

HOW CHAN CAN BE RELEVANT IN MODERN SOCIETY: A SCIENTIFIC VIEW

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ABSTRACT

Chan is a superior mental training methodology derived from Buddhism and absorbed wisdom of religious practitioners, philosophers, and scholars around Eastern Asia through thousands of years. As the primary way of Chan, meditation has clear effects in bringing practitioners' mind into a tranquil state and promoting both the mental and the physical health. The effect of Chan is measurable. We propose to establish a Chan science by applying modern experimental sciences to various models that have been used in traditional medicine and philosophical studies. We also give a brief introduction to some online Chan communities and discusses establishing a Chan based e-health community. Through these studies, we believe we will be able to make Chan a beneficial practice to promote human's life in modern society.

Key words: Chan, Meditation, Psychology, e-Community.

INTRODUCTION

Chan (Zen), originated as a methodology of spiritual meditation, has played an important role in the history of Eastern countries. In recent centuries, with the fusion of various cultures in modern society, Chan has drawn attention of various ethnic groups for its focus on practice and direct effect on human's lifestyles and health conditions. While people still use traditional practices --- meditation in Chan (Zen) centers and/or in religious groups, more and more web based Chan communities have formed that accommodate people from various ethnic and religious population. Chan itself has shown its religion neutral nature in the modern society.

The objective of this paper is:

1. Introduce Chan without any religious biases and discuss its effect on human's health system.
2. Propose a "Chan science", i.e., using scientific methods to measure the effectiveness of Chan practice and therefore develop a system to guide Chan practice.
3. Survey the current web based Chan communities and discuss the formation of web based health systems that focus on proactive therapy.

Although Chan is not a typical scientific topic, but it is clearly a philosophy that impacts human's view about the essence of science and relates scientific study to the contemplation of its performer --- human. In recent years, term "life science" has been used to denote studies related to the understanding of human's nature and seeking ways to harmonize human's life with the environments. Applying Chan methodology to health sciences is not only important but urgent. As a side note, the writing of this chapter is further inspired by the following view points:

- It will help clarify misunderstandings about Chan around the world, especially in Western countries. For the historic reason, Chan is regarded as a religious practice of a sect of Buddhists and its philosophy concords with Buddhism only. As a matter of fact, Chan is the result of a reflection on various philosophies including Buddhism and Taoism (Taoism is a system of Chinese philosophy) and became a practice oriented life philosophy (Nan, Huaijin, 1993). It is independent from any religions and customizable to any religious and cultural ground. For example, Confucianism adopted Chan and became a system that includes not only ethical teachings but spiritual exercises.
- Introducing Chan to Western countries will help promote interaction between Western religions and philosophies and Eastern ones. For example, throughout the last century, both Western and Eastern Christian ministries put great effort in contextualizing Christianity in Oriental culture in order to dissolve cultural resistance of Christianity from eastern people (Li, Ling, 2006). It can be clearly seen that a major obstacle of the dissemination of Christian faith is the obstinate repelling of different thinking from the fundamentalisms of the believers of both the western and the eastern religions. By complicating religious teachings, a lot of arguments between sects not only are unnecessary, but hinder the effort of bringing to people the virtue of our ancestors' philosophical thinking, even against the will of the establishers of religions. Discussions about this culture issue have been presented in a very limited scope, mainly in Chinese media.
- A deep understanding of Chan will help Westerners develop a correct view about Oriental methodology and practices so that they don't either reject Oriental thoughts arbitrarily, as what is seen among conservative theologian, or accept or imitate Oriental methods without understanding their ultimate goals, as what is seen among churches that emphasize on spiritual experiences and Qigong practitioners.

The presentation will be organized as follows. Firstly, in the background section, we will give a brief historic account of Chan, its methodology, and its practice. Then, in the main focus section, we will present meditation and its therapeutic effects and discuss establishing models to describe its effects and possible ways for quantitative studies. We will also survey existing web based Chan communities and discuss the establishment of a Chan based e-health system. We will give projections on future research directions and concluding remarks in the end.

BACKGROUND

Chan (or Ch'an), also known as Zen in Japanese, was named "Dhyāna" in Sanskrit, the ancient holly language of India. The Wikipedia definition of Chan is: Chan is a school of Mahāyāna Buddhism, Chan is itself derived from the Sanskrit Dhyāna, which means "meditation". ([Http://en.wikipedia.org/wiki/ZenH](http://en.wikipedia.org/wiki/ZenH)) The literal meaning of Chinese character Chan (禪) is transfer of the sovereign power, derived from the story of the three patriarch emperors Yao, Shun, and Yu. In Chan Buddhism, Chan means the transfer of insightful wisdom.

While a lot of spiritual exercises involve meditation, for example, Yoga, Chan meditation differs from the others in that it emphasizes the acquisition of the insight to one's life so as to be out of the control of any earthly desires and emotions such as anger. In other words, the acquisition of such wisdom (prajna) entails a life of total freedom. Such experience has the following 7 elements (Latifas):

- Energy (Red Latifa): One gains energy because his capability, bravery, and endurance have been unleashed.
- Determination (White Latifa): One has the determination to hold his mind state no matter in what circumstances.
- Sense of joyousness (Yellow Latifa): One has no burden in mind, even under great pressure, and has a delightful mind set like that of a child.

