

## MAHAYANA 101

All mahayana schools show that there is no world outside that exists the way we conceive it to be. Outer and inner worlds are projections. On the other hand, no school denies that there are appearances, but appearances are no longer taken to be the appearances of real objects. They are empty of any true existence. Relatively they appear, but ultimately they have no nature.

Our beliefs in materiality, or true existence, are visceral and extremely deeply rooted. When these beliefs are challenged, it threatens the very fabric of ego, and when ego is threatened, it will marshal a vast array of emotionality and conceptuality to its defense. This happens because, seeing there is no material basis to this world, we understand that the ego has no material basis either. Even a hint of this understanding provokes a strong reaction. Among many other possible reactions, this can take the form of anger, which ridicules mahayana views; passion, which takes these views as new intellectual playthings; or ignorance, which does not let the meaning of these teachings penetrate.

I have a good friend who has devoted more than two decades of his life to Buddhist practice and study. When he encounters mahayana teachings on essencelessness (particularly the Mind Only view), it makes him crazy. He recently told me that for twenty years he has been obsessed with proving that there must be some material basis for phenomena. Every time he hears a teacher present teachings about these views, he is compelled to ask a variant of the same, often highly elaborated question to try to show that there must be something underlying the things we experience. Whenever his friends see him raise his hand at a talk, we think, "Here comes 'The Question.'" To his chagrin, the answer is invariably that there is no such basis—usually delivered with a big smile.

### TWO TYPES OF EGOLESSNESS

The Sanskrit term *hinayana* is often translated as "lesser vehicle," but it can also be translated as "narrow vehicle." It is "narrow" in the sense of being focused; the hinayana is focused on ending suffering. Because of this, the hinayana is also referred to as the vehicle of *individual liberation*.

Suffering is eliminated by recognizing that the ego or self is just imputed to exist and that it is actually our thoughts that do this. The self is a projection. It is only apparently real and can't be found upon investigation. This is called "seeing the selflessness, or egolessness, of the individual." Seeing that ego is illusory, the poisons and karmic actions arising from ego collapse, and freedom from suffering is achieved. Whether phenomena truly exist or not isn't much of an issue for hinayanists.

The term *mahayana* means "vast vehicle." The mahayana is vast because it has the vast aim of the complete liberation of all sentient beings. To accomplish complete liberation, we need to recognize not only the selflessness of the individual but also the *selflessness of all phenomena*. It is not enough to recognize the selflessness of the individual and give up the poisons and karmic actions. This *does* lead to the cessation of suffering, but mahayanists consider this a temporary state because it still contains ignorance. Genuine reality has not yet been recognized. It is obscured by the clinging that takes outer and inner phenomena to be real. To put it very simply, selflessness of the

individual is realized when we see that the skandhas are not a self. However, we still need stable certainty that the skandhas themselves are illusory.

While mahayana schools differ in the ways they uncover genuine reality (and in the subtlety of their explanations), all of them emphasize conduct that is in harmony with the realization of egolessness—namely, the cultivation of loving-kindness and compassion.

### PROPONENTS OF TRULY EXISTENT THINGS

As we have seen in previous chapters, both Vaibhashikas and Sautrantikas understand that apparent reality (particularly the self) is fabricated by mind. Vaibhashikas say that coarse objects and durations of consciousness only seem to exist—that is, they are just concepts. Sautrantikas explain that what only seems to exist are generally characterized phenomena: the abstract images that appear to our thoughts.

On the other hand, both of these schools believe that there is a material basis for genuine reality. Because of this, they are sometimes referred to as the “proponents of truly existent things.” Vaibhashikas say that what is genuinely real are minute particles of matter and subtle moments of consciousness. They say that these *indivisible*, or *partless*, *particles* and *irreducible moments of consciousness* really exist as substances.

Sautrantikas also assert subtle particles, but they qualify that by saying that these particles cannot be perceived directly. They believe that we perceive *aspects* of these particles, which they consider to be *hidden objects*. They say that what is genuinely real are the specifically characterized phenomena based on these hidden objects, the hidden objects themselves, and the minds perceiving them. For Vaibhashikas and Sautrantikas, both mind and matter are substantial.

Mahayanists show that the hinayana schools don’t take their analysis far enough. They cling to material bases for phenomena even though the material bases they propose are—just like the self—fabricated by mind. Partless particles and irreducible moments of consciousness are concepts used to explain the phenomena we experience. They are not verifiable by experience itself. Upon investigation, no such bases can be found.

