

Paper Title: Buddhist meditation experiences and the consciousness

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Abstract:

This paper attempts a dialogue between science and religion. On the science side, I choose the science of the mind, which is represented by scientific studies of consciousness and constantly examined in the philosophy of mind. On the religion side, I select Buddhism, which has a rich tradition of meditative and contemplative practices. The main subject of discussion for both disciplines is focused on some aspects of the nature of the mind and consciousness. Some scientists and philosophers believe that neurobiological processes in the brain are really the basis for the mental phenomena and consciousness. This relation is referred to as a ‘bottom up’ form of causation. (i.e. physical → mental) I would like to suggest from Buddhist meditation experiences that the mind has certain powers to change mental states as well as influence the physical body. (i.e. mental → mental and physical) This suggests a strong possibility of causative power coming from the ‘top’ to the ‘bottom’. Several accounts from Buddhist meditation texts will be provided to illustrate this and a model for this relationship is then proposed.

Biography:

Kin-Tung Yit is currently the post-doctoral research fellow of the Center for the Study of Science and Religion (CSSR) at Fu Jen Catholic University in Taiwan. He earned his BSc in Physics from National Taiwan Normal University (1993), MA in Buddhist Studies from Chung-Hwa Institute of Buddhist Studies (1997, Taiwan) and University of Bristol (1999, U.K.). He completed his Ph.D. at University of Bristol in 2004, with a thesis exploring the Buddhist meditation formulas and the path to liberation in early Buddhism. His scholarly interests include the Buddhist meditative experiences, Religious experiences and the consciousness studies.

Paper text:

Introduction

This paper attempts a dialogue between science and religion. On the science side, I choose the science of the mind, which is represented by scientific studies of consciousness and constantly examined in the philosophy of mind. On the religion side, I select Buddhism, which has a rich tradition of meditative and contemplative practices. The main subject of discussion for both disciplines is focused on some aspects of the nature of the mind and consciousness.

The mainstream of consciousness studies (or mind studies in general) has recently been highlighted by findings based on neurological research. Many researchers are looking to find the ‘neural correlates of consciousness’ (NCC). They try to map the mind by detecting certain brain processes through brain imaging machines.¹ As a result of some exciting findings, some scientists and philosophers believe that neurobiological processes in the brain are really the basis for the mental phenomena and consciousness. They apply some models and metaphors to explain the relationship between the consciousness and brain. For example, John Searle states that: “Just as the shape of the piston and the solidity of the cylinder block are not something over and above the molecular phenomena, but are rather states of the system of molecules, so the consciousness of the brain is not something over and above the neuronal phenomena, but rather a state that the neuronal system is in.”²

One significant implication of the relationship described above is that the solidity (consciousness), which is on the higher level, does not have the power of causation toward the molecules (brain or neural basis), which belong to the lower level. In other words, consciousness does not have the power of causation towards the brain; rather the brain is what that causes consciousness. This relation is referred to as a ‘bottom up’ form of causation.

I would like to suggest that perhaps the mind-brain relationship is not as simple as this. I will give some accounts from Buddhist meditation experiences to argue with such a ‘bottom up’ form of causation. From a Buddhist perspective, when the mind is properly cultivated and developed, a number of special functions of the mind will be apparent. One main point is that the mind has certain powers to change mental states

¹ Koch 2004, chapter 2 section 2.3 and chapter 5.

² Searle 2002, p. 60.

as well as influence the physical body. This suggests a strong possibility of causative power coming from the 'top' to the 'bottom'. If this 'top-down' form of causation cannot be ruled out, it indicates that the mind or consciousness is not simply caused by brain processes. I would further suggest that mental powers directed towards mental phenomena, with perhaps the ability to change brain processes, are significant for the arising and alteration of consciousness. In this respect, the study of religious experiences will make important contributions complementarily to the scientific study of consciousness.

Four ways of mental/physical interaction

The problem of the mind/body, consciousness/brain, or mental/physical in the sense of causation is a complicated philosophical issue. A better approach to begin to deal with this issue is to examine possible ways of how the mental interacts with the physical. The relations they are acting on may involve the influence to the performance, function and behaviors of each other. The power of causation can be considered as one such effective influence. Four typical ways are useful for the discussion of causal relationships between mental and physical:

1. mental → physical; 2. mental → mental; 3. physical → mental; and 4. physical → physical. Here mental can refer to mind or consciousness, and physical indicates body and brain. The arrow → implies the direction from where the causation or effect proceeds.

There are some examples or evidence to suggest the occurrence of each of the four relations. For instance, the control of some of our actions by our conscious mind can be seen as the causation of Mental → Physical. The walking, sitting, standing or raising arms are all such cases performing in our daily life. It seems to be obvious that our conscious decision causes the change of our body states. The application of medicine is a further support for this assumption: the healthy of the body relies on the mental factors and some bodily illnesses are results of unhealthy mental states, hence the condition of healthy mind brings to the cure of some illness. Perhaps the psychosomatic disorders and its medical treatment are good example to support this claim.