- Compassionate kindness (Green Latifa): One views others as one himself. Therefore, he delights in others' delight and suffers in others' suffering.
- Peacefulness (Black Latifa): One has got rid of the entangling and meaningless thinking and has subtle observation of the surroundings. He reacts to happenings promptly.
- Capacity to be absorbed in something (Blue Latifa): One is merged into what he is doing. He no longer perceives any distinction between himself and the surroundings.
- Awakening (Transparent Latifa): One is alert in every moment. He is not drowsy or dumb to external stimuli, because he does not stick to any whim.

With the acquisition of this wisdom, one should have the following internal characteristics:

- Calm and stable, awakening and tranquil (Dharma is by itself clean)
- (energy) ever lasting, never exhausting (Dharma is not created, nor destroyable)
- No desires, free and balanced (Dharma is not lacking anything)
- Self-confident and determinate, consistent internally and externally (Dharma is never wavering)
- Prompting and adapting, graceful in applications (Dharma can generate all things)

and the following external characteristics:

- Having great influence but exerting no imposition; determinate and stern but not self-conceited.
- Compassionate and graceful but not indulging; rigorous and responsive but not over charging.
- Pursuing excellence but not boasting; persistent but not stubborn.
- Understanding others but not blindly following; Upright and honest but not abrupt in speaking.
- Vigorous but not hyper; overseeing but not forgetful.

(<http://baike.baidu.com/view/1242617.htm>)

Since Chan's goal is the attainment of awakening and enlightenment, it deemphasizes any rational creeds or theoretical reasoning. This is indicated in the beginning story of Chan origination, viz., Flower Sermon. Once Śākyamuni Buddha summoned his disciples for a Dharma talk. When they gathered, he was completely silent and holding up a flower. No bodies understood what Buddha was trying to tell while Mahākāśyapa suddenly broke into smile. Buddha acknowledged this special way of understanding and said:

“I possess the true Dharma eye, the marvelous mind of Nirvana, the true form of the formless, the subtle Dharma Gate that does not rest on words or letters but is a special transmission outside of the scriptures. This I entrust to Mahākāśyapa.”

(Su, Yuanlei, 1984)

Flower Sermon clearly indicates that Dharma nature (tathata) is ineffable. It is understood in a sudden acquisition of the insight to it. Therefore, Chan emphasizes direct experience rather than theoretical conceptualization and reasoning. Buddha also clearly ordered that the transmission of this wisdom is outside scriptures. Mahākāśyapa then became the first patriarch of Chan school.

This subtle Dharma Gate was transmitted from Mahākāśyapa through 28 patriarchs in India with Bodhidharma being the 28th patriarch. In about the 5th century, Bodhidharma brought Chan to China and became the first patriarch in China. After several single transmissions, the 6th patriarch, Hui Neng, revolutionized the propagation of Chan. He abandoned the passing of the bowl and cloak as a sign to certify the transmission (Hui Neng, Tang Dynasty). Since then, Chan began to broadcast widely and a lot of people acquired prajna.

Bodhidharma said that his school used “special transmission outside scriptures” and “did not stand upon words”. Hui Neng summarized his way as “no thoughts, no forms, no anchors”. All other patriarchs expressed the same teachings through generations. Chan views all names and concepts as crafted terms and requires that the practitioners do not linger with them in their pursuit. Even Buddha himself should be casted away. Their concentration is on the very status of their lives and the surroundings at the very moment. Mahayana Buddhism (Big Vehicle Buddhism) asserts that all sentient beings possess Buddha nature and Buddha nature is nothing else than the essential nature of the mind itself. When Master Chong Hui was asked, “Why I do not see Dharma?” he answered: “Because you don’t understand. If you understand, you will see there is not Buddha to pursue.”

Starting in Tang Dynasty, Chan began to spread to Vietnam, Japan, and Korea. In late 19th century and early 20th century, Chan began to establish a notable presence in Europe and North America.

Chan asserted: There is no second truth. It would be interesting to compare Chan principles to teachings in Bible. While a lot of Christian believers assault Buddhism as atheism, there is no close examination about Buddhism ontology and, more importantly, how God is being revealed in Bible. According to Chan, discussions on deity or atheism do not mean anything without experiential perception in lives. The following two verses are hardly being understood by most of “God believers”:

- Johns 1:1: In the beginning was the Word, and the Word was with God, and the Word was God.
- Johns 4:24: God is spirit, and his worshippers must worship in spirit and in truth.

(Chinese-English Bible, 1989)

And, the way to approach God, as Jesus taught:

- Mathew 11:25: ... Jesus said, “I praise you, Father, Lord of heaven and earth, because you have hidden these things from the wise and learned, and revealed them to little children. ...”
- Mathew 18:3: And he said: “I tell you the truth, unless you change and become like little children, you will never enter the kingdom of heaven. ...”
- Johns 4:14: but whoever drinks the water I give him will never thirst. Indeed, the water I gave him will become in him a spring of water welling up to eternal life.

On the other hand, Chan is hardly better understood by Buddhists nowadays, either. Through a long history of evolution, Buddhism has been mixed with native religions. Buddha became God in a lot of believers and a lot of gods were added to the list of idols to worship. As shown above, Chan pursues the middle way and is anti-idolatry. Resumption of Chan practice is urgent.

