

Still, for many physicists, the questions and doubts remained. On a fundamental level it just seemed absurd. Besides, it hadn't been proven empirically.

But in the following decades, the questions and doubts would fade (among physicists, at least) as Bell's Theorem was confirmed again and again, in experiment after experiment.

Bell's Theorem is, of course, baffling to the average person. We tend to assume that what happens in one area (physically) doesn't have any effect on what happens on the other side of town, or the other side of the earth, much less the far ends of the universe. It's baffling because we unquestioningly believe that things exist separately from each other.

But now physicists have shown us that, if we look deeper, we'll find that every thing is immediately and intimately connected with every other thing in the universe.

In other words, they have demonstrated that the boundaries dividing the existence of "this" from the existence of "that" are ultimately mirages.

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But we don't need to know anything about sub-atomic physics to see the illusory nature of these boundaries. As my Zen teacher, Steve Hagen, points out in his book *How the World Can Be the Way It Is*, boundaries to ordinary objects are ultimately phantoms, too:

...let's consider a common object. Say a lake. Where is its boundary? What defines it?

If we don't scrutinize our object, this question will need no answer, and we think there is no problem—we think the lines are clearly drawn and our concept matches Reality. But where does the lake actually begin and end? How about this drop of water now entering the lake? What about the little stream that drains it, or the vapor that rises from its surface? (Indeed, under these circumstances, where is the surface?) And what about the water seeping down through the ground "beneath" the lake? Is that part of the lake? (If it were not there, the seeping water might not be there, either.) And is the water around this little pebble on the beach the lake? What about the fish and the microbes and the flora of the lake?

Then Hagen, borrowing from a metaphor Thich Nhat Hahn often uses, has us look at the issue of existential boundaries from another perspective:

If you really see what you are calling "cup," well, then, you must see the sun as well. For many eons the sun has supplied the Earth with energy, and it has helped to evaporate water into the atmosphere. The water has then condensed to form clouds and, for many eons, rain has fallen on the Earth. You have to understand this if you truly see this cup, because over many eons of time, under the sun and with the rain, vegetation began to creep out upon the land, and mosses and lichens began to create soils, until eventually trees appeared. These trees get their nourishment from the sun and the rain and the soil. And being so nourished, the trees grew and produced wood.

And there was the person who thought to take some clay, and, working with it a while, learned to shape it into many useful forms. And someone made a spinning potter's wheel and shaped the clay into "this cup." All of this thinking, all of this ingenuity and activity, all of this is the "cup"—for we can't separate all this from what we call "the cup."

And someone fashioned an axe and took the wood from the tree and split the wood and dried it in the sun. And someone built a fire. Eventually someone thought of making an oven and baking the clay. All of this goes into our “cup.”

So, though their methods are radically different, master meditators and physicists both tell us that, if we look deeper, we’ll realize that the boundaries that supposedly define the existence of separate material things are ultimately illusory. They both tell us that, if we look deeper, we’ll see that Reality is fundamentally different from how we commonly think it is.

### **Examination of the idea that things are solid or substantial**

When most of us think of material things—billiard balls, for example—we think they are solid, substantial and absolute. And we tend to assume that these things are made of smaller things, which are also solid, substantial and absolute.

Issac Newton wrote about it like this:

It seems probable to me that God in the beginning formed matter in solid, massy, hard, impenetrable, movable particles, of such sizes and figures, and with such other properties, and in such proportion to space, as most conduced to the end for which he formed them; and that these primitive particles being solids, are incomparably harder than any porous bodies compounded of them; even so very hard, as never to wear or break in pieces; no ordinary power being able to divide what God himself made one in the first creation.

But, as Fritjof Capra explains in *The Tao of Physics*, when physicists examine matter deeply, they find that this simply isn’t the case:

Relativity theory (from which the equation “Energy = mass times the speed of light squared” was derived) has had a profound influence on our picture of matter by forcing us to modify our concept of a particle in an essential way. In classical physics, the mass of an object had always been associated with an indestructible material substance, with some “stuff” of which all things were thought to be made. Relativity theory showed that mass has nothing to do with any substance, but is a form of energy. Energy, however, is a dynamic quantity associated with activity, or with processes. The fact that the mass of a particle is equivalent to a certain amount of energy means that the particle can no longer be seen as a static object... (Parentheses and emphasis mine.)

Since the ancient Greeks, and probably before, scientists and thinkers have been determined to get down to the foundation (i.e., the essence) of the physical world. They fully expected to reach a point in their understanding of matter that they could firmly plant their feet on. For centuries, they thought they were getting closer and closer. But when they reached the subatomic level, the very concepts of solidity and substance fell out from beneath their feet.