The second way of interaction appears to be evident too in our everyday life: when we dislike someone, we might develop a number of negative thoughts and feeling, such as anger, envy, hatred, temper, vexation, etc. These mental states could go in an opposite direction: anger makes the feeling of dislike. On the contrary, a

compassionate mind is usually the basis for the arising of love, friendliness, kindness, and so on. This way of interaction occurs in many forms of psychotherapy, mental counseling and religious healing. There are too many examples to be listed here, and I shall skip over for its obvious illustration.

Next, we may call upon psychiatry as instances for the interaction of Physical → Mental. In general, the proper treatment for psychological illness may involve psychoactive drugs, neurosurgery and so on. The principle of this relationship is favorable for most of the reductionists and materialists, accounting for the mental phenomena and consciousness. They further assume that physical brain processes or neurons are the real basis for psychological phenomena.

Following this, for some physicalism the fourth interaction of physical → physical is the underpinned principle: the consciousness and mind are nothing more than the brain process. The change of the brain states being the conditions of subsequent physical states. This is commonly accepted by conventional medicine, thus the cooling down of high temperature, the uses of antibiotics for infection, or the general surgery are among many the standard application informed by that belief.

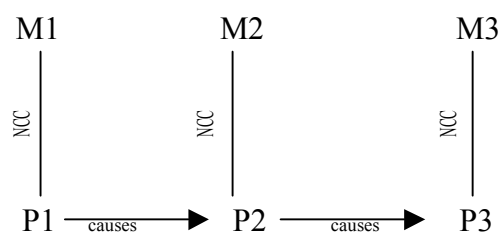
The above four ways of interaction are implicit in many other cases. The first two seem to be obvious in the daily life, though most natural scientists prefer the latter two. While the physical causation is widely applied by general medicine and is believed by many scientists and philosophers, the clinical evidence for the mental causations cannot be ignored. There are considerable accounts suggesting that mental states can affect not only mental states, but states of the body.³ Therefore the first two interactions shall be emphasized, since they are affecting many areas of clinical theory and practice. However, though the implication of mental causation to both mental and physical is clear, it should be noted that a satisfactory theory of these two interactions is absent, and no general agreement is accepted within philosophical discussion. Thus we are having an urgent need for any theory, which is adequate for the explanation of mental causation. But before proceeding to this step, any further evidence should be welcomed and might be helpful for establishing such a theory. At this point I would like to suggest that the study of religious experiences might have important contribution to the issue in question. I attempt to use the accounts from Buddhist meditation experiences to illustrate this.

³ Cf. Velmans 2002, pp. 4-7.

Diagrams of mental/physical interaction

Before we introduce the implication of Buddhist meditation experiences on mental/physical interaction, it is perhaps helpful to summarize the above four ways of mental/physical interactions by establishing simple diagrams. The emergence of a certain mental or physical states includes at least each of the following possibilities:⁴

Emergence 1: physical → physical



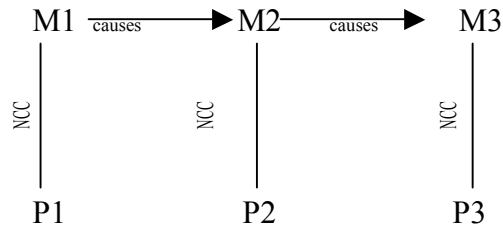
Explanatory notes: M1 signifies mental state 1, P1 signifies physical state 1, so on and so forth. The arrow → refers to the direction of causation. The line — refers to the connection between mental and physical; here I particularly assign the neural correlation of consciousness (NCC) for explaining the relationship between the consciousness and the brain. It could also be a kind of correlation between other parts of body and the mind. The main point here is that given a brain state (physical), there is an accompanying mental state; for a given mental state, there is a correlate of a physical state. It should be noted that the correlation does not necessarily mean ‘causation’, since they are both happening at the same time. It appears to be slightly fast for some philosophers (e.g. John Searle) to assume that correlation implies causation, or an upward causation from the brain state to the mental state, because so far we know very little about the real mechanism of NCC. While asserting the upward causation it is equally probable to suggest an opposite direction of the causation. Thus it is only safe to suggest that for every discriminable mental state there will be a distinct, correlated, physical state.⁵

Emergence 1 indicates the changing of physical states. Each physical state is produced by an antecedent physical state. The real causation occurs among different physical states, which also make a flow of mental states. This gives the illusion of mental states as they were directing their own course.

⁴ I borrow the idea of expression from Carter 2002, p. 73.

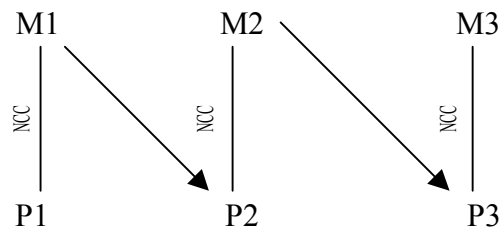
⁵ Cf. Velmans 2002, p. 12.

