to the unknown danger as it is done against gradual evolution?

17. It should be noted that the position of Buddhism in arguing the subject concerning modern biomedical research as said is '*naturalistic*.' This position of Buddhism, if made understandable in terms of natural sciences, believes in the gradual evolution of natural things. In many Buddhist texts, the world is referred to by the Buddha as a field of beings. Inside this field of beings, man is just one spot on the highly complex net of natural beings. It is worth mentioning here that if we accept the naturalistic position in the above meaning what follows is: *we need not to know everything*. Buddhism believes in the *Five Laws of Nature*. As a result of this belief, we think that as the whole universe is already observed and taken care of by the Laws of Nature, there are *some things only* that we should know and do while there are so many things that we should let they be in the hand of Natural Laws.

18. How can we know what kind of knowledge should be known and what kind of knowledge should be unknown? In § 1 we have seen that knowledge in Buddhist perspective is of two aspects: positive knowledge and negative knowledge. *Positive knowledge means the knowledge created by man to dominate natural world. Negative knowledge means the knowledge derived from Natural Laws to make mankind live well in harmony with natural world.* These two aspects of knowledge, as we have considered, are of one thing: wisdom. Looking from this perspective, positive knowledge is not necessarily bad as it is normally criticized by some religious thinkers in the world. It should be noted that even though Buddhist ethics is naturalistic, this does not mean that

Buddhist ethics thinks that everything in nature is perfect. Certainly, some form of naturalism believes anything natural is perfect. Theistic naturalism says that as natural things are created by God and God is the Perfect Being, so natural things must be perfect as they are the work of the Perfect Being. Buddhism does not teach about God, but teaches that the universe is taken care by Natural Laws. Sometimes these Natural Laws are compared to God by Buddhist thinkers like Bhikkhu Buddhadasa. There is some similarity between Theistic God and Buddhist Laws of Nature. However, one major difference between these two things is that: according to a Buddhist belief in the Laws of Nature, natural things are not necessarily perfect; or we can say that Buddhism distinguishes between the Laws of Nature and natural things. The Laws of Nature, like God, are believed by Buddhists to be perfect and eternal. But natural things are not necessarily perfect, depending on their stages of development. For example, between man and animal, man is more perfect; and between animal and plant, animal is more perfect. Even between men, some are more perfect while some are less perfect; all depends on their difference in development. The Laws of Nature in Buddhist perspective can be seen as the way to somewhere and natural things as persons journeying on the way. Some of them just begin to start journeying; some are on the more advanced spots. The way is perfect in a sense that it is perfectly designed to give the chance to all the walkers to go to the perfect destination. In Buddhism's view, the perfect destination of natural things is the total disappearance of suffering called *Nirvana*.

19. Between the two aspects of knowledge, the negative one is not problematic as it is fundamentally used by Buddhist communities to be the guideline of intellectual activities. For example, a traditional Thai medical science is mainly based on the negative aspect of knowledge in a sense that what to be done in Thai traditional medical science is to follow the Laws of Nature. We do not look at disease or even death as our enemy, but as the fact of life which sometimes can be interpreted as a moral messenger. Sometimes, we think that sickness is a good thing as it gives us a chance to reconsider, "What is the meaning of life?" Medical practices undertaken under this guideline so do not tend to overcome sickness and death, but to learn from them the lessons of life. Certainly, something must be cured to bring the health back to its former state. But something must be also not cured if such a doing is not necessary. If we accept that sickness and death is not our enemy, there seems more space for both the patient and the doctor to act naturally and less stressed.