MEDITATION, SCIENCE, AND COMMUNITY

Meditation

As the meaning of Dhyana indicates, meditation is an essential part of Chan practice. As a matter of fact, meditation is the primary way to achieve Chan state, although meditation itself is not the goal of Chan. Stories in Chan history revealed the distinction between Chan and meditation clearly.

Once one of the most prominent 10 disciples of Śākyamuni Buddha, Sariputra, meditated in woods. Sariputra was regarded as “the best in wisdom”. However, he was rebuked by Vimalakīrti, an early lay Buddhist. Vimalakīrti was a Mahayana Bodhisattva, the second achievement position right next to Buddha.

Another famous story is regarding Patriarch Mazhu Daoyi, who was one of the most significant patriarchs in Chan lineage. One day, Patriarch Nanyue Huairang, one of the disciples of the 6th patriarch Hui Neng, visited Mazhu and found him meditating in a small cabin.

Huairang asked: "What is meditation for?"

"To become a Buddha."

Without saying a word, Huairang backed out and began to rub a brick on a stone. Mazhu asked what Huairang was doing.

Huairang answered: "Make a mirror!"

"How can a brick be made into a mirror?"

"If a brick cannot be made into a mirror, how can Buddha be made by meditation?"

Chan requires that the practitioners watch their thoughts at every moment, which means that meditation should be carried on alone the entire day. As Bodhidharma said in his famous "On Breaking Forms", "The Dharma way of watching minds embraces all Dharma ways." (Bodhidharma, Tang Dynasty) Meditation with no objects, anchors, or content, is the primary form of the Bodhidharma Chan. The meditator strives to be aware of the stream of thoughts, allowing them to arise and pass away without interference. Therefore, sitting meditation is not the essence of Chan.

However, sitting meditation is still the most important part of Chan practice before one acquires the prajna, since it is the most effective way to regulate one's mind.

The Wikipedia definition of sitting meditation is: "core aspect of Zen practice, during which practitioners usually assume a position such as the lotus position." (as shown in Figure 1) Various methods were used to regulate the mind. For example, awareness can be directed towards counting or watching the breath; awareness can be put in the energy center below the navel; awareness can be fixed at a picture such as the image of a Buddha or a scene; awareness can also be directed to muttering a Buddha's name, either in voice or silently; etc.

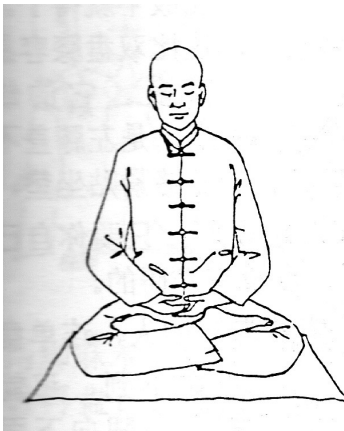


Figure 1. Lotus Position

As Chinese saying goes: Illness comes from heart (mind). The cause of illness is obsesses (desires) in mind, which cause greed, anger, and dumbness, which further cause physical anomaly. Desires in mind are caused by separating oneself from its environment. Buddhism's twelve words of reasons describe the derivation of vexations as a sequence of the following: avidya (无明, obscure) causes progressing (行), progressing causes vijnana (识, memory), then name and beings (名色), six intakes (六入), touches (触), perceptions (受), sentiment (爱), pursuit (取), existence (有), living (生), aging

and death (老死). These twelve words of reasons described how a person begins to identify himself and separates himself from the environment. Words in Bible described this process vividly. When man, Adam, and his wife, Eve, were made, they led a free life in Eden Garden. “The man and his wife were both naked, and they felt no shame.”(Genesis 2:25) When Satan, the snake, allured Eve, he began by arousing her desire to become “wise”. The record of this event in Bible is:

「The woman said to the serpent, “We may eat fruit from the trees in the garden, but God did say, ‘You must not eat fruit from the tree that is in the middle of the garden, and you must not touch it, or you will die.’” ”You will not surely die,” the serpent said to the woman. “For God knows that when you eat of it your eyes will be opened, and you will be like God, knowing good and evil.” When the woman saw that the fruit of the tree was good for food and pleasing to the eye, and also desirable for gaining wisdom, she took some and ate it. She also gave some to her husband, who was with her, and he ate it. Then the eyes of both of them were opened, and they realized they were naked; so they sewed fig leaves together and made coverings for themselves.」 (Genesis 3:2-7)

As Mr. Zizhu Dong mentioned in his book “Eastern Interpretation of Bible” (Dong, 2007), this description is an in-parable account of the twelve words of reasons theory.

The meaning of “Adam”, the name of the first man, is “man”. God made man in his image and gave man a physical body. God is the Word, the perfect original form of life, and man is the “shadow” of God, the image of God made of dust. If God is “clear”, then man is “obscure” (This is the first word of reason in the chain), and man’s freedom in Eden Garden is progression (the second word of reason). In the following,

The sentence “saw that the fruit of the tree was good for food and pleasing to the eye” indicates *vijnana* and name and beings.

And “saw” is eye intake, one of the six intakes (eye, ear, nose, tongue, body, and thinking).