Emergence 2: Mental → Mental



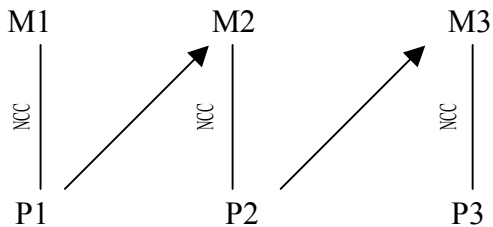
Emergence 2 indicates a situation in contrast to the emergence 1: the changing of mental states. Each mental state is produced by an antecedent mental state. The real causation occurs among different mental states, which also make a flow of physical states. This gives the illusion of physical states as they were directing their own course.

Emergence 3: Mental → Physical



Emergence 3 indicates the interaction between mental and physical. The mental state does affect itself, by effecting the physical state from which it emerges (P1) to a subsequent physical state (P2).

Emergence 4: Physical → Mental



Emergence 4 indicates another type of interaction between mental and physical. The physical state does affect itself, by effecting the mental state from which it emerges (M1) to a subsequent mental state (M2).

The above modes of emergence could be further complicated if we allow a kind of open, mutual interaction between mental and physical. Thus the picture could be depicted as follows:

$M_0 \rightarrow P_0 \rightarrow$ Emergence either 1, 2, 3 or 4.

$P_0 \rightarrow M_0 \rightarrow$ Emergence either 1, 2, 3 or 4.

Buddhist meditation practice

In this section, I would like to sketch a simple picture of what I regard as meditation practice. In the Buddhist sense, meditation practice can be designated, in general, as specific categories of profound practice, such as *samatha* meditation (calming meditation) and *vipassana* meditation (insight meditation). Alternatively, it can mean a specific kind of technical practice, such as *satipaTThAna* (mindfulness meditation). In my current usage, it is applied to a range of Buddhist practice including *sIla* (moral conduct), *samAdhi* (concentration) and *paJJA* (wisdom) or *abhiJJA* (higher knowledges). In other words, meditation practice here refers to the whole category of the so-called ‘threefold training’. These trainings represent important components of the complete Buddhist path to awakening. The present paper is concerned specifically with the examples of meditation in the *samAdhi* (concentration) and some of the *abhiJJA* (higher knowledges). The content of these practices and meditative attainment is best explained in a well-known 5th century meditation manual called ‘the Path of Purification’ (*Visuddhi-magga*), I will therefore discuss the accounts drawn from this manual, together with important description from other Buddhist scriptures.

The process of Buddhist meditation practice (here only *samAdhi* and *abhiJJA* are referred to) can be divided into two main parts: the method and the attainment. The theory of practice is usually underlined by the method and therefore can be skipped here. The method of meditation involves two important steps: a preliminary practice and the practice of concentration. The preliminary portion is a long development for the preparation of a good environment, the training of moral conduct, overcoming of impediments, etc.,⁶ in order to get a proper, healthy physical and mental condition ready for further practice. This part will be omitted here.⁷ The practice of

⁶ Vism 90-97.

⁷ This is not to say that they are less important than the concentration practice. On the contrary, as they constitute a series of comprehensive training for bodily and vocal actions, they are the real basis for the happening of altered state of consciousness and other mental powers.

concentration is the core subject for our discussion and hence will be mentioned in more detailed. The following passages are devoted to explain the process of the attainment of four *jhānas*, which are deep and rich mental states, and some super-normal powers developed based on the fourth *jhāna* state. I will particularly indicate the how the interaction of mental and physical occur in the meditative experiences.

● **Meditation subjects**

The central part of Buddhist meditation is the concentration of meditation subjects. According to the *Visuddhi-magga*, forty of such subjects are applied by the practitioner for inducing the *jhāna state*: Ten *kasinas* (totalities), ten kinds of foulness, ten recollections, four divine abiding, four immaterial states, one perception and one defining.⁸ A detailed description of these items would be beyond the scope of this paper and I shall mention only one subject – the Earth *kasina*, for demonstration.

The practice of the Earth *kasina* comprises three important successive stages. The first stage aims at the obtaining of two kinds of meditative mental images or signs (*nimitta*); the second is to reach a stage called ‘access concentration’ (*upacāra-samādhi*); and finally it is followed by the stage of ‘absorption concentration’ (*appaNā-samādhi*), which is represented by the accomplishment of four kinds of *jhāna*. In the first stage, the practitioner selects an object which is related to the characteristic of the ‘earth’. It becomes a device for making concentration. The matter of this device varies, in ancient Ceylon tradition it is usually a frame made of four sticks tied together, or a broad, a stone or a piece of ground prepared like a ploughed field.⁹ After the selection of a meditation object and the completion of such device, the practitioner could proceed to practice the contemplation on that object. Intensive attention should be paid to take a mental picture of that device. Through proper contemplation an exact copy of the device, with all its details, is taken to the mind as a lucid image until it is fully ‘imprinted’, as though it was actually seen by the eye, even when the eye were shut.¹⁰

At this stage a sign called ‘sign of upholding’ (*uggaha-nimitta*) will arise gradually, in the sense that the taking of the image into the mind is successful and retained like something learnt by heart. When this is accomplished, the practitioner no longer needs

⁸ Vism 110-1.

