

Energy and Consciousness

Chris Thomson

Consciousness is possible only because there is something to be conscious about. This may seem like a statement of the obvious, yet it has some important implications. For example, it means that the world we live in must have qualities that make it “knowable”. If it were not knowable, then we could not know anything about it, not even the slightest thing. We would not be conscious because there would be nothing to be conscious of. If you doubt this, just try doing this thought experiment. Try to imagine nothing. And I really do mean nothing. I do not mean “total darkness” or “total emptiness”. These both count as “something” because I am able to describe them to you. “Nothing”, on the other hand, is, by definition, indescribable because it has no characteristics that can be spoken. Being conscious of nothing means that you are unconscious. It is simply impossible to be conscious of nothing.

If the universe were unknowable, there would be nothing to know. This would mean that there would be no human knowledge, no science, and nothing to learn at school and college. But we know that this is not the case. There is a vast body of human knowledge, and it is getting bigger by the minute. There can be little doubt that the universe is knowable. In this article, I want to look at consciousness from the receiving end, so to speak, and explore what it is that makes the world knowable, indeed so knowable that there seems no limit to the number of things we can know about it. We sense there is no limit because human knowledge is always increasing and we do not expect this process to stop suddenly at some point in the future. We do not expect to come to the end of knowledge. In trying to understand what it is that makes the world knowable, our

starting point may seem an unlikely one. It is energy.

What is Energy?

You would be right to wonder why I have chosen energy as a starting point. After all, what has energy got to do with consciousness and knowability? The answer, as I hope to demonstrate, is everything. Without energy, there would be no consciousness or knowability. It is energy that gives the universe its knowability. I am acutely aware that this is a big claim, so why do I think it is true? I think it is true because of what energy is. Confusingly, the word “energy” means two very different things. It has its colloquial meanings, such as “vitality” and “sources of power” (oil, gas, coal etc). This is what most of us mean when we use the word and it is the meaning that originates in the definition that we may remember from our school days – “the capacity to do work”. But there is also another very different meaning. In its other meaning, energy is the “fundamental stuff of the universe”. Interestingly, mystics and scientists appear to agree on this. They seem to agree that everything in existence is a form of energy, that the universe consists of nothing but energy. Scientists tell us that matter is a form of energy, as are all the many forms of electromagnetic radiation and gravitational fields that make up the universe. Mystics may have a different understanding of energy when they speak about “subtle energy” or “spiritual energy” or “higher levels of energy”. Whatever the differences between them, mystics and scientists do seem to agree on one thing, that everything is ultimately a form of energy and that, by implication, it is a fundamental quality of the universe. It is this implication that I want to dwell on because, if energy is a fundamental quality, it follows that the more we know about the nature of energy, the more we know about the nature of the universe, including its knowability.

A useful way of defining any concept is to identify the points on which there appears to be general agreement and to work outwards from that point. As we have already noted, there seems to be general agreement that everything is ultimately a form of energy. So, if it were possible to agree on those qualities that are common to absolutely everything in existence, we may be able to establish a basis for defining energy. It took me quite a while to come to this realisation, but I can think of two fundamental qualities. They are **order** and **movement**. There may well be other truly fundamental qualities, but I am convinced that order and movement are two of them. Let us look at movement first.

Movement

Is movement a quality common to all things in the universe? Our first reaction might be to say no. After all, there are countless examples of situations in which movement appears to be absent — books on a bookshelf, a parked car, a cloudless sky, a heron poised to strike a fish, trees on a completely calm day, and so on. Surely absence of movement is relatively common? It certainly seems to be. However, when we think about it, we see that we need to make a distinction between *apparent* absence of movement and *inherent* absence of movement. The two get confused. For example, to the naked eye, all stars appear to be stationary. Yet centuries of observation and study tell us that all the bodies in the heavens, including all stars, are in a state of motion, usually very rapid motion indeed. They appear to be static only because of the immense distances involved. Even the moon, which appears to move very slowly across the sky, is in reality travelling at 3683 kilometres per hour. It is just a matter of perspective. The same happens when we observe the plant world. When we see an accelerated film of the petals of a flower opening, we realise that the whole plant world is in a state of constant movement, even though it appears otherwise. It is just that the movement is so slow that we do not perceive it with the naked eye. We only see its consequences.

Another example is molecular movement. We know that all molecules are in constant motion, because the motion of molecules is synonymous with heat. Molecules would be motionless only if there were no heat present at all. This would mean that the temperature would have to be Absolute Zero (-273C), which is the lowest possible theoretical temperature. So far as we are aware, such a temperature does not exist anywhere in the natural world. If this is true, then, from the molecular point of view, everything is in a state of constant movement. At yet another level, that of waves and sub-atomic particles, movement is of the essence:

“Modern physics thus pictures matter not at all as passive and inert but as being in a continuous dancing and vibrating motion whose rhythmic patterns are determined by the atomic, molecular and nuclear configurations. We have come to realise that there are no static structures in nature.”

