

Radio France Internationale Interview 2011

(Translated from Vietnamese)

RFI: Since the middle of the twentieth century, there have been Buddhist meditation practitioners who have turned their attention towards science, and in particular neuroscience, to establish an objective scientific basis for the spiritual practice. Recent developments in neuroscience research and in particular techniques to measure and photograph the activities of the brain have enabled a number of Buddhist monks to put themselves forward as subject of scientific enquiry in the field of neuroscience.

We have had the opportunity to meet Zen Master Thích Thông Triệt, from the Sunyata Meditation Association based in the USA, while he is here in France on a teaching trip. Zen Master Thích Thông Triệt has for many years had a yearning to use scientific knowledge to shine a light on his own meditation practice. He has published in 2011 a book entitled “Zen in the light of science”, which has been translated into French and English.

This book describes the results of brain imaging experiments conducted with electroencephalography and functional magnetic resonance imaging equipment by neuroscientists at the University of Tuebingen (Germany) for 5 years (2006-2010) on Zen Master Thích Thông Triệt himself as well as several of his Sunyata meditation students.

We have managed to meet Zen Master Thích Thông Triệt at the Paris Sunyata Meditation Association meditation center before he catches the flight back to the USA. The following are explanations that Zen Master Thích Thông Triệt gave us on this topic.

RFI: *Good afternoon Zen Master. Today, we are fortunate to have you talk to our station, and through us, to our Vietnamese listeners, or those who can understand Vietnamese, about the practice of Zen Buddhism in the light of modern neuroscience. More specifically, about the practice of Zen Buddhism meditation and its effects on our everyday life, and how meditation can help us alleviate difficulties that we face in the areas of physical and mental health and illnesses. What do you think Zen meditation can bring to ordinary people who are in these situations?*

Zen Master Thích Thông Triệt: First, I would like to thank Mr. Trọng Thành, representing Radio France Internationale, for asking the question. Zen meditation comes from Sakkhamuni Buddha. He developed his own practice method and experienced for himself the answers to the questions that have long preoccupied him. He then realized the fruits of his practice and attained enlightenment. Following that, he decided to teach, and what he taught was really the practice of meditation. The Buddha’s meditation practice aims at helping people adjust their perspective, because it is their perspective that leads people towards either suffering or liberation.

This is why, when we teach our meditation practice, we aim to develop those areas that help people achieve harmony between their body and mind, and develop their spiritual insights. We often refer to the teaching that the Buddha has realized. This method is based on the breath. Using the breathing method, we can stop the disorder that occurs inside our brain. We will elaborate on this point if there is a need by your listeners.

Finding the way to stop wandering thoughts from arising

RFI: *Zen Master, could you explain why you have sought scientific knowledge, and in particular knowledge from neuroscience, to combine with the methods that the Buddha taught us? Why did you decide to pursue this path?*

Zen Master Thích Thông Triệt: This is a rather long story. However if you want to hear it, I will tell you. Meditation is really an old practice, but today it is becoming new again. Meditation has been around 2500 years. The Buddha attained enlightenment through meditation. He also taught his methods through meditation.

However the method is difficult to practice and therefore many people have invented their own methods. The aim of meditation is to quieten the mind, but those inventions had the effect of confusing the matter greatly. Everyone follows their own methods, and the result is utter confusion. We have literally millions of methods, not mere thousands. Through the last 25 centuries, the meditation practitioner has been facing a great deal of difficulty. He is like a person standing at the edge of thick jungle and wondering what is the way in.

I myself was in the same situation. I failed when I tried to apply the old methods that I was taught. But then, something burst forth in my own mind, and I found the answer to my questions. It was “stop the inner talk”! If you keep talking silently to yourself, the wandering thoughts will keep arising. The aim of meditation is to eliminate these wandering thoughts that automatically emerge in our mind. Various people have invented various ways to eliminate wandering thoughts. I tried everything, and still I did not manage to eliminate the “inner talk” in my head. In reality, at the time, I didn’t know them as “inner talk”, I just knew them as wandering thoughts. But then, I had a realization: “These wandering thoughts, they are the

inner talk in our head". What we need to do is to silence the inner talk. From that time, I practice eliminating the inner talk.

RFI: *I would like to interrupt you a moment. Could you please explain how the "inner talk" manifests itself, and what are its negative effects?*

Zen Master Thích Thông Triệt: inner talk comes from a structure called "perception" in our mind, there is a structure... But at the time, I didn't know anything about the structures in the brain. All what I knew was a "thought" has arisen in my mind. And then there is a back and forth dialogue. This means that we have a back and forth dialogue with ourselves about something that has emerged in our mind. We follow this image that has appeared in our mind, we talk about it, and then our emotions arise about this image. This is why our mind can never be at peace.