□ Cf. VajirañāNa, 143-4.

¹⁰ Vism 124-5.

the artificial device, and could work only with the mental image. With further contemplation on the ‘sign of upholding’, a change of mental states occurs: five kinds of ordinary mental hindrances (namely, lust, ill will, stiffness and torpor, agitation and worry, and doubt) eventually become suppressed, the defilements subside, and the mind becomes highly concentrated. This will continue until a second sign – ‘the counterpart sign’ (*paTibhāga-nimitta*) appears. This is a mental image that is much more superior to the previous ‘sign of upholding’. It is not a copy of a contemplation device as projected by the sense faculty of eye but a breaking out from that vision. It is a powerful conceptualized image, an abstract concept connected to that device. The text describes this image as ‘a hundred times a thousand times more purified, like a looking-glass disk drawn from its case, like a mother-of-pearl dish well washed ... like cranes against a thunder cloud.’ And it has neither color nor shape, which is born only of perception in one who has obtained concentration.¹¹

● The first *jhāna* state

The arising of the counterpart sign is a significant progress, which denotes that the hindrances and defilements are quite suppressed, and the mind has succeeded to enter to the state of ‘access concentration’. Based on this state, if the practitioner cultivates the sign in the same course of meditation, guarding it zealously, he would in due course reach the state of absorption concentration, or *jhāna* state. In the first absorption concentration – the first *jhāna*, the consciousness has been transformed from normal sensuous experience to a higher form of purity, with great joy and happiness, away from sensuous desires and other mental defilements. The scripture has a description of such state:

Quite secluded from sense pleasures, secluded from unwholesome states, he enters and dwells in the first *jhāna*, which is accompanied by applied and sustained thought and filled with the joy and happiness born of seclusion. He drenches, steepens, saturates, and suffuses his body with this joy and happiness born of seclusion, so that there is no part of his entire body which is not suffused by this joy and happiness.¹²

This mental state is supported by five mental factors:

1. Applied thought (*vitakka*) – it applies the mind to concentrate onto an object.
2. Sustained thought (*vicāra*) – it keeps the mind continually pressure on the object.
3. Joy (*pīti*) – it refreshes the body and the mind, pervading with rapture.

¹¹ *Ibid.*, 126.

¹² D I 73.

4. Happiness (*sukha*) – a gratification which thoroughly consumes bodily and mental affliction and leads to the calming mind.
5. One-pointedness (*ekaggatā*) – a combination of the above factors, which constitutes a concentrated mind with the expulsion of sensuous desire.

Endowed with these five factors, the mind produces incredible joy and happiness, as described by the scripture:

He drenches, steeps, saturates, and suffuses his body with this joy and happiness born of seclusion, so that there is no part of his entire body which is not suffused by this joy and happiness.¹³

The joyful characteristic of the first *jhāna* is a result of a series of gradual process, which eventually leads to the concentration of the mind:

When he sees that these five hindrances have been abandoned within himself, gladness arises. When he is gladdened, joy arises. When his mind is filled with joy, his body becomes tranquil; tranquil in body, he experiences happiness; being happy, his mind becomes concentrated.¹⁴

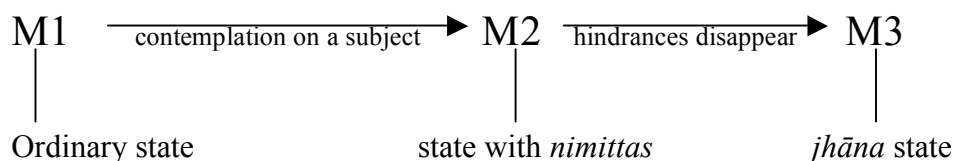
The main point of this experience is that the consciousness of the practitioner has passed beyond the agitation from emotions of ordinary state as represented by the five hindrances, and is opposed to the lust of sense desires. In other words, the mind is established in tranquility, joy and happiness and unshaken by sense stimuli. How are we to connect this experience to the nature of consciousness?

First, the first *jhāna* is supported by five wholesome mental qualities and the elimination of five mental hindrances. To a large extent this is done by the contemplation of the meditation object, which in turn gives rise to the meditative mental images, the two signs. Before the arising of two signs, the consciousness is more or less associated with sense desires and other defilements. The fallacy of loosing or not having the sign is an indication of this state. Having achieved the *jhāna* state, the consciousness is altered to a purified state, which is suffused with wonderful joyous feeling. The previous sensuous feeling has been transformed, and this is mainly due to the power of the two signs. It remains extraordinary that the counterpart sign is not a perception derived from ordinary sense faculty, but it plays an intermediate role in shifting the consciousness. This therefore fits in the mode of mental causation in the category of mental → mental, in which the mind has the

¹³ *Ibid.*, 126.