It’s hard for us to accept this, even as an abstract possibility. Matter seems unquestionably solid and substantial. If it isn’t, why don’t we fall through the floor? Why doesn’t everything fall through everything?

Physicists have good answers to these questions, but the answers aren't of much help to non-physicists. They might talk about how "probability patterns are hard to compress", as Fritjof Capra has written.

But it isn't necessary to get a degree in physics to understand that the things of the world are ultimately insubstantial. Meditators have come to the same realization simply by sitting quietly and still, and carefully examining their actual experience of Reality.

Some of these meditators have written philosophical works. Perhaps the best of these is Nagarjuna, a second-century Buddhist teacher from southern India. He used his sharp and penetrating sense of logic to demonstrate that no matter what thing we're talking about—whether it's physical (e.g., a cup) or mental (e.g., an image)—it is ultimately empty (i.e., insubstantial); it has no Absolute (Real) existence.

So, again, modern physicists and master meditators tell us that, on close examination, our common-sense view of things falls apart.

### **Examination of the idea that things have Real boundaries in time**

Most of us think that things have Real boundaries in time—that each has a Real beginning (an absolute point in time when it comes into being) and a Real ending (an absolute point in time when it stops existing). But we're myopic about this, too.

Consider the book you're reading now. When did it begin?

We can come up with any number of answers to this question. We can say that it began when it first rolled off the binding machine, or when the publisher first agreed to publish it, or when I wrote the first sentence, or when I first had the idea to write it, or when the trees were processed into the paper, or when the trees were first harvested.

We could go on in this way indefinitely. There isn't a single Absolutely True answer to this question; it all depends on how you look at it. Any answer we give is only going to be relatively true—useful for comparison and discussion, but not Absolutely True.

And if we move in for a closer look at the supposed boundary in time when this book began, we find exactly what we found when we went looking for the physical boundary of a lake.

Imagine we were to film this book coming off the binding machine. And let's say that we use a camera that shoots 60,000 frames per second. If there is a Real (Absolute) beginning to the book, we should be able to identify the exact frame in which the book first appears. And in the frame immediately before it, we should see "no book."<sup>1</sup>

Do you see how finding this frame would be impossible? Do you see how there is no one Absolute point in time when this book (or anything else) came into existence?

And what about the death of this book? Would we have an easier time identifying its end than its beginning? If we were to film it decaying in a landfill, would we be able to find the frame where it is gone and, in the previous frame, where it is intact?

Again we find that Reality is not how we commonly think it is. Beginnings and endings to things seem so solid and Absolute, but they're ultimately illusory.

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<sup>1</sup> This basic argument is based on the "Amphipous" argument, which was originally conceived by the philosopher James Cargile, and was reprised by Steve Hagen in his book *How the World Can Be the Way It Is*.

## Examination of the idea that a thing retains a particular identity over space and time

Most of us think that a thing retains a particular identity over space and time. For instance, we think that this book is the same thing we picked up moments ago. We think there is something about this book—some core essence—that remains the same. And we think that this core essence will remain the same for years to come.

But, as any physicist will tell you, atoms are in a constant state of rapid change. There is no such thing as an atom that exists in a steady, unchanging state. And all material things are made of atoms.

So what is it about a material thing that remains the same over space and time?

According to physics: nothing.

And meditation masters, having paid extraordinarily close attention to their actual experience of Reality, will also tell you that everything we can think of is continually changing.

So again physicists and meditation masters tell us that, when we dig deeper, we will find that Reality is fundamentally different from how we commonly think it is.

Some people will argue that a thing can change and, at the same time, remain the same. But this is absurd.

“To change” *means* “to become something different,” which is the polar opposite of “staying the same.” So to say that something can change and yet remain the same is no different, logically, from saying that black can turn into white and still remain black.

## What we’ve seen from the examination of these basic ideas

Let’s review what we’ve seen so far:

- 1) We commonly think that there are Real (i.e., Absolute) physical boundaries to things, but ultimately no boundaries can be found.
- 2) We commonly think that things are solid and substantial, but ultimately no solidity or substantiality can be found.
- 3) We commonly think that there are Real (i.e., Absolute) temporal boundaries to things, but ultimately no such boundaries can be found.
- 4) We commonly think that things retain particular, unchanging identities over time, but ultimately no such static identities can be found.

To sum up: We think that things are *something in particular*—they have boundaries that define their existence, and they remain themselves across space and time. But when we look deeper, we find no boundaries to define the existence of any particular thing in space or time, and no stasis or persistent state in which anything stays the same.