“pleasing to the eye” implies touches and perceptions.

“desirable” is sentiment.

“gaining wisdom, ... took some and ate it”, isn’t pursuit?

“the eyes of both of them were opened”, they felt existence of themselves and the surroundings.

“realized they were naked”, they gained the notion that they were living now.

Of course, Adam and Eve eventually died because living always implies aging and death.

Another interesting matter in Genesis is that the meaning of the name of the first son, Cain, of Adam and Eve is “gain”, which is naturally coupled with “pursuit”. What did Cain do? He killed his brother Abel. The name “Cain” therefore became a synonym of “killer. According to the words of reasons, isn’t it very true that pursuit causes death? And this is what God warned at the beginning “you must not touch it, or you will die”.

As such, man’s perceptions lead to the recognition of him self and separate himself from the surroundings, and this separation comes with the notion of “good” and “evil”. Man began to judge between himself and others and desire for wisdom so that he can judge more “correctly”. The essential philosophy of Chan is giving up recognition and distinction. This implies revoking desires, judging, and all entailed sentiments. Buddhism classifies ample sentiments such as lust, anger, and

obsessing as “coarse vexations” and subtle mind activities such as judging, distinction, and thinking as “fine vexations”. In practice, one should get out of coarse vexations first and then get out of fine vexations. The procedure is summarized into three steps: abstaining, dhyana, and prajna. Although these three steps are concurrent instead of in a sequence, abstaining is clearly the starting point since it builds the foundation for the other two steps. We can see this methodology coincides with Jesus teachings:

- Mark 8:34: “If anyone would come after me, he must deny himself and take up his cross and follow me. ...”
- Luke 6:37: “Do not judge, and you will not be judged. Do not condemn, and you will not be condemned. Forgive, and you will be forgiven. ...”
- Luke 12: 22, 25, 26: Then Jesus said to his disciples: “Therefore I tell you, do not worry about your life, what you will eat; or about your body, what you will wear. ... Who of you by worrying can add a single hour to his life? Since you cannot do this very little thing, why do you worry about the rest? ...”

Man’s desires and sentiments block his insight into the surroundings. With Chan practice, one often showed unusual mind power that even performs “miracles”. However, this mind power is not gained but just released when the blocking elements (coarse and fine vexations) are removed. Chan masters always taught that everybody has the same Buddha nature and the same spiritual power and one should never pursue any spiritual powers since such desires themselves are blocking elements.

When Jesus was asked by Pharisees and Sadducees to show them a sign from heaven, he replied: “When evening comes, you say, ‘It will be fair weather, for the sky is red.’ and in the morning, ‘Today it will be stormy, for the sky is red and overcast.’ You know how to interpret the appearance of the sky, but you cannot interpret the signs of the times. ...” (Mathew 16: 2-3) In another occasion, when Jesus was asked to show a miraculous sign, he directly rebuked them: “A wicked and adulterous generation asks for a miraculous sign! But will be given it except the sign of the prophet Jonah. ... The men of Nineveh will stand up at the judgment with this generation and condemn it; for they repented at the preaching of Jonah, ... The Queen of the South will rise at the judgment with this generation and condemn it; for she came from the ends of the earth to listen to Solomon’s wisdom, ...” (Mathew 12: 39-42) What is the sign of Jonah? Repent!

As Bible says: “... faith by itself, if it is not accompanied by action, is dead.” (James 2:17) Can faith be measured by its physical manifestations? Since Chan is a practice of self control in an every-thought level, and its effect is clearly felt, is there a way to measure the effects by scientific means? If the answer is yes, the merit of such measurement is meaningful in many aspects. Firstly, the summarized measurement can verify the teachings of Chan masters. Secondly, it will help regulate Chan practice. Thirdly, it will help build a science for proactive therapy. Lastly but not least, such a science will make religious teachings more tangible and verifiable.

The starting point is measuring meditation.

Science on Chan

Probably the most straightforward way to measure meditation is to apply medical technologies to measure the effects of meditation. Such kind of research is suited into the context of medicine research. Generally, two types of research models can be used: statistics models and micro models.

Statistics models are built by applying statistical analysis to collected data from meditation practitioners. Data analysis is done either in the progress of the practice, e.g., comparing the indexes at different points of time during the process; or between different groups, e.g., comparing a group of meditators to a control group.

Current literatures show that both methods are used in the study of complementary and alternative medicine, which includes meditation as one of the methods. In (Loizzo et al, 2010), a 20-week contemplative self-healing program was studied. Biologic data were analyzed at the beginning and the end of the program. Research results showed that a contemplative self-healing program can be effective in significantly reducing distress and disability among the testers. In (Habermann et al, 2009), a long-term (5-20 years) project was carried out to investigate the use of complementary and alternative medicine and its effects onto the testers' health.

Comparisons across different groups of people are also found. For example, in a 6-week mindfulness-based stress reduction program, subjects assigned to the program demonstrated significant improvements in psychological status and quality of life compared with usual care. (Lengacher et al, 2009) Another comparison is found in (Oh et al, 2008), where a group of Qigong practitioners were compared to a control group and positive indicators were found in the study.