¹⁴ *Ibid.*, 126.

power to cause upon the mind. This mode can be sketched as the figure below:



● Higher *jhāna* states

The first *jhāna* state serves to be the entry of higher *jhāna* states, which involve subtler change of consciousness. The practitioner who has just attained the first *jhāna* state could go to the higher state by working on the same meditation object¹⁵ and reflecting upon the state he has just acquired. Although there is a comprehensive process to proceed, the basic principle for the requirement is the dropping of certain *jhāna* factors. For examples, the first two factors (applied and sustained thoughts) are thought to be gross for the second *jhāna* state in terms of the serenity of the mind, therefore only with their absence can the mind enter into deeper state. According to the text, at this point the practitioner has to use their mindfulness and clear comprehension to recognize this, by dispensing with the first two factors he gives up the first *jhāna* state and enters to the second *jhāna* state.¹⁶ The state of second *jhāna* is conveyed in the scripture as follows:

With the subsiding of applied and sustained thought, the *bhikhu* enters and dwells in the second *jhāna*, which is accompanied by internal confidence and unification of mind, is without applied and sustained thought, and is filled with the joy and happiness born of concentration.¹⁷

So in the second *jhāna* only three factors remain. This state has a deeper quality of concentration, as informed by the ‘internal confidence’ (*sampasādana*), ‘unification of mind’ (*cetaso ekodibhāva*), and the feeling of profound joy and happiness. Following the similar principle, the gaining of the third *jhāna* is done by fading away the factor of joy and the practitioner enters to a state as such:¹⁸

¹⁵ It is worth mentioning that not every item of the forty meditation subjects can lead to the higher *jhāna* states, some of them can only induce to the first, while others could lead to the second, third or fourth *jhāna* state, depending on the nature of the subject. Cf. Vism 111. Here I refer to the Earth *kasina*, which is a standard device for inducing up to the fourth *jhāna* state.

¹⁶ It should be noted that there is an interval between two *jhāna* states, that the practitioner has to emerge from the first *jhāna* state in order to get into the second *jhāna*. The function of mindfulness and clear comprehension helps to do this, and while emerging from the first *jhāna* state they observe the grossness of that state and make the decision to abandon the factors which make the state gross. Cf. Vism 155.

¹⁷ D I 74, Vism 155.

¹⁸ D I 75, Vism 159.

[He] dwells in equanimity, mindful and clearly comprehending, and experiences happiness with the body. Thus he enters and dwells in the third *jhāna*, of which the noble ones declare: ‘He dwells happily with equanimity and mindfulness.

Finally, in order to gain the fourth *jhāna*, the factor of happiness has to be abandoned as well. This results in a very special mental state:

[He] enters and dwells in the fourth *jhāna*, which is neither pleasant nor painful and contains mindfulness fully purified by equanimity. He sits suffusing his body with a pure bright mind, so that there is no part of his entire body not suffused by a pure bright mind.¹⁹

In this state the consciousness is associated with perfect mindfulness and unaffected equanimity free from all attachment to the world of senses. The effect of losing pleasant and painful feeling makes the mind free from all ordinary sensory disturbances. Thus the feature of equanimity becomes apparent, and this is usually declared as one of the best qualities for meditation practice.

Again, the above process indicates that the attainment of higher *jhāna* states is a gradual transition from a grosser to a quieter mental state. Because the whole process is manipulated by the mental power it seems to me very little doubt that it represents a category of mental → mental causation.

● **Four *jhāna* states and their impact on physical body**

We have seen from the above cases of how the four *jhāna* states emerge and the happening of each state relies heavily on the previous state of consciousness. In the following description I would like to mention that in fact the attainment of *jhāna* states also bring about great influence on the physical body. According to the description in the scripture, some phenomenon are experienced by the practitioner during the *jhāna* states: in the first *jhāna* state the behavior of speech has ceased to exist; in the second *jhāna* state the gross thoughts has closed; in the third *jhāna* state the emotion of joy has rested; and most interestingly is that in the fourth *jhāna* state the activity of breathing in and out has stopped.²⁰

Whether the halt of respiration for a contemplator can be really examined by scientific experiments is an interesting issue awaiting for further concern, here it is suffice to illustrate that Buddhist deep meditative experience has certain effect on some physical

¹⁹ D I 75-6, Vism 165.

²⁰ S IV 217, M I 301-2.

function. This is significant for bringing about a good example of the causation of mental → physical. Perhaps it is also suggesting that the causation of mental → mental and mental → physical is taking place all together.