RFI: *The inner talk that you talk about could change into an inner dialogue, is this correct?*

Zen Master Thích Thông Triệt: This is correct. Initially there is an inner talk, but then it becomes an inner dialogue that never ceases. From an initial story that is quite trivial, we start to imagine things, become fearful, sorrowful and maybe angry. There are times when "it" pushes us to kill someone, or do things very bad, very awful. All because of this inner dialogue. When I identified it, I applied the practice of cutting the inner talk.

Experience of spiritual practice while in re-education prison camp

RFI: *When did you make this discovery, and was it before you started to study neuroscience and the brain structures that are associated with meditation?*

Zen Master Thích Thông Triệt: This is correct. It was in 1982, when I was in North Vietnam, inside the re-education prison camp Thanh Liệt. I then discovered that the "thought" (or wandering thought) that I wanted to stop was in reality *initiated by the inner talk*. When we stop the inner talk, the "thought" will cease, all wandering thoughts will cease. From that time, I understood that when there is no inner talk, there are no wandering thoughts. I was then able to calm by mind. From that time on, I practice according to this discovery.

After my first two years in prison camp, I was told that I looked like an 80-year old person when in reality I was in my forties. I didn't know why I aged so quickly in just two short years. I continued practicing until 1982, when I was transferred to North Vietnam. I then realized that: *the inner dialogue or inner talk that arises in the mind has the effect of destroying my body*.

RFI: *At that time, you were in a re-education prison camp. Could it be said that the harsh conditions and the isolation were the causes of your condition?*

Zen Master Thích Thông Triệt: No, this is not correct. I indeed was then in a re-education prison camp, but this was a good environment for my spiritual practice, because I don't have to do a lot of interactions with the external world. This was a good environment to practice meditation. The aim of meditation is to stop wandering thoughts, but I didn't know then what this meant. When I realized that wandering thoughts come from the inner talk, a crucial point, I started to practice towards stopping the inner talk. Zen meditation says that we need to "eliminate wandering thoughts", but I think that is not quite correct, we should say "be the master of wandering thoughts" instead.

Shortly after I started the practice of stopping the inner talk, I looked like a young and handsome man, and no longer an 80-year old man. A proof of this was when I was transferred to Hà Tây. I saw some fellow prisoners who looked old and emaciated. The prison guard pointed at me and commented that I have been in camp the longest and yet my face had a healthy, rosy complexion. When I heard this comment, I thought that this meant that I am following the right practice. I didn't know what the exact effects of a right practice were, or what "liquid" helped me gain good health. But I thought there had to be some "liquid" that was secreted in my brain that helped me looking young and pure. That was the first thought that came to my mind at the time.

Understanding neuroscience will help reduced the time needed to achieve good results in meditation

RFI: *So it was that experience that you had in 1982 which was the starting for your direction towards studying neuroscience and the relationship between the brain and meditation. Could you explain in simple terms to our listeners how understanding neuroscience would create the conditions to understand meditation?*

Zen Master Thích Thông Triệt: First, when we understand the workings of the brain, we can practice meditation without fear of doing so incorrectly. Second, we would dramatically reduce the time required. Instead of practicing to overcome wandering thoughts, are stop them from arising, now we no longer need to do it. All we need to do is create the condition where wandering thoughts will not arise.

In our brain, and in regards to meditation, we can differentiate two areas, one at the front and one at the back. The area at the back is what Zen Buddhism calls the “wordless awareness mind”. At the front, on the right side, is the consciousness, and on the left hand side are the thinking mind and the intellect. These structures constitute our “worldly mind” or the mind of the ordinary people, who is always attached to things.

We say to this mind: “You stay here, idle, I will go through the other gate”. We just ignore the front area and go straight to the rear area. The rear area is where the “wordless awareness mind” operates. If you want to go straight there, you need to know what are its characteristics and functions. This structure is the site of awareness without any inner talk arising.

When I now teach meditation, I advise students to “ignore”. We know what the structures at the front of the brain are, we know that they are linked to attachments due to the traditions that have deeply imprinted our mind, the mental torments that lie hidden in them, and the addictions and passions that lie in there as well. We cannot eliminate all these from our mind in a short period of time. So I say: let it (the front area) stay there inactive and let’s go straight to the “wordless awareness mind”.

I have been teaching meditation students, but I couldn’t then demonstrate what I said by using images of the brain. I had to wait until 2006, when our students in Germany managed to get in touch with two neuroscientists, Dr Erb and Dr Sitaram. It was only when we took images of the brain that I know concretely where these areas are located. Now I can teach meditation practitioners to go straight to the structure at the rear to achieve a quiet mind without wasting their time.