A survey of the literature on cognitive impairment and cancer presented in (Biegler, 2009) suggests that meditation may help to improve cancer-related cognitive dysfunction and alleviate other cancer-related sequelae. Although effects of meditation practice may be more notable among patients, we suggest that more investigations be done in various social groups, e.g., in fitness and sports groups, to fully examine the impact that Chan can bring to modern society.

In the following, we examine some of the models that can be built.

Behavioral Models

The seven Latifas indicates that a Chan practitioner should demonstrate good behaviors and self-control. Measurement of meditation effects can be done by analyzing mental health indicators, e.g., lust, anger, fear, ability of cautioning oneself, balance in personality, etc. Existing psychological measurements can be applied to Chan practitioners against psychological indicators summarized from the seven Latifas. One example of existing metrics that include psychological indexes is Functional Assessment of Cancer Therapy --- General (FACT-G) (Cella et al, 1993), which consists of four subscales assessing physical well-being, social well-being, emotional well-being, and functional well-being. Another metric is Profile of Mood State, which measures mood. (McNair, Lorr, & Droppleman, 1992)

Famous Zen scholar, Daisetz Teitaro Suzuki (鈴木大拙), wrote a book (Suzuki, Fromm, & De Martino, 1970) about Zen and psychoanalysis, which gives a Buddhist analysis of the mind, its levels, and the methodology of extending awareness beyond the merely discursive level of thought. In producing this analysis, Suzuki gives a theoretical explanation for many of the swordsmanship teaching stories in "Zen and Japanese Culture" (Suzuki, 1959) that otherwise would seem to involve mental telepathy, extrasensory perception, etc.

A recent work in Zen and psychotherapy can be found in (Mruk & Hartzell, 2003), where the therapeutic value of meditation is analyzed. There are six Zen principles of psychotherapeutic value: acceptance (suffering), fearlessness (courage), truth (enlightenment), compassion (toward self and others), attachment (desire), impermanence (letting go). In addition, Zen is analyzed against the phenomenology of traditional psychotherapy in the biological approach, the learning theories, the cognitive approach, the psychodynamic perspective, and the humanistic approach.

Progression Model

A model can also be built from the procedures of meditation itself. Such a model will no longer be suitable for clinical purposes but aiming to be guidance for meditation practice.

The well known four Dhyanas (catvari-dhyanani) theory clearly depicts the procedure of meditation in four series of stages, viz., the first Dhyana through the fourth Dhyana, as described in the following.

- 1) First Dhyana: Bliss Born of Separation
- 2) Second Dhyana: Bliss Born of Samadhi (proper concentration and proper reception)
- 3) Third Dhyana: Wonderful Happiness of Being Apart from Bliss
- 4) Fourth Dhyana: Clear Purity of Casting Away Thought

(http://www.bhaisajyaguru.com/buddhist-ayurveda-encyclopedia/four_dhyanas_sz-chan_sz-jing-chu_catvari-dhyanani_jhana.htm)

Each stage has specific state of mind, the realm of sensory perspectives, possible interaction with spiritual beings, and methods to avoid deviations from the right path. In Sui Dynasty of China, Patriarch Zhi Kai (智凯, AC 523-597), the first patriarch of the Tiantai School (one of the eight primary Buddhism schools), specified the detailed methods of Dharma practice for each Dhyana stage (Zhi Kai & Ma, 1995) and his methods have been used as the primary methods and/or guidance for meditation ever since.

Detailed descriptions of the four Dhyanas are:

- In the First Dhyana (The Ground of Bliss Born of Separation), one's pulse stops, but this doesn't mean one is dead. This brings a particular happiness which is unknown to those in the world.
- The Second Dhyana is called the Ground of Bliss Born of Samadhi. . . . In the Second Dhyana, one's breath stops. There is no detectible breathing in and out, but at that time an inner breathing takes over.
- The Third Dhyana is the Ground of the Wonderful Happiness of Being Apart from Bliss. One renounces the *dhyana*-bliss as food and the happiness of the Dharma that occurs in initial samadhi. One goes beyond that kind of happiness and reaches a sense of wonderful joy. It is something that one has never known before, that is inexpressible in its subtlety, and that is inconceivable.
- The Fourth Dhyana is called the Ground of the Clear Purity of Casting Away Thought. In the Third Dhyana thoughts were stopped--held at bay--but they still had not been renounced altogether. In the heavens of the Fourth Dhyana, not only are thoughts stopped, they are done away with completely. There basically are no more cognitive considerations. This state is extremely pure, subtly wonderful, and particularly blissful.

It is easily seem that each Dhyana has specific bodily manifestations. For example, one's pulse stops in the first Dhyana and the breath stops in the second Dhyana, and one can anchor his thoughts in the third Dhyana and totally stop thoughts in the fourth Dhyana. With the advancement of modern technology, we can well go beyond these obvious bodily manifestations and give more detailed accounts of bodily manifestations in terms of modern medical terminologies, such as those used in electrocardiogram, electroencephalogram, and magnetic resonance imaging (MRI).