In the *Visuddhimagga*, many other cases about the causation of mental → physical are mentioned. For instance, in the first *jhāna* state, a strong feeling of joy was aroused. If this feeling of joy reaches to a very high level, a kind of ‘lifting joy’ may be arisen. It can be very powerful, which is strong enough to levitate the body and make it spring up into the air. The text provides two stories of how the effect of uplifting joy has brought the practitioner sprang up into the air.²¹ In addition, in the practice of four divine abidings (lovingkindness, compassion, gladness and equanimity), which are four important ways of meditation practice among forty meditation subjects, the physical effect from mental training is also noticeable. For example, the practitioner sleeps in comfort, wakes in comfort, dreams no evil dream, and the face has turned to a serene expression.²²

- **The advantages of the development of *jhāna* states: supernormal powers**

The attainment of four *jhāna* states are of significance to Buddhist meditation, as it provides indispensable foundation for further advanced cultivation. On the one hand the practitioner could go straightforward to develop insight and wisdom for final liberation; on the other hand the practitioner could apt for the attainment of supernormal powers, which is also another way of inducing the mind to the final liberation. The latter case is of interest to our current discussion, as many supernormal powers are supporting the claim that the mind could bring impact to both the mind and the body. For the purpose of showing how it works, I will offer two examples with brief explanation for illustration below.

Supernormal power (1): The mind-made body. The way of developing supernormal powers is based on the state of the fourth *jhāna*, which is said to be ‘concentrated, pure and bright, unblemished, free from defects, malleable, wieldy, steady, and attained to imperturbability.’²³ These eight terms are key points for this state. For instance, malleable (*muduhUte*) and wieldy (*kammaniye*) indicate that the state of consciousness is like a well-smelted gold, ready to be made as ornament;²⁴ or

²¹ Vism 143-4.

²² Vism 313-4.

²³ D I 76.

²⁴ Vism 377.

resembles the clay well kneaded and malleable, ready to be made as vessel.²⁵ On the whole, these are eight qualities of consciousness that are liable of inducing supernormal powers. The mind-made body is one such power. It is described in the scripture as:

From this body he creates another body having material form, mind-made, complete in all its parts, not lacking any faculties.²⁶

According to Harvey, the result of this power shows a special nature of the consciousness:

“Consciousness is seen [from the state of mind made body] as able to leave the physical body by means of a mind-made body, such a body could be seen as a kind of ‘subtle body.’”²⁷

Harvey draws the explanation from the scripture, pointing out that this body has several characteristics, including ‘feed on joy, not on solid nutriment’, ‘lacks the four great elements (solidity, cohesion, heat and motion; or earth, water, fire and wind) of the physical body’, ‘invisible to the normal eye’, ‘as large as two or three fields’, etc.²⁸ The mind-made body is a mental body duplicate from itself, and it has the function to interact with the physical world such as going through solid objects, being in many places at once.²⁹ Since this body comes from the mind, therefore it can be considered as a kind of mental → mental causation.

Supernormal power (2): Psychic power. The attainment of various psychic powers (*iddhividha*) is formulated in the scripture as follows:

He exercises the various modes of psychic power: having been one, he becomes many and having been many, he becomes one; he appears and vanishes; he goes unimpeded through walls, ramparts, and mountains as if through space; he dives in and out of the earth as if it were earth; sitting cross-legged he travels through space like a winged bird; with his hand he touches and strokes the sun and the moon, so mighty and powerful; he exercises mastery over the body as far as the Brahma-world.³⁰

²⁵ Vism 376.

²⁶ D I 77.

²⁷ Harvey 1993. Website version (<http://www.saigon.com/~anson/ebud/ebdha205.htm>), p. 8. The original article published in *Asian Philosophy*, Vol. 3 No. 1 1993, pp. 29-41.

²⁸ *Ibid.*

²⁹ D I 78.

³⁰ D I 78.

Harvey has provided us a good observation on this power, in the light of its control over matter:³¹

“Such powers, if one is to take them seriously, clearly involve remarkable 'mental' control of matter, whether this be the matter of one's own body or of objects passed through, for example. In discussing such powers, *Buddhaghosa* says that when, for example, diving into the earth, the earth usually only becomes water for the performer (*Vism.* 396), but it can also become water for others too. This suggests that, when psychic powers are exercised by means of the 'mind-made' body, there is no effect on ordinary matter, but that when it is done with the physical body, such matter is affected.”

The capability of changing the feature of matter is taken seriously rather than ‘virtue reality’ by the tradition, as mentioned by Harvey: “to develop the power of diving through the earth, the meditator attains meditative concentration by focusing on water, then makes water appear where there is earth. To walk on water or fly, meditation is on earth, then earth is made to appear in water or the air.”³² The principle for the possibility of doing this, according to some Buddhist traditions, is that “by focusing on, investigating, and gaining knowledge of an element (e.g. earth/solidity), one can gain power over it, and change other elements into it”, or “all physical matter contains all four primary elements, though in different 'intensity'. Thus to change water into earth, the solidity element in it becomes predominant rather than the cohesion element.”³³

Harvey’s conclusion is also helpful for our explanation of the nature of consciousness:

[I]n the Buddhist view, the mind purified, calmed and tuned by meditative concentration has great transformative power over matter, and that the physical world is not as stable as is normally seen. Its transformation is not seen as 'miraculous' or super-natural, though, just super-normal. It is done in a law-like way by drawing on the power of the meditative mind.³⁴

Harvey’s suggestion is valuable for our discussion, since it indicates that power causation from the mind to the physical is evident for Buddhist meditation.