20. It seems that the problem is concerned with the positive aspect of knowledge as found in biomedical research in the modern world. However, the first thing to be remembered is that Buddhism does not think that all kinds of positive knowledge are problematic. That is, some kind of positive knowledge could be accepted by Buddhist ethics. It depends on the properties inside that knowledge. In Buddhist perspective, we can roughly classify natural things in the world into two classes. The first is human and the second is the non-human. Buddhism believes that human is the most advanced walker on the way as we have considered previously. According to the doctrines of co-existence of things and compassion, it is a moral duty of human beings to help non-human things in the world to improve their well being. Looking from this point, we can find a need of positive knowledge. For example, some species are endangered to extinct from the earth. Modern scientific research can save this kind of species. The positive knowledge that performed for the purpose like this is accepted by Buddhism. It should be noted that there are a number of properties inside this kind of positive knowledge and it is these

properties that makes it acceptable for Buddhist ethics. One thing is that this activity is done on the basis of compassion and another one is that the level of the interference with nature is in the scope acceptable for Buddhism. The extinction of species is not different from the death of a person or a member of species. Buddhism says that some death can be changed as it is not the result of severe *karma*. This kind of death should be overcome by human beings. In the same way, the extinction of the species can be counted as not being concerned with *karma*; it is purely determined by environmental and biological factors. So, it should be overcome by human beings. By this kind of analysis, the preservation of endangered species can be explained.

21. The very difficult problem in Buddhist theory of positive knowledge is that how we can know what kind of positive knowledge can be said going beyond the boundary accepted by Buddhism. Can human cloning and human genetic modification be cited as the example of the activity based on positive knowledge that goes beyond the moral boundary acceptable for Buddhism? This question is not easy to answer as there are so many complicated matters to be examined. However, the following might be useful as the criteria to consider whether or not such an activity is based on positive knowledge that goes beyond the moral boundary accepted by Buddhism.

First, the intention behind activity must be good. As Buddhism teaches much about compassion, so it can be used as the moral ground for determining the lack or the existence of good intention of the scientist who undertakes the research. This criterion of Buddhism may be viewed by some people as something very vague. The physicist who invents a nuclear weapon could say that he has a good intention in doing such a thing as he has the idea that the nuclear weapon will give the balance of power between nations. He may think wrong, but we cannot argue against his intention if he really has such a thing in his mind. This problem can be more explained by the Buddhist theory of good intention as something to go along with wisdom. That is, when Buddhism talks about good intention, this means that such a good intention is based on wisdom, not just good intention alone as there can be blindly good intention. Normally, Buddhism believes that the person who undertakes scientific research is the one who knows best '*what happening*' in his mind. There could be a scientist who undertakes the research on the basis of his selfishness. That is, he wants to be a famous person or he thinks he can take his personal benefits (for example money) from doing such a thing. We cannot count this kind of intention good intention. So, the scientific research done under this kind of intention is *questioned* by Buddhism.

Second, some bad intention does not harm other person. For example, a scientist who does the research to be a famous person can be the person who does not harm other people at the same time. Positive knowledge which does not harm other persons can be accepted by Buddhism. Normally, Buddhism accepts that worldly people are all directed by this kind of bad intention. However, some kind of bad intention causes the harm to other person. This kind of bad intention cannot be accepted by Buddhism. In scientific research, it could be possible that sometimes what done by the scientist has the potential to cause the harm to public. If we find this thing in scientific research, it can be used as the ground to reject that research.

However, the harm found in scientific research sometimes is not easy to see. For example, does the cloning of human being, that is strongly proven normal like IVF, harm the public? This kind of complexity needs other subtle views of Buddhism to explore. As we have considered previously, Buddhist ethics believes in the Laws of Nature; one

implication of being naturalistic of Buddhist ethics is that sometimes the consideration concerning the harm to happen from any action is to view it in connection with the pattern of nature. Some biologist argues that naturally man is born without clothing, so wearing clothes is unnatural; likewise, the cloning technique is not found in nature, it is invented by man, so it is unnatural like wearing clothes. According to this biologist, human cloning can be accepted on the same ground as we accept clothing. This argument is not correct in the view of Buddhism. Clothing and cloning might be the same as they are invented by man; but the potentials to cause the harm in these two things are greatly different. Clothing has the effects on human life only at the surface level. But the cloning of human being can cause the effects at the inner level. Clothing can be compared to the change of the color of a car while cloning can be compared to the change of the machine of that car; these two things are greatly different.