As a matter of fact, four Dhyanas is actually very high achievement level in meditation practice. In Buddhism, the heaven (in its spiritual definition) has three levels (recall 2 Corinthians 12: 2: I know a man in Christ who fourteen years ago was caught up to the third heaven. Weather it was in the body or out of the body I do not know --- God knows.) The three levels are: the heaven with desires, the heaven with dharma, and the heaven without dharma. The heaven with desires in the lowest and the heaven without dharma is the highest. Buddhism's goal is getting out of the three heavens. Therefore, Buddhism achievers, including Buddha, Bodhisattva, and Arhat, are above three heavens. Each heaven is further divided into three levels. Therefore, there are nine levels pf heavens in total. Chan's

realm, Samādhi, does not exist in the heaven with desires. Actually, the heavens of four Dhyanas are the highest levels in the nine level heavens.

There are not so many meditators with such high achievements in the four Dhyana levels. As a matter of fact, most of the meditators are even under the lowest level of heaven with desires. It might be more meaningful and cost-effective to test one's proficiency level of meditation using more direct indicators. For example, fearlessness is one of the important psychological indicators of Chan practitioners. An often cited Chinese idiom describes the brevity as: no eye winking in front of a falling Tai Mountain (Tai Mountain is one of the highest mountains in China). Interesting stories are found in Bible as well:

- Mathew 8: 24-26: Without warning, a furious storm came up on the lake, so that the waves swept over the boat. But Jesus was sleeping. The disciples went and woke him, saying, "Lord, save us! We're going to drown!" He replied, "You of little faith, why are you so afraid?"
- Mathew 14: 29-30: Then Peter got down out of the boat, walked on the water and came toward Jesus. But when he saw the wind, he was afraid and, beginning to sink, cried out, "Lord, save me!" Immediately Jesus reached out his hand and caught him. "You of little faith," he said, "why did you doubt?"

The above stories indicate that fear is linked to doubt. As a matter of fact, one is afraid when he loses confidence in his destiny. A good Chan practitioner should be affirmed of his destiny and can control his way of passing away. As Patriarch Bai Zhang said: "Coming back from and going forth to death is like door's opening." This is attested by the fact that almost all of the Chan masters passed away and entered Nirvana in a sitting position, sometimes while talking and laughing. Doubting is one of the most harmful barriers in spiritual lives as well as Chan practice. As Buddhism scripture says: Belief is the origin of the way and the mother of good deeds, for it constantly fosters all characteristics of virtue.

Would putting testers on a roller coaster be an easy way to find a clue about how good the testers are in Chan?

We can find ways to test other Chan personalities as well.

Chan Fitness

We want to point out that Chan can be cultivated not just in medicine, but in fitness and sports as well. As a matter of fact, the world famous Shaolin martial arts came from Chan. When coming to China, Bodhidharma firstly met Emperor Wu of the southern Liang Dynasty and found that, even Emperor Wu was extremely zealous in Buddhism and had built a lot of temples, he could not understand Chan. Then Bodhidharma went to Shaolin Temple and sat in front of a wall for nine years. After long sitting, a meditator usually needs to exercise his body to resume its functionalities. Bodhidharma developed some forms to exercise his body and these forms became Shaolin martial arts. Shaolin martial arts are still being practiced nowadays in Shaolin Temple as a tradition.

Shaolin martial arts emphasizes on the harmony between one's mentality and his body. The training of the movements is at the same time a training of one's mind. As the Shaolin motto says: Stand like a pine; sit like a bell; sleep like a bow.

There is an old Chinese pet phrase, "World's martial arts come from Shaolin." Shaolin martial arts fostered the origination of other martial art schools in China, which disseminated to the nearby countries such as Japan, Korea and Vietnam and became other martial art schools.

Meditation was an important part of the martial art training in old days. However, this tradition is no longer followed in martial art centers nowadays. To keep the essence of martial art trainings, it is necessary to resume the practice of meditation in martial arts.

Meditation can be used in other fitness programs as well.

Chan Arts

Free style rhyme verses are often used in Buddhism scriptures to enhance expressivity. Rhyme verses were especially frequently used in preaching and arguments in Chan schools. Since Chan endeavors an experiential acquisition of the prajna, and this experience is beyond wording, expressing a meaning directly in words is a taboo in Chan. There are a lot of records of Chan sayings, most of which are in the form of arguments. They are hard to understand because they were about the state of mind and did not follow any logic. Sometimes Chan masters used actions to express what they were saying. They may shout, whip with a stick, smack, snatch nose, do a tumble wheel, or just be silent. Rhyme verses were often used because this form of expression fits well for Chan. When a Chan practitioner suddenly acquired the prajna, he may utter some rhyme verses instantly out of his enlightenment. One story is as follows.

Monk Shuiliào from Hong Zhou visited Ma Zhu and asked: “What is the purpose of Bodhidharma’s coming from the West?” Ma Zhu said: “Show your formality!” When Shuiliào bowed down, Ma Zhu instantly kicked him over by the chest. Shuiliào suddenly understood (the prajna). He stood up, laughing and clapping his hands, and said (in rhyme): “Amazing! Amazing! Countless Samādhi’s and immeasurable senses, all are perceived at the tip of a hair, and the origin of Dharma is captured.” He saluted Ma Zhu and left. He became the abbot of another temple.

In addition to free style rhyme verses, there are a lot of Chan poems, written in strict classic poetry format. Chan poems are brief, clever, and enlightening. They never feed readers with any emotions or unnecessary trivial stuffs. The following is one of them. It revealed the author’s love of a free life and the nature.