³¹ Harvey 1993, p. 8.

³² *Ibid.*, p. 9.

³³ *Ibid.*

³⁴ *Ibid.*

- **Further psychic powers**

Next, I would like to add a few words on two other cases, which also make sense of the claim that the meditator's mind has power impact on ordinary sense organs. The first case is the higher knowledge (*abhiññā*) of divine-hearing (*dibba-sota*). This capability surpasses human hearing, and it hears sounds both from human and divine, whether far or near.³⁵ It makes the reception of distant sounds possible and it transcends the range and scope of normal human hearing. The extension of limit beyond the ability of ordinary human is a result of the highly cultivated mind that generates effect in the sense faculty, and again, can be seen as a case of mind causation onto the physical.

The second case is the higher knowledge of divine-vision (*dibba-cakkhu*), which sees beings passing away and re-appearing, to be inferior or superior, beautiful or ugly, fortunate or unfortunate, and it brings to the understanding of how beings fare according to their *kamma*.³⁶ With this unusual capability, the meditator also sees the color of blood dependent on the heart-flesh: when the mind is joyous, the blood of the heart is recognized as red like a banyan fruit; when it is sad, the blood is lack like a ripe jambu fruit; when the mind is neutral, it looks like clean sesame oil.³⁷ An interesting point from this account is that the correlation between the blood color and different emotions. This implies a kind of mental/physical interaction, and possibly causation between the two. I would suggest that the case of divine-vision can be taken as an example of the mind's causal action on the body, by strengthening the competence of eye faculty.

We could go on to demonstrate other supernormal powers or higher knowledge acquired from the *jhāna* states, such as the higher knowledge of the recollecting previous existences, knowing certain states of others' mind, the destroying of the mental cankers, as well as the four formless attainments and the cessation of feeling and cognition on top of the fourth *jhāna*. The latter two categories being a special case for illustrating all mental states that are eventually coming to a complete halt.³⁸ Although we are not going to the detailed description of all these accounts, it is suffice to mention that these extraordinary states are the result of highly cultivated mind, which produce enormous powers on the ordinary state of body and mind.

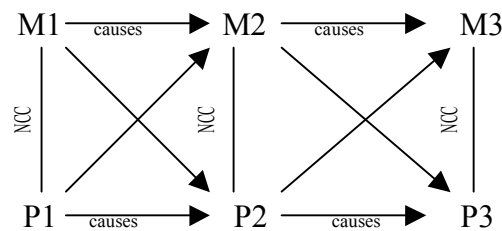
³⁵ D I 78.

³⁶ D I 82.

³⁷ Vism 409.

³⁸ Griffiths 1986.

At this point I have finished my work on giving examples of Buddhist meditation experiences related to the nature of consciousness. I shall conclude that the causation of mental → mental and mental → physical is obvious within the context of Buddhist meditation. The diagram for emphasizing mental causation, under the condition of not denying the physical causation, would be something like this:



The next section is my further remarks of how this implication could have a dialogue with the current sciences on the same issue.

Concluding Remarks

- **Remarks on how to deal with meditation experiences**

It seems that there are certain difficulties and may be controversial to discuss meditation experiences especially ‘supernormal powers’ in the context of a dialogue between religion, philosophy and science. The challenge lies on the pressures of how to prove the validity of religious experiences, especially how are we to account for them in the light of scientific evidence? Two camps are particularly conservative to these experiences: natural science tends to reject them and the philosophy and other social science tend to suggest that these experiences are mostly ‘legendary’, ‘mythology’, ‘imagination’, etc. For them a simple solution is to ‘de-mythologize’ and reduce religious experiences to a straightforward neuroscientific explanation.³⁹ To some extent this is understandable because some meditation phenomena might not be able to be examined by the current natural science, due to the knowledge and technique the present disciplines of physics, chemistry and life science have. Yet from the religious perspective this may not be the case. The meditation experiences are not simply the ‘believe’ or ‘folk concepts’, because they were really experienced by a lot of practitioners, and are still reported and studied by many others. The religion tradition has its mechanism to maintain and inspect the validity of these experiences. In the case of Buddhism, at least three of such approaches are applied: the

³⁹ Runehov 2004.

authentically description in the scripture; the confirmation or proof made by senior and advanced practitioners or teachers, or a group of elders in the *sangha* community; and the experiences of the practitioners themselves. The last category is interesting. It demands the report from the first person experience, in which sometimes observer from the third person position is very difficult to access to. An ‘objective aspect’ of such experiences is an extremely tough task. Intellectual analysis and philosophical discussion are useful but not necessarily successful in exploring the essence of these experiences.⁴⁰ This encounters the central problem of consciousness studies. In the current mainstream discussion of this field, issues such as the ‘explanatory gap’, ‘hard problem’, and so on, have been heated topics for debate and the solution remains a mystery for most people. It indicates that consciousness is associated with subjective, qualitative, intentional and first person experiences. The challenge is: how are we to provide an objective description from the third person position? How to legitimize the content of the first person’s conscious experiences?