From above, it can be said that according to Buddhism sometimes to consider whether or not such an activity causes the harm to others needs a long-term observation. As Buddhism believes that to know something cannot be separated from the process leading to the light over the darkness of the matter, so during the long-term observation the process of the research must be allowed under some conditions.

22. Turning back to the topic concerning what to be known and what to be unknown in biomedical research again. It is argued by some religious thinkers in the world that some activities in biomedical research should not be allowed to run ahead. These are such activities: human cloning, the use of embryonic stem cell for medical purpose, and human genetic modification. How Buddhism thinks about these matters. The following might be the position of Buddhism over the matters.

Firstly, these activities are based on positive knowledge. But what kind of positive knowledge that they belong to: the one that does not harm others or the one that harms? It should be noted that we have skipped the matter of intention as it is rather evident that these research are claimed by the scientists as for the well being of humankind. It seems that the most rational objection to these activities given by religious thinkers is that we should not allow the action that tends to extremely violate nature. It seems also that Buddhism agrees with this point. However, as Buddhism has a different position in judging moral situation which normally called in Buddhist texts 'the analytic position' (*vibhajjavāda* in Pali), there are many things to be argued further from the above argument.

The very first thing to be considered is that: what is the meaning of the violation of nature. As we have considered above, Buddhism defines the bad action partly from its tending to be against the Laws of Nature. The Laws of Nature in Buddhist perspective are of two major kinds. The first is the Law that has moral connotation, and the second is the Law that has no such moral connotation. The first two Laws, the *Law of Season* and the *Law of Seed*, are of the category of the Law that has no moral connotation; and the last three Laws, the *Law of Mind*, the *Law of Karma*, the *Law of Dharma*, are of the category of the Law that has moral connotation. It should be noted that as biomedical research is classed by Buddhism to include under the category of the Law that has no moral connotation, the problems resulting from it are considered by Buddhism as non-moral problems.

However, the above statement could be misleading. By placing biomedical problems under the non-moral problems, it does not mean that Buddhism has the idea that biomedical research is purely run without anything concerning morality. Anything in the

world can be used as a means of morality and immorality, so biomedical research in some aspect can be viewed as the means to immorality. But in saying that this thing is used as a means to immorality, we do not claim that such a thing is evil; it is the person who uses that thing that we can claim to be evil. The knife can be used as a tool in the kitchen or the weapon to kill. When it is used in the kitchen, it does not mean that the knife is "good." Likewise when it is used to kill a man, it does not mean as well that it is "bad." Biomedical research in Buddhist perspective is placed under the category of the non-moral events for this reason; it is like the knife said above.

23. The violation of nature in Buddhist perspective has no direct moral meaning as Buddhism places anything done to natural resources under the first Two Laws above. Furthermore, Buddhism thinks that sometimes we can hardly distinguish between the 'change' of nature and the 'violation' of nature as these two actions are alike in that they both tend to modify nature. Some people may argue that if we modify nature merely little, that's called 'change;' but if we modify nature so much, that's called 'violation.' Buddhism partly agrees with this saying as we have considered the difference between clothing and cloning previously. But the important point is: Buddhism never claims that cloning can be cited as the example of the violation of nature. Buddhism merely says that this kind of action has the potential to cause the great harm to mankind and the world as it is concerned with the deep modification of human nature. Buddhism distinguishes between 'the potential' and 'the real event.' The first thing does not necessarily lead to the second one. And one important factor that plays the role behind the prevention in which the first thing is blocked not to cause the second thing is human wisdom. Fire is very simple but powerful thing. The discovery and use of fire makes the rise of human civilization. We know that besides being useful fire also has the great potential to cause the damage. But this is not the reason for claiming we should not use fire.

Imagine that when fire was first discovered; some people in the community argued that this thing should not be allowed as it had the potential to cause the great harm to humankind. Buddhism accepts that this suggestion is based on a good intention. But the point is: *if we have no any experience with fire, how can we conclude that this thing should not be allowed.* So, according to Buddhism the knowledge which suggests the ban of something cannot be separated from the knowledge which knows that this thing is bad. This principle could apply to human cloning, stem cell research, and human genetic modification as well.