Or, as my Zen teacher often points out: We think that things are *something in particular*, but when we dig deeper we find *Nothing In Particular*.

So there appears to be a complete contradiction between the way we commonly think the world is, and the way the world Really is.

Often, when we encounter a direct contradiction, our first instinct is to assume that one answer must be right, and the other wrong.

But it's not a contradiction at all. What we see here, are the two fundamental aspects of the universe: the Real (i.e., Boundless, Dynamic, Nothing In Particular, Undivided), and the conceptual (i.e., bounded, static, something in particular, divided up).

Our single biggest error—the primary reason we are so confused about Reality—is that we typically take only one of these two aspects into account: the conceptual aspect.

If we want to clear up our confusion about Reality, we need to take *both* aspects into account at once. We can call this awareness The Distinction.

The Distinction isn't mine alone, of course. Mystics in many religious traditions, especially Buddhism and Taoism, have expressed it for millennia. Buddhism calls these two aspects “the two truths.” Taoism calls them yin and yang.

And physicists bumped up against The Distinction when they discovered that subatomic particles have both a wave and a particle aspect. This confused them at first. How could something be a particle and a wave at the same time? A particle is confined to a small space, whereas a wave is spread out over a vast region of space.

Eventually they understood that they couldn't fully account for subatomic particles without taking both aspects into account, so they adjusted their understanding to better fit the world their experiments revealed.

Learning to take both aspects into account was the key breakthrough that led scientists to the formulation of quantum theory—which, in turn, led to a much more accurate understanding of the physical world. This, in turn, led to an explosion of creativity that brought us nuclear power, microchips, lasers, electron microscopes, magnetic resonance images (Or MRIs), and countless other previously unimagined inventions.

Learning to accept this apparent contradiction and take both of the fundamental aspects of the universe into account is also the key to clearing up our understanding of Reality in general.

### **How our confusion about things leads to suffering and strife**

As we've seen, our basic problem as human beings is that there are two fundamental aspects to Reality, but most of us tend to overlook the Real aspect and focus only on the conceptual aspect. This is why we tend to unquestioningly assume that Reality is divided into separate things, and why the possibility that it isn't rarely, if ever, occurs to us.

Because we make this assumption about Reality, we naturally have thoughts and feelings about the various things we experience. Some of the things we like, some of them we don't like, and some of them we feel indifferent about.

And because we make this assumption about Reality, our feelings for particular things can become very strong (either positively or negatively).

And these strong feelings often lead to suffering and strife. (We don't suffer and fight over what we're indifferent to; we only suffer and fight over the things we feel deeply and passionately about.)

When we are aware of the Real aspect of things, however, we realize that 1) The supposed thing that we are so excited about ultimately has no existential boundaries in space or time, and 2) There is nothing about this supposed thing that remains the same over time. In other words, we realize that the supposed thing is ultimately *Nothing In Particular*.

So, awareness of the Real aspect tends to dampen our strong feelings—which, in turn, leads to less suffering and strife. Indeed, awareness of the Real aspect leads to equanimity of mind, and a deep sense of vibrant peacefulness.

This doesn't mean we should intentionally ignore our feelings about things. Nor does it mean that our feelings about things are necessarily bad, or foolish, or delusional. It's perfectly natural and healthy to be filled with joy when we are reunited with a loved one after a long absence, or when we see someone master a new skill after a long and arduous struggle. And it's perfectly understandable if we experience anger and dismay when someone steals from us, or deceives us, or betrays us. It's essential that we take into account the things of the world, and our feelings about them. (Of course I'm using the term "things" in the broadest possible sense here.)

Some people take their ignorance of the relative aspect of things to extremes. They convince themselves that the things of the world are non-existent or unimportant. Some people even think that this is the key to realizing a spiritual attitude toward life.

This extreme attitude can lead to foolish decisions; like giving all of one's possessions to some guru, or setting out (and typically failing) to live a life of solitude and asceticism.

But we don't have to look to the extremes for examples of how dismissing the relative aspect of things can lead to trouble. It can manifest itself in subtler, yet equally destructive ways, too. For example, dismissing the relative aspect makes it easy to rationalize away the importance of duties and responsibilities we would rather ignore—"Hey, it's *Nothing In Particular* anyway, so I can blow it off and not worry about hurting anyone, or suffering any consequences." Dismissal of the relative aspect of things quickly leads to apathy, thoughtlessness, and nihilism. Which quickly leads to trouble for our selves, and for those around us.

This is why it's so important to learn to see The Distinction clearly. Only when we take both the Absolute and the relative into account at the same time are we able to find the subtle and vital balance between taking things too seriously and not taking them seriously enough.