摧殘枯木倚寒林，	Living along a cold forest when trees were beaten by the weather,
几度逢春不变心。	My heart has not changed through many years.
樵客遇之犹不顾，	Even a wood hunter would not look at me,
郢人那得苦追寻。	Why did my old friend track me so hard?
一池荷叶衣无尽，	In a pond of the leaves of water lotus, I never worried about clothing,
数树松花食有余。	With the flowers of a few pine trees, my food was abundant.
刚被世人知住处，	Once being detected of my place by people,
又移茅舍入深居。	I further moved my cabin into the depth of the woods.

There are also a lot of Chan drawing pieces along the history of Chan. Similar to Chan poems, Chan drawings are brief and straightforward. They deliver the meaning directly without decorative details. Sometimes the meaning is beyond the domain of language and has to be communicated with extra sensory perception (Huai Li, 1989). Figure 2 is a drawing with Chan flavor.



Figure 2. Bodhidharma crossing the river on reed.

Generally speaking, Buddhism does not encourage the use of music because most of the music pieces are emotional. However, calm and lightening music is used in worships. In recent Yoga, Qigong, and Taichi practices, music is frequently used in meditation to help concentrate the mind. However, there is no record showing that music was used in Chan. As a side note, mythical theory about music existed in China's history in which music was said to have spiritual power. While Western music theory experts think that the Chinese five notes music system is less mature system, compared to the common seven notes system, an alternate view is that the Chinese five music notes are corresponding to the five basic elements of the universe. In Chinese five notes system, the intervals between two adjacent notes are all whole steps. Some advocators of Chinese music believe that music in Chinese system is "wholesome", i.e., without downcast emotions, while music in the Western seven notes system is often grieving because of the use of half steps.

Chan's life is fully down-to-the-earth real life. As the sixth patriarch Hui Neng said: "Buddhism is in the world, awareness of truth is not apart from the world." A life full of Chan should be enlightening, joyful, free of worries, compassionate, and encouraging. Its spirit can be manifested in any form of arts, not limited to certain forms discussed above.

On the other hand, no matter of its incarnation, the art of Chan should reflect the spirit of Chan. With the development of the science on Chan, we can imagine applying scientific scrutiny on art works to determine weather an art work is healthy. There are a lot of art and literature works that are deemed excellent but not helpful to people's lives. Two notable examples are Ernest Hemingway and Yasunari Kawabata. They both are Nobel literature prize winners and they both committed suicide. As a matter of fact, there are a lot of famous writers who committed suicide in the history of many countries, e.g., the most reputable poet Qu Yuan and Li Bai in Chinese history. As an idiom says, "Ability in essay is hatred to one's life." Chan Master Geng Yun said: "Writers should learn Buddhism." (Geng Yun, 1989a)

Chan in Modern Society

One may want to examine how Chan can be suited in the modern society. In the history, Chan's life was often featured by the love of freedom and the nature and a life in isolated places, although there were quite a few counter examples, such as Chan Master Dao Ji, who lived in the cloud of people in downtown areas, drinking and eating meats. He was said to hide his real position as a Bodhisattva by his disobeying monk's caution rules in order to mix among people and help people with his spiritual powers. There are a lot of stories about how he helped poor and oppressed people and persuaded people to do good deeds. Although Chan's practice encourages a simple and isolated living style, a lot of Chan masters lived in noisy areas to train their mind power of self-control. Influenced by monks' lives, a lot of officials and scholars in Chinese history chose to lead a period of isolated life to accomplish a scholarly work or pursue spiritual goals. However, there was an idiom: "Small isolation is in mountain; big isolation is in town."

With the advancement of communication technologies, modern societies are getting more and more cyber-fused. Instantaneous information propagation creates a flow of information around each person. Abundance in material supplies has enriched people's lives. While this abundance allows for more choices for people, it brings hardships in that more and more things must be obtained by effort instead of be given as before. Therefore, people are leading busier and busier lives. Span of attentions is getting shorter. More and more problems have been created because of the exposure to all sorts of media.

Scholar Zizhu Dong used the mesh of Mouni pearls to describe the phenomena of this cyber-fused world. (Dong, 2007) The mesh of Mouni pearls is described in Buddhism scriptures. A Mouni pearl reflects the lights of all other Mouni pearls in the mesh. In the modern society, any individuals are no longer isolable from the group. Dong further suggested that modern communication technologies, such as TV, Internet, and portable phones, are modern incarnation of so-called "miracles" in religions.

While the chaotic modern society makes isolated spiritual training harder, it does help people to get rid of the perplexity about spiritual powers, such as "vision", "miracle", and "sign". Such perplexity was a heavy blocker on the road to Chan and it cost a lot of effort of Chan Masters to remove it from Chan apprentices. Nowadays, people have a much more true view of the cosmic and human themselves. Chan practitioners no longer need sophisticated theory to satisfy their curiosity about the world and remove their persistent pursuit of ontology outside their minds. We can give Chan a psychological definition and use technologies to assist the Chan practice. And we can take the advantages of the modern communication technologies to form e-Health communities in which people can exchange information and help one another. Such advantages were not possible in older days.

Chan ought to revive and benefit the world.