But there remain some serious points in saying the above. That is, if the experience with that thing is required in banning it, how can we do if the point we know that thing is bad is the same point which tells us that everything is too late. It seems that those who argue against human cloning, stem cell research, and human genetic modifications think as we said above. This question is partly answerable by referring to empirical data. We have learned a thing called the history of science. What we must accept in learning science history is that the research done in scientific community has a strong peer review not less than other discipline. We have known that some product of science, for example medicine, later caused the harm to the users; and that harm made many people suffered. But comparing with the majority, this kind of product is so small. Buddhism believes in learning through experience. Even the Buddha himself had made mistake before he knew the true thing. We know that the Buddha spent nearly six years in practicing the wrong religious rules taught in India at that time. The question is: how Buddhism looks at this event. It is known among the Buddhists that we do not think that the time spent by the

Buddha to practice these religious doctrines is fruitless; on the contrary, we think that it is very useful. In Buddhist texts, one kind of condition of anything is *negative condition*, called in Pali ‘*natthipaccaya*.’ Wisdom is sometimes believed by Buddhism to occur after we know we make mistake.

24. To conclude, *it seems that there is nothing in biomedical research that Buddhist ethics thinks we must ban completely*. To say this does not mean that Buddhism endorses this activity. As we have seen at the beginning of the paper that Buddhism does not consider the body to be our real self. All activities done in biomedical research are viewed by Buddhism to be concluded in action tending to do something with the body alone and nothing beyond this. The body in Buddhist perspective is an independent system from us. It has its objectives which are not the same with our purposes. The following table will be useful to see how ‘we’ and ‘the body’ are different entities with different objectives.

<i>The Body</i>	<i>The Real Self</i>
<p>(1) Being a tool used by the gene to protect the existence of the gene.</p> <p>(2) As a tool of the gene, the body is not a free entity. It is designed by the gene to play the best role as the servant of the gene. Sometimes, the gene may produce something to make the body willing to do the duties given by the gene such as pleasure from sexual activity.</p> <p>(3) As the gene is a blind force, aiming to only one single objective which is to preserve its existence, all duties given to the body by the gene ultimately are blindly run. The attempt to modify the body by the body itself can be viewed through two dimensions. First, it is done by the gene itself as it considers that the body has the potential, which is a high quality brain, to make a ‘shot-cut’ evolution to itself. Looking from this perspective, all biomedical researches are done by the gene. If so, it could be possible that human gene will be successful to make a shot-cut evolution to itself, or it will be unsuccessful in doing so. Second, all biomedical researches are solely undertaken by the body without permission of the gene. If so, there will be a conflict between the body and the gene. This conflict, as we have experience through observation of some species which is totally extinct from the earth, finally will cause the not-good result both for the body and the gene.</p>	<p>(1) Not being a tool of anything, but an autonomous entity.</p> <p>(2) The inner nature of the real self is wisdom. However, this nature normally does not manifest when the real self is placed inside the strong body. Human body has its long experience in struggling for its existence. One of the results of long-term evolution of the body is that it has intelligence which plays the role in making some part of human civilization. When the real self is placed inside this kind of the body, the more the body is strong the more the real self is weak.</p> <p>(3) Anyhow, the difference between the body and the real self is that while the body or the gene has no any objective except self preservation, the real self has the clear objective. It is a journeying to the light of enlightenment. Looking from this perspective, the real self is not a perfect entity, but an entity with the potential to be perfect in the future. This could be viewed as a difference from the body too as the body has no potential to be perfect. Perfection means having the ultimate goal to reach and stop. This kind of thing cannot be found in the gene.</p>
<p>(4) From above, it can be seen that the attempt by biologists of these days to make a deeply change to the body even considered within the scope of biology itself is something seriously</p>	<p>(4) As the real self has the certain objective, knowledge leading to such objective is clear and limited. The Buddha says that what he taught to his disciples can be compared to the leaves in his hand while things that we can learn or know in our life are so many comparing to the leaves of the trees of the whole forest. According to the Buddha, there</p>