To point out the nonexistence of partless particles, mahayanists show that they are not logical. Suppose, for example, a partless particle was encircled by four other partless particles in the four cardinal directions. If the part of the central particle that is touching or facing the particle on the eastern side does not also touch or face the particle on the western side, then the central particle would, in fact, have parts. If it does touch or face both the eastern and the western particles, it would not occupy any space, and a collection of such particles would also not occupy any space, in which case gross forms would be impossible. Therefore, it must have parts. Partless particles are just mental constructs.

A similar method is used to show that irreducible moments of consciousness cannot exist. For example, suppose that the present is an irreducible, partless moment. This present moment must be connected to the past and also connected to the future. If the connection between present and past is the same as the connection between present and future, then the past and the future would be directly connected and the present would not have any time at all. If the connection between the present and the future is not the same as the connection between the present and the past, they are different connections

so there must be two present moments! Therefore, irreducible moments of consciousness are also just mental constructs.

## WESTERN SCIENCE

It is not too hard to see through ancient theories about matter and time. It is a lot harder to see through the views of the current ethos. We live in an age that is dominated by the scientific endeavor, and our thinking is permeated with scientific ideas in both crude and sophisticated ways. Many of these concepts appear to support our instinctive feelings that things really exist, so we need to investigate them to see if this is so.

During my lifetime, Western science has presented a succession of concepts about the basic building blocks of matter. Scientists have put forward a succession of increasingly subtle particles as bases for the phenomena we perceive. From my childhood in the 1950s and '60s, I remember pictures of tiny spheres in elliptical orbits around larger spheres that were supposed to represent the electrons, protons, and neutrons forming the atom. At that time, these were regarded as the basic constituents of the universe. By the early sixties, we were looking at pictures of Nobel Prize winners Watson and Crick posing with large models (which might have been made out of Ping-Pong balls) that represented the way atoms combined to form the structure of the DNA molecule. Later on, we heard about quantum mechanics and Heisenberg's uncertainty principle, and it became hard to know whether the particles we had come to depend on should be visualized as spheres or waves or something more abstract.

Around the time I left college, we started hearing that there were even more fundamental particles called quarks, which came in funny "flavors" with names like "charm" and "strange." Over the next decade, quarks were joined by more particles, called leptons, and a new Standard Model of matter emerged.

Recently, we have been hearing about even more subtle particles as physicists unveil what is sometimes hailed as the new "Theory of Everything"—the string theory. The string theory tells us that when we are able to examine our quarks, leptons, and other particles even more precisely, we will find that each of these is not really point-like, but consists of tiny, one-dimensional loops, like infinitely thin rubber bands. These vibrating, oscillating, dancing filaments are called "string." Now, that is something to visualize!

From a mahayana perspective, it is safe to say that Western science will never get to the bottom of this—it will never discover fundamental building blocks—because the very notion of fundamental building blocks is based on the belief that phenomena truly exist and that therefore some basic unit of phenomena must exist. Yet, whatever basic unit science proposes will inevitably be just a theoretical construct, a concept, and will eventually be divisible into smaller constructs when the theoretical tools and experimental technology become available. It is like the story that Stephen Hawking tells in *A Brief History of Time*:

A well-known scientist (some say it was Bertrand Russell) once gave a public lecture on astronomy. He described how the earth orbits around the sun and how the sun, in turn, orbits around the centre of a vast collection of stars called our galaxy. At the end of the lecture, a little old lady at the back of the room got up and said: "What you have told us is rubbish. The world is really a flat plate supported on the back of a giant tortoise." The scientist gave a superior smile

before replying, “What is the tortoise standing on?” “You’re very clever, young man, very clever,” said the old lady. “But it’s turtles all the way down.”<sup>1</sup>

Rather than finding fundamental building blocks, science will continue to find subtler particles “all the way down.”

## PUSHING STRING

The images that scientists and textbook writers use to explain their efforts make the imperceptible seem tangible. I have recounted a few of the particle images that stick with me. No doubt you have your own collection. It is commonly believed, both by scientists and the general public, that the world really is the way it is explained to be by scientific statements: things like quarks, leptons, and string actually exist. We may not be able to see them, but they are really there. They exist independently of the minds of the scientists whose theories and experiments create the models. This view is sometimes called scientific realism.