Yesterday I taught in Poitiers to people who are entirely new to meditation, who have never practiced meditation. I taught them the way to go straight there. And they discovered that they can control the utter disorder that occurs in their mind. This reinforced my belief that nowadays, you can reap the fruits of meditation without needing a lot of time. First, we need to tell people what are the specific areas. Westerners have a lot of knowledge, unlike us Vietnamese. In Vietnam, most of the people who follow the spiritual path do not have scientific knowledge.

In one of my books, I made a comment that later, if possible, meditation should be taught at school to year 10 students. This will allow them to gain a general idea and will help them practice. From year 10, they will have sufficient knowledge (...)

RFI: *Master, you just mentioned your lecture in Poitiers, did you say that in just two days, people can gain an idea of what you just said?*

Zen Master Thích Thông Triệt: Not only can they gain an idea, they can experience it. They can do it straight away.

RFI: *What exactly could they do?*

Zen Master Thích Thông Triệt: For example, I taught them the breathing technique, limited to step one and step two. Thoughts in their mind stopped. I asked: did you have inner talk in your head? They responded: No. I then guided them further. In just two days, I could teach them enough about the theory and practice of meditation. They can do it, they feel energized, joyful and their psychosomatic illnesses were reduced. For example, illnesses such as high blood pressure or cardio vascular disorders.

High blood pressure, high blood cholesterol level, and heart rate disorders

RFI: *Master, what are the illnesses which, from your teaching and practical guidance experiences, practitioners can alleviate in a fast and efficient manner?*

Zen Master Thích Thông Triệt: Cardio vascular disorders, such as high blood pressure, high blood cholesterol level, and irregular heart rates are the ones where practitioners can see immediate improvements. When I teach meditation, I ask students to write down their disorders without writing their names. I then sort and classify what they wrote and use this information to adapt my teaching. For example, there are people who suffer from chronic insomnia. I explained that insomnia is caused by the biological clock inside our brain not functioning properly. I once guided a young woman through the looking at darkness technique to rebalance her biological clock. When you practice this technique, the optic nerve travels past the gland that regulates our sleep-wake cycle, the pineal gland. This gland secretes the hormone melatonin.

RFI: *When I hear you describe the way you resolve illnesses, you sound like a psychiatrist or psychologist. I would like to ask whether there is a tangible link between the Buddhist meditation method and modern methods for addressing mental illnesses?*

Zen Master Thích Thông Triệt: The Buddha taught us the technique of looking at the light. The light can be the sunlight or a light from a lamp. What is the path followed by the light? When we look at the light, it gets through the retina of our eyes and activates the optic nerve which generates a signal that crosses-over through the optic chiasma and then travels to the pineal gland. The pineal gland secretes the neurotransmitter serotonin, as well as melatonin. These biochemicals can

alleviate insomnia and depression. This is how we use science to reconcile with the Buddha's teaching in the sutta. We may ask: the sutta said that, but how is it achieved? I can now say: "though the release of biochemicals inside the brain".

RFI: *Can you talk about other illnesses that you said can be helped by the practice of meditation, such as high blood cholesterol level, or cardio vascular disorders. How does this practically happen?*

Zen Master Thích Thông Triệt: The Buddha taught us the breathing method. When we breathe in, the air touches the olfactory bulbs that are shaped like two little sticks inside our nose. The olfactory bulbs connect to the hypothalamus, which is the center for our mood and emotions. Agitation, calmness, virtuousness all arise there. Through breathing we activate the hypothalamus. When we practice the Buddha's breathing method, the hypothalamus is quiet. Next to the hypothalamus is the center for fear and emotions.

RFI: *What is the scientific name of this region?*

Zen Master Thích Thông Triệt: The amygdala. When we practice the Buddha's breathing method, we activate the parasympathetic nervous system. This system secretes at its extremities the neurotransmitter acetylcholine. Acetylcholine has a role in regulating our cardio vascular system. Also, the parasympathetic nervous system connects with the vagus nerve that links to the lungs and other inner organs such as the liver. This is how it regulates the body functions. Therefore, when we practice breathing, we activate three systems: the parasympathetic nervous system, the vagus nerve and the endocrine system, with acetylcholine playing a central role. Acetylcholine is secreted from several areas of the brain: the brainstem, the hypothalamus, the somatosensory cortex etc. This is how it helps prevent strokes and regulate the cardio vascular system and blood cholesterol level. The reason is that acetylcholine negates the impact of two other biochemicals that may generate high blood cholesterol, norepinephrine and epinephrine, also called noradrenaline and adrenaline.

RFI: *Master, it sounds like meditation can alleviate every illness. This seems to be within everyone's reach, without needing to go to hospital or use medicines?*

Zen Master Thích Thông Triệt: This is correct, however meditation cannot cure every illness. We need to deal with each illness differently. For the illnesses that are alleviated by acetylcholine, we should practice breathing in a way that releases acetylcholine.