(Fritjof Capra: *The Turning Point*)

If all this still fails to convince you that everything is in a state of constant motion, just imagine yourself sitting still, doing nothing. Although you may think you are motionless, you are in fact part of the movements of this planet as it spins on its axis and orbits the Sun. And you are part of the movements of the Sun, which moves through the Milky Way at 481,000 mph, while the Galaxy itself crosses space at about 1.3 million mph. However still we sit, we are always moving. Whether we are speaking about the movement of something through space or about the fact that everything consists of its own internal movements - you continued to breathe and your heart kept pumping when you were trying to be still - there can be little doubt that every facet of the universe is in a state of constant movement, from at least one perspective, but usually from many.

Movement really does seem to be a fundamental quality of the universe, common to absolutely everything. But what about order? Is it, too, a fundamental quality of everything?

What is Order?

If we were asked to explain what order is, what would we say? As with the word “energy”, we use the word “order” quite often and we probably think we know what it means. But do we really know? The dictionaries tell us that “order” is:

A state in which all components or elements are arranged logically, comprehensibly, or naturally

(Collins Dictionary)

Regular array, condition in which every part or unit is in its right place

(Concise Oxford Dictionary)

These definitions seem straightforward, until we begin to go a little deeper. When we do, some interesting questions emerge. For instance, what do we mean when we say that something is in its “right place”, and how in any event do we know that it is? The first of the two definitions gives us a clue, because it contains the word “comprehensibly”. We

say something is comprehensible only when it makes sense to us, or when we think it has the potential to do so. However, what makes sense to one person may be a complete mystery to another. What appears ordered to one person may seem disordered and chaotic to another. This suggests that whether something is ordered or not depends very much on who is doing the looking. It is for this reason that I propose defining “order” as follows:

Order is that which gives anything the potential to make sense to us, now or in the future

At first sight, this new definition might not appear to be all that different from the two dictionary definitions quoted earlier. In fact there is one substantial difference. Have you spotted it? I made it personal. I included us in the definition, because order is very personal. Although the universe is full of order, it is we (and other sentient species) who give meaning to order, by recognising it and by making use of it. This still leaves us wondering what we are to make of all those many situations which do not make sense to us, and which seem to hold out no hope of making sense at any time in the future. Do these situations constitute disorder? The answer is a qualified yes. They do constitute disorder, but only *apparent* disorder. Just as we had to make a distinction between apparent absence of movement and inherent absence of movement, we have to make a similar distinction between apparent disorder and inherent disorder. This is why the definition takes account of the possibility that something that does not make sense to us now may do so in the future. By doing this, we are recognising that our knowledge is always on the increase.

Looking backwards, all of us can think of examples of things that did not make sense to us at one time, but which we now understand and take for granted. Looking forward in time, much that we now regard as incomprehensible or impossible will become comprehensible and possible as time goes by and as our knowledge increases. What at first seems meaningless and disordered often reveals itself as having been meaningful and ordered all along. It is just that we did not see this at the time. Inherent order eventually becomes apparent order. This allows us to define disorder as:

Disorder is a measure of the inability or unwillingness of the observer to perceive the order already inherent in whatever is being observed

There is an important principle here. Our inability to understand something is no reason to say that the thing is inherently incomprehensible. To say that something is inherently incomprehensible is to abrogate our responsibility to attempt to understand it. Yet, how often have we found ourselves confronted by strange situations that eventually become familiar? Arriving in a strange town in France for the first time, for example, we might feel confused and slightly stressed because we do not know where anything is. The place feels chaotic and even slightly threatening. We keep ending up in the same narrow side street. But once we relax, we remember that this happened before when we first visited other French towns. We just need time to get to know the layout. Eventually, we work out where things are in relationship to each other. We become familiar with the place, and it turns out to be quite friendly and welcoming, quite different from our first impressions. We even decide to linger for a couple of days. The inherent order that was always there in the town has become apparent to us. The town itself has not changed. It is we, the observers, who have changed, as we have acquired a little more knowledge.

Ultimately, all human knowledge is the recognition of order. And all genuine human progress is the wise use of that recognition. In this respect, order is powerfully related to our growth in consciousness, because one way of describing growth in consciousness is to say that it happens when inherent order becomes apparent to and we act wisely on this new awareness.

I know that I may be challenging some widely held beliefs about the nature of “chaos” and “chance”, but I believe that the idea of inherent disorder is untenable, because it would imply that we have discovered all there is to know. If we accept that we still have a great deal to discover and learn, that there is much that we do not yet know, we are implicitly accepting that what we currently think of as disorder and chaos may eventually turn out to be order after all. As human consciousness advances, apparent disorder retreats.