Scientific realism is deceptive because it mistakes concepts for things. This is not only the mahayana point of view but also the perspective of many Western philosophers who study the philosophy of science, and of many scientists themselves. Scientific models attempt to explain complex sets of observations with simpler sets of mathematical and/or verbal concepts. This is called *reductionism*, which is a cornerstone of scientific method. When these models are well grounded in observation, the concepts produce powerful and useful predictions, much as bus schedules predict how long you might have to wait for a No. 9 bus. The models are not “things” that make the predictions happen, any more than the bus schedule makes the bus come.

To see this, we can look at some comments from a contemporary scientist working on the frontiers of particle physics. David Gross shared a Nobel Prize in Physics in 2004 for his work on string theory. Here is part of what he said about this theory in a recent interview:

One of the strangest aspects of where we are in string theory after 35 years is that we don’t really know what string theory is. There are all these people working on string theory and doing wonderful things, sometimes answering old problems, sometimes coming up with new scenarios. But if you really ask them, “What is string theory?” they’ll give you a glib remark, a glib description, and describe certain of its aspects. If you ask them again, “What is string theory?” if they’re honest they’ll say, “Well, we don’t know.” We have this incredibly powerful set of tools and methods that describe this intellectual structure, and yet we really don’t know what lies at the core of that, what the unifying

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<sup>1</sup> S. W. Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (Toronto, and New York: Bantam Books, 1988), 2.

principles are, what the theory actually is that has all of these different aspects that we can partially describe.<sup>2</sup>

This quotation makes it clear that scientific theory is an “intellectual structure.” It is only our imagination that transforms this into material objects. Here is an investigation that might clarify this. You can do this with your eyes either open or closed, but in either case, when the investigation says “look,” do this with your mind’s eye, not your organ of sight.

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Let your mind rest a little, and then look at what you conceive your world to be. Slowly look in front and in back. Look to either side and above and below. When you are not using your eyes to see, what do you notice? Are there familiar landmarks around you? What about in the distance? Look again.

Ask yourself what these objects are made of. Are they made of particles like atoms, quarks, and string? Are they made of mental imagery? Investigate this well.

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### THE MIND-BODY PROBLEM

We can approach the same issues from a different angle by asking what is the relationship between mind and body; or in other words, what is the relationship between mind and matter? We touched on this briefly in chapter 4, and now we will look at it in a slightly different fashion.

The mind-body problem is quite familiar to Western philosophers and neuroscientists. Put simply, the issue is: Are mind and body two different substances? Is one of them reducible to the other? Or is there still another possible relationship between these two?

The first view, that mind and body are two completely different substances is known as *dualism*. This is our usual way of thinking about the world. Mind perceives a physical world “out there” that is different from it. There is a fundamental problem with this explanation: how do physical objects “out there” get into mind “in here”? We only know about objects because they are experienced. We can theorize that physical objects are the basis for our experience, but how can we ever know them directly? Experience is always mental – that’s what mind does. How can we separate the object from our experience? This is a very good subject to investigate.

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Look at different objects. Can you find a point where the object stops and the mind begins? What is the interface between the physical and the mental? Is it made of mind or is it made of matter? Can you see how physical objects become mental experience?

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<sup>2</sup> Public Broadcasting System, “The Elegant Universe: String’s the Thing” (2003), [www.pbs.org/wgbh/nova/elegant/view-gross.html](http://www.pbs.org/wgbh/nova/elegant/view-gross.html).

The problems with dualism cause many scientists to take the view that there can't be two different substances – everything must be reducible to just the physical. This view is known as *materialism* or *physicalism*. The only substance is matter. This view leads to the assumption that experience can be completely explained by mapping mind's material basis, the neural correlates of mental events. The Holy Grail for many neuroscientists is to discover neural correlates for consciousness itself. The problem with this view is that it does not begin to explain how purely material substances can give rise to subjective experience. Here is the way philosopher David Chalmers describes the issue:

There is not just one problem of consciousness. "Consciousness" is an ambiguous term, referring to many different phenomena. Each of these phenomena needs to be explained, but some are easier to explain than others. At the start, it is useful to divide the associated problems of consciousness into "hard" and "easy" problems. The easy problems of consciousness are those that seem directly susceptible to the standard methods of cognitive science, whereby a phenomenon is explained in terms of computational or neural mechanisms. The hard problems are those that seem to resist those methods. . . .