Chan and e-Health communities

Various Chan communities exist nowadays. Generally speaking, there are three types of Chan communities:

- Chan communities formed by a leading Chan master;
- Chan communities formed by an organization or a group;
- Chan communities formed via online communications.

Almost all Chan communities have a web site for discussion and blogging. However, the first two types of communities originate as a group of people sharing the same interest. Their web sites are

either used to advertise their presence or as a communication channel among dispersed group members. In the following, we will give a brief introduction to some of the Chan communities.

An Hsiang Ch'an (<http://eg.anhsiangchan.org/>): An Hsiang Ch'an was started by a Taiwan Chan master Geng Yun. (Geng Yun, 1989b) In his famous essay "Beauty of An Hsiang", Geng Yun defined An Hsiang as the presence of Dharma, the life of Chan, and the right perception of Dharma. In other words, An Hsiang is the state of acquiring the prajna. Literally, "An Hsiang" in Chinese means a stable, calm, and balanced mind state. Geng Yun used An Hsiang to describe the state of mind Chan is achieving.

An Hsiang Ch'an had broad impact to Chan practitioners in Taiwan and mainland China. Geng Yun organized the Foundation of Geng Yun Ch'an, which was very active in 1990's. After Geng Yun passed away in 2000, An Hsiang Ch'an still maintains its organizations in Taiwan. Its disciples are still active in Asia and Pacific areas.

Modern Ch'an: Modern Ch'an was another Chan campaign originated in Taiwan. Chan master Yuansong Li, with over 20 years of Chan practice, started "Modern Ch'an" sect in 1999. He, too, initiated the Culture and Education Foundation of Modern Ch'an. In his book "How people in modern society learn Ch'an.", Yuansong Li tried to convey Chan, its concepts and methods, in modern terminologies. (Li, 1995) Some of the ideas were contradictory to accepted notions. For example, he thought that people can enter Chan with sexual desires and he implied that acquiring prajna is an easy process that everybody can afford. His theory was rejected by a lot of Buddhists and his sect was regarded as a heresy.

In 2003, Yuansong Li contracted cancer and found that his Chan mastery could not help him in fighting against disease. He realized that some of his theory was not correct and wrote a letter of apology to the public, and he persuaded people to turn to the Pure Land school of Buddhism for a blessed destiny after death.

Shaolin Temple Family (<http://www.shaolin.org.cn/en/index.aspx>): with its reputation in Chan and martial arts community, Shaolin Temple leads a community of Chan and martial arts practitioners. Shaolin Temple publishes a Chan magazine "Chan Dews" and hosts a forum among the readers. Shaolin temples in other countries have been built and international cultural exchange activities are promoting Chan practices all around the world.

Zen Centers (http://iriz.hanazono.ac.jp/zen_centers/country_list_e.html): Originated in Japan, Zen centers are now present in 67 countries around the world. In the US, every state has Zen centers. Each Zen center has its own web site and community. Members can subscribe newsletters and join the online forum. Zen centers provide venue for group meditation. Art works, such as greeting cards, are also posted at the web sites. Words from Zen masters often advise practitioners to apply Zen principles to every day lives.

Chan Breeze under the Pine (松下禅风, <http://q.163.com/songxiachanfeng/forum/column/0/>): This is a Chinese online Chan community whose members are mainly lay Chan practitioners. Its free style blogging facility allows for active communication among the members. Topics of conversation include Chan, poetry, arts, charity, story telling, announcements, etc. Experienced members take turn to be the circle leader.

Chinese Study Archives (国学数典, <http://bbs.gxsd.com.cn/>): This is a web site for communication about traditional Chinese studies, including Confucianism, Taoism, Buddhism, philosophy, and history. Members can freely exchange information, literature pieces, and ideas in the blog. Because of the historical liaison among Confucianism, Taoism, and Buddhism in China, Chan is also one of the themes of discussions.

The above listing is only a small portion of Chan communities in the world. Chan may be still a perplexing term to many people, it is like a beautiful story that lingers in the hearts of people, or a magnetic stone that attracts the attention of those who are seeking the ultimate goal of lives. With the advancement of modern communication technologies, it is right time to establish online communities for scientific studies of Chan. Such communities are still rarely seen. Probably the first scientific Chan communities will be on healthcare and medicine, which is also the area where the efficacy of Chan can be clearly verified and the benefits are clearly seen.

FUTURE RESEARCH DIRECTIONS

Although clinic studies of alternative medicines including meditation are present in the literature, more systematic studies are still in need. The ideas presented in this paper have to be refined and incorporated in clinic and/or laboratory procedures to be fully scientific. Interdisciplinary collaborations will be sought to promote science on Chan.

CONCLUSION

Through thousands years of practice, Chan is tested to be a superior mental training methodology and it is religious neutral and middle way. Its effect, however, is beyond the scope of any theoretical studies. Meditation is the primary way of Chan and there are clearly expounded methods for meditation. Chan pursues a mentality of full freedom and enlightenment. With the advancement of modern experimental technologies, the effect of Chan is measurable and meditations have been studies in clinics. However, systematic science on Chan is still yet to be established. Various models exist and can be used in systematic studies of meditation. Modern societies will benefit from Chan practices. In addition to existing Chan communities, networks of scientific studies on Chan and online healthcare systems using Chan should be established.

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