needs reconsideration. As we have said, this activity may be allowed by the gene itself or not. In the first case, it could be that the decision to make a shot-cut evolution of the gene is a great mistake ever done by the gene along its history. If so, this mistake could cause the very great harm to human species which is maybe the total extinction from the earth. Or the gene will be successful in doing it. The question is: as the price to pay is so high, why we (the scientists) should pay? Is it rational to make this risky decision? Suppose all we have said is not allowed by the gene, what done by the scientists to deeply modify the body, which is ultimately a modification to the gene or the basic nature of human species, could be viewed as a rebellion to the gene. This is also the risk as reason tells us that it is so difficult to challenge the gene.

(5) In conclusion, the attempt to make a great change to human basic nature by scientists can be doubted rational or not. There are three possibilities resulting from this attempt. One is a success. Two are a failure. How to deal with this? This question is very important in Buddhist view.

are a few things to be known while so many things in the world are worth keeping unknown. This statement of the Buddha is done on the basis of the real self. That is, as related to the real self, what we should know are not much. But the Buddha accepts that the instinct to know inside human life plays the basic role in making people in the world eager to know everything. Philosophers and scientists can be cited as the example of the persons who directed by this instinct which Buddhism considers as belonging to the body.

(5) Summarily, our real self and the body live together as one single entity. As one single entity, what Buddhism concerned much is how the real self and the body will co-live peacefully? The doctrine of the middle way taught much in Buddhism has one implication concerning the balance and harmony of the real self and the body. In Buddhist texts, sometimes the body is compared to the strong man but blind and the real self is compared to the wise man but weak. Instincts of the body that are educated by the real self will gradually learn what to be known and what to be unknown.

25. Finally, a thing Buddhism teaches us to consider is that there is a great difference between 'life' and 'a game.' Life is the real thing while the game is illusion. Scientific research, like other academic activities, is merely a game in a sense that what happening from it has no actual change to our life. Suppose we can find a medical practice that can extend our life-time up to 500 years, the question is: does this give us a wonderful change to our life? For Buddhism, the answer is no. It should be noted that what provided us by biomedical research can be summed up into a thing called 'time.' Well being in the view of scientists sometimes is nothing but 'you have more time to live in this world.' The tragedy is sometimes to have more time for three or four years the price to pay is so high, as it is concerned with the life of others such as the embryo whose body is used in medical practices. Time in Buddhist perspective has no meaning in itself. Man gives the meaning to time. Between two person of different age, for example 70 and 78, we cannot say that the person of the longer age is luckier. It is the quality of living that makes person lucky or not.

26. If all the activities run in biomedical research are mostly just for "you will have more time to live in this world through this," the question is: is it rational to devote our energy just to have the 'more time?' Knowledge that tends to find this thing is not necessary in the view of Buddhism. However, biomedical research has some potential that Buddhism might agree with. It is the potential to reduce bodily pain caused by disease or something like this. Having no pain is included in the meaning of well being in Buddhism, but to have more time is not. So, what to be known is: how to reduce pain

or abolish sickness; and what not necessary to know is: how to have more time to live in the world.

Note

When this paper talks about a thing called 'the real self,' this does not mean that the author thinks that Buddhism accepts that there is some kind of self taught in Buddhism. As we know, Buddhism teaches that there is no self. But the self rejected in Buddhism is *metaphysical self*. The real self mentioned in this paper is *empirical self*, the self that we can experience. The paper does not intend to explore the metaphysical self; so the real self given in the paper can be based on any metaphysical view. That is, it does not matter you are materialist (who believes that life consists of matter only and the brain is responsible for all mental properties) or idealist (who believes that besides the material body there exists the mind or the soul and the latter is responsible for every mental property such as thinking), all of you can perceive the real self, the self that tends to anything to make life higher from merely instinct-based life.