These questions connect to the issue raised in this paper. As we mention in the beginning, some of the top neuroscientists and philosophers make their assertion that consciousness is a feature of the brain process, and the interaction between the mind and body is likely to be the bottom-up causation. They gained their seemingly plausible reasons from some neuroscience findings, the consideration of NCC being one of the best supports. They think that this claim could be applied commonly in daily life experiences. However, Buddhist meditation experiences may have another suggestion. They tend to point out that the consciousness or mind in general plays an important role for the interaction of mental and physical. The causation of mental → mental and mental → physical is rather significant. This experience comes from the first person observation in deep meditative state, not in the ordinary state. And it is probably a crucial point that only in the state of religious experiences, can we get a clearer picture of the power of the mind. I am aware of the fact that the genuineness of ‘religious experiences’ is controversial in the light of ‘scientific studies’, but if we accept that there is a proper way to lead people to develop their capability of experiencing deep meditative states, and providing that these experiences could be repeated in a well established experiment,⁴¹ then the recognition of the causation of

⁴⁰ Francis Varela and Jonathan Shear 1999.

⁴¹ Though this is not yet achieved, as the real environment for the meditation practice is much more complicated than a designed experimental condition. Much preparation has to be explored and done before a proper experiment could begin. Nevertheless, while it seems to be a challenging task, the test on the meditation monks has already been started by the cognitive science laboratory. Cf. A recent report the recent studies at the University of Wisconsin-Madison: "Scanning the Monk: Is the religion of tomorrow hidden in our brains?" This article is taken from the new book *Field Notes on the Compassionate Life: A Search for the Soul of Kindness* by Marc Ian Barasch (2005). (Also on <http://www.utne.com/cgi-bin/udt/im.display.printable?client.id=utne&story.id=11574>)

mental towards mental and physical should be taken seriously. This should not be dismissed without doing serious exploration, and more provoking and creative empirical experiments should be encouraged. Here we could take the claim from Buddhist meditation accounts as serving a counteraction and balance against some underrated scientific and philosophical positions, to avoid one-sided argument. It would be interesting if some suggested effects of the mind over the body can be examined by scientific testing in the near future. The jumping up phenomena produced by the uplifting joy in the first *jhāna*, the stop of respiration (or perhaps only very weak breathing remains) as an outcome of the fourth *jhāna*, are observable and good examples. Paying attention to old accounts which have lasted for hundreds of years and continuously tested and experienced by contemporaries, is perhaps a better attitude than simply failing to appreciate them.

Additionally, the assertion that the mind has power causation onto the body or brain is important. It may help us to understand the nature of consciousness and its function. With this understanding, further advantaged application become possible, and the recent development of the studies of neural plasticity is one case in point,⁴² the power of mind to shape brain is another.⁴³

- **A model for explaining how the mutual interaction of mental/physical can work together**

Now, it appears from the above discussion that all four ways of mental/physical interaction are possible. While the relationship of physical → physical and physical → mental causation is maintained by some scientists and philosophers, Buddhist meditation experience⁴⁴ emphasizes more on the causation of mental → mental and mental → physical. We seem to have no particular reason to exclude each of them. Nevertheless, what does it mean to include all these possibilities? Is it the case to suggest that mental and physical are acting on each other? My answer would be “yes”, as I would lean to the view of mutual interaction. The model of bottom-up and the related simile of the solidity of the cylinder lock for the consciousness do not seem to me sufficient, because they simply ignore the other half of the fact. Similarly, a

⁴² A great endeavor about the relation of meditation and the neural plasticity is made in the recent dialogue between the Dalai Lama and Western neuroscience and psychological researchers. Cf. *Mind and Life XII: Neuroplasticity: The Neuronal Substrates of Learning and Transformation*, October 18-22, 2004, Dharamsala, India. (<http://www.mindandlife.org/conf04.html>)

⁴³ Jeffrey M. Schwartz and Sharon Begley 2003.

⁴⁴ I would suggest that, to large extent, most of the other world religions will follow a position similar to Buddhism.

simple model of top-down causation may encounter the same problem. To construct a complete picture, perhaps a kind of new model is needed. Provisionally I would like to propose a working model to account for the mutual causation of mental/physical: the ‘wave motion and vibration model’. The vibration refers to the activity of the brain/body, and the wave motion as representing the activity of consciousness/mind. Their relation is fairly simple: the vibration can cause the wave motion and the wave motion can also induce to the vibration. However, I must highlight that this is only a working hypothesis, which needs further explanation and criticism. As a thought for now I shall be awaiting any comment and advice from the participants in this precious meeting.

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