Nowadays, we recognize that disorders in the brain lead to many other illnesses, such as depression or memory loss. Even diabetes is related to the brain's disorders. Why do we practice meditation? It is to regulate the functioning of the brain. Our method establishes the relationship between, on the one hand, the Mind - Teaching - Brain, and on the other hand the body, the mind and the development of spiritual insights.

Understanding the brain's functions help the meditation practitioner avoid mistakes

RFI: *Master, you have just addressed those among our listeners who do not know much about Buddhism. For those who are further along on the spiritual path, who want to practice but are still confused about what method to follow, could you give them some advice?*

Zen Master Thích Thông Triệt: In reality, meditation is both difficult and not difficult. The difficulty lies in not meeting teachers who have directly experienced meditation and can effectively guide your practice. Some people have not experienced meditation, yet they teach based on what they like. If you practice this way, you may experience psychosomatic illnesses. This is the difficult side. On the other hand, meditation becomes easy if you understand the functions of the two areas of the brain that I mentioned previously. You isolate the front area and you enter the rear area. Once you have recognized the function of the two areas, you can do it easily. If you want to understand the functions of the two areas of the brain, you need to talk to people who understand the brain. Neuroscientists understand the brain, but they do not know how to "practice" (...)

RFI: *do you mean that they don't know how to use the spiritual techniques to activate these areas which they know through research and surgery?*

Zen Master Thích Thông Triệt: Let's take the example of a very interesting area of the brain called Wernicke's Area, which is the area associated with understading, reading, writing and memorizing language.

RFI: *Where is it located?*

Zen Master Thích Thông Triệt: it is located in the temporal lobe, and is called the first area of language. But neuroscientists don't know how to "practice" this area. This is the difficulty. Spiritual practitioners know how to activate this function, but they don't know where it is located. The two things are different.

RFI: *What do you mean when you say we know how to use this area?*

Zen Master Thích Thông Triệt: We need the knowledge so that we can go straight there and not wandering around. We can use other areas but this will take more time. Why? Because this area is related to the diencephalon in the middle of the brain. The important thing is to be able to control the hypothalamus.

RFI: *Did you mean that the Wernicke Area controls the hypothalamus?*

Zen Master Thích Thông Triệt: No, it does not control the hypothalamus but directly activates it.

RFI: *Do you refer to a system that you mentioned in your work with the German neuroscientists, which is the limbic system? Do you mean to stress its importance in the practice of meditation?*

Zen Master Thích Thông Triệt: Yes, the limbic system is very important to the practice of meditation, because the totality of our "mind" resides there.

RFI: *Normally, we don't know the location of what we call the "mind" or "spirit", but according to your work with the neuroscientists, you can now locate it?*

Zen Master Thích Thông Triệt: Yes, if we don't know the functions of the various parts of our brain when we practice meditation, we may develop psychosomatic illnesses.

RFI: *Could you give us an example, so that listeners who are currently practicing meditation or are interested in this matter can easily understand?*

Zen Master Thích Thông Triệt: It is popularly called being "possessed by the demons". The three most frequent illnesses that may occur when you practice meditation incorrectly are high blood pressure, high blood cholesterol level and diabetes. Over time, they may lead to depression and memory loss.

It is the result of using a wrong meditation method. You practice assiduously, but incorrectly. You concentrate your attention on objects whereas you shouldn't. When you concentrate, you activate the right front brain and the sympathetic nervous system. This system secretes at its extremities the biochemical norepinephrine (also called noradrenaline). This biochemical follows the blood stream to reach the adrenal glands, and when it reaches the inner medulla of the adrenal glands, it triggers the release of epinephrine (also called adrenaline). When these biochemicals are continuously released, they result in heart rate disorders, high blood sugar level and eventually memory loss. When norepinephrine is continuously released in the adrenal glands, it activates the cortex of the adrenal glands to release cortisol. Cortisol, when in excess, results in memory loss because it follows the blood stream to the brain where it can strangulate and kill the memory cells. This is what we call the cascading effect of meditation from the Mind - Teaching - Brain to the body, mind and spiritual insights development.

The main point is that when acetylcholine is secreted, norepinephrine is inhibited. (...). When our mind is quiet, the parasympathetic nervous system is activated and secretes acetylcholine at its extremities (...) which helps keep our body in balance and harmony. Zen Buddhism often uses the term "harmony", we now know that it means keeping the biochemicals in our brain in harmony.

RFI: *Thank you Zen Master for giving us your time and help our listeners gain a greater understanding of meditation.*

Trọng Thành, RFI
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