The really hard problem of consciousness is the problem of experience. When we think and perceive, there is a whirl of information-processing, but there is also a subjective aspect. . . . This subjective aspect is experience. When we see, for example, we experience visual sensations: the felt quality of redness, the experience of dark and light, the quality of depth in a visual field. Other experiences go along with perception in different modalities: the sound of a clarinet, the smell of mothballs. Then there are bodily sensations, from pains to orgasms; mental images that are conjured up internally; the felt quality of emotion, and the experience of a stream of conscious thought.<sup>3</sup>

Since subjective experience is the most intimate aspect of our entire existence, it is hard to take seriously any solution to the mind-body problem that ignores it. Here is a way to contemplate this:

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What is the knowing quality of mind like? Is it a thing? Could it be the product of a chemical soup or a biological stew? If there is only matter, wouldn't inanimate objects, such as stones and trees, also have subjective experience?

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Here are some interesting comments on this subject from His Holiness the Dalai Lama from his book *The Art of Happiness* that provide another good contemplation:

The Western approach differs in some respects from the Buddhist approach. Underlying all Western modes of analysis is a very strong rationalistic tendency – an assumption that everything can be accounted for. And on top of that, there are constraints created by certain premises that are taken for granted.

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<sup>3</sup> "Facing Up to the Problem of Consciousness," *Journal of Consciousness Studies* 2, no. 3 (1995).

For example, recently I met with some doctors at a university medical school. They were talking about the brain and stated that thoughts and feelings were the result of different chemical reactions and changes in the brain. So, I raised the question: is it possible to conceive the reverse sequence, where the thought gives rise to the sequence of chemical events in the brain? However, the part that I found most interesting was the answer that the scientist gave. He said, “We start from the premise that all thoughts are products or functions of chemical reactions in the brain.” So it is simply a kind of rigidity, a decision not to challenge their own way of thinking. . . .

“I think that in modern Western society, there seems to be a powerful cultural conditioning that is based on science. But in some instances, the basic premises and parameters set up by Western science can limit your ability to deal with certain realities. . . .

“It’s a bit like you’ve lost something and you decide that the object is in this room. And once you have decided this, then you’ve already fixed your parameters; you’ve precluded the possibility of its being outside the room or in another room. So you keep on searching and searching, but you are not finding it, yet you continue to assume that it is still hidden somewhere in the room!”<sup>4</sup>

Dualism and materialism are the alternatives that assert a material basis for a world “out there.” Clearly there are problems with both positions. There are two alternative possibilities to consider. The first is that everything must be reducible to mind. This view is known as *idealism* in Western philosophy, and Mind Only in Buddhism. We will look at the Mind Only school’s view in the next chapter. The last possibility is that everything is ultimately neither mind nor matter, because neither mind nor matter ultimately exists—mind and matter are dependently arisen mere appearances. This is the position of the Middle Way schools, which we will discuss beginning in chapter 10.

## IN DEFENSE OF SCIENCE

You might conclude from the above that a modern mahayanist would be anti-science. *Au contraire*. The physical and biological sciences (along with their first cousin, technology) have made amazing contributions to the longevity, leisure, comfort, and entertainment of a great many of us in developed areas, and potentially to many more throughout the planet. I am personally happy to live in a house with electric heat; I like working on my iMac, driving my car around town, and flying around the world; I am eager to take Western medicine when I am ill, and am quite content to eat French asparagus in winter and New Zealand apples year-round.

The pillars of the scientific method—empirical observation, reductionism, and logical reasoning—are powerful tools to help people understand and manipulate the cause-and-effect relationships of apparent reality (which Buddhists call interdependence). These manipulations bring both benefit and harm.

Instead of rejecting science, I have tried to show some of its limits. Scientific realism is based on a naive understanding of what science actually tells us. In fact, many

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<sup>4</sup> Tenzin Gyamtso, Dalai Lama XIV and Howard C Cutler, *The Art of Happiness: A Handbook for Living* (New York: Riverhead Books, 1998), 5–7.

scientists are not scientific realists who believe their enterprise describes a freestanding objective reality. There are more than a few mahayana Buddhist scientists today. It is also naive, as the Dalai Lama points out, to think that everything can be accounted for in materialistic terms, the belief that everything can be reduced to “the machine.” Unfortunately, these materialist views can prevent us from understanding the causal relationships that are most important to us: the determinants of happiness and sorrow, bondage and liberation.