Disorder is to be distinguished from chance. What we really mean by “chance” is lack of

knowledge. The outcome of the toss of a coin, for example, is a matter of mechanics - fairly complex mechanics, but mechanics nonetheless. The “chance” element lies in the fact that, for all practical purposes, it is just too difficult to calculate the outcome of a single toss. But there is a clear distinction to be made between our inability to calculate, on the one hand, and the existence of inherent chance, on the other. The former is common, but I do not think that the latter exists.

Randomness is different yet again. We speak of “random events” as if they were totally cut off from the rest of the world, without a cause. But nothing exists in isolation, and there is always a reason for something to happen, otherwise it simply would not happen. A truly random event, were such a thing possible, would have no causal origin, nor would it have any relationship with anything else. So where would it spring from, why would it occur at all, and where would it go to?

I do not think that randomness, chance, disorder, and chaos are inherent qualities of the world. I see them as qualities of the relationship between the observed and the observer. We think something is disordered only because *we* do not perceive the order already present in it. A chance occurrence is one whose outcome *we* cannot calculate in practice. And randomness is a name we give to a situation whose cause *we* do not yet understand. In each case it is we, not the world, who are the cause of the “randomness”, “chance” and “disorder”. There is a great deal more order in the universe than we imagine, so much more to be discovered. And, yes, I am suggesting that nothing happens by chance.

If, as it begins to look, movement and order are indeed common to absolutely everything in the universe, and since there appears to be general agreement that absolutely everything in the universe is energy in one form or another, we are now in a position to redefine “energy”.

Energy is that which consists simply in its own movement and order

These few words are deceptively simple. It is important that we are clear what they mean and do not mean.

First, they do not mean that energy is order, nor do they mean that energy is movement. They mean that energy is the inextricable combination of the two. Order and movement are inseparable, because there can be no such thing as disordered movement - not even the flight of a butterfly - or static order. All order is dynamic, because everything in the universe, including ourselves, is in a state of constant change. Some things may go in cycles, but they never return to exactly the same point. Such is the intimacy of the relationship between order and movement that it may be helpful to think of energy as “order–movement”, in much the same way that we bring space and time together as “space–time”, on the similar basis that space and time cannot exist without each other. Time has no meaning if there are no events. And events can happen only if there is space in which they can happen. Similarly, space has no meaning if it has no duration in time. Space and time need each other in order to be able to exist.

Second, the word “simply” is included in the definition to emphasise the point that energy really is the fundamental stuff of the universe. Energy is order-movement. Energy is not merely a quality that imbues and informs something even more fundamental. Energy is that fundamental something. This may be a little difficult to grasp. We have, after all, been raised to believe that everything has to be made of something. Even those of us who say that matter is no longer the primary reality may not really believe our own rhetoric. It is one thing to believe intellectually that matter is largely empty space. It is quite another thing to believe it when you walk into a brick wall by mistake. It is not easy to swallow the proposition that everything is ultimately made of nothing except its own order-movement. Our belief in a material reality is very deep–rooted. Yet it is a belief whose foundations have been in question for some time. To quote from Capra again:

“At the sub–atomic level the interrelations and interactions between the parts are more fundamental than the parts themselves. There is motion, but there are, ultimately, no moving objects; there is activity, but there are no actors; there are no dancers, there is only the dance.”

And what is dance if not ordered movement! Of course, practical reality remains unchanged. Brick walls are still hard and solid. But this is only because we are very big and very slow when compared with the very small, very fast sub-atomic reality of which brick walls are made. Things seem solid to us because we see everything from our

distinctly human perspective. We shall say more about this in the next chapter.

Ultimately, however, there is nothing but order and movement. But how we perceive and experience that order-movement is a different question altogether. That is very much a matter of perspective. It depends, for example, on how big and slow (or small and fast!) we are in relation to the thing we are observing.

The key role of energy is that it makes our relationship with the world both meaningful and possible. It makes it meaningful because order-movement is, as we have seen, inherently knowable. That means that we can have a meaningful relationship with it. If you doubt this, just try to imagine having any kind of relationship with something about which nothing can be known, not even its location in space and time. It is very interesting exercise, and it tells you what it *feels* like to “know” something. And energy makes our relationship with the world possible because it is the medium as well as the message. This needs some explanation. When I say energy is the message, I mean it is the “content”, which we can be conscious of and know something about. This is energy in its role as order. When I say that energy is the medium, I mean it is the “vehicle” which carries the message to us. So far as I am aware, all forms of transmission in the universe are forms of energy. Light is a form of energy. Sound is a form of energy. All the millions of frequencies that are radio waves and other types of electromagnetic radiation are forms of energy. Energy really is the medium and the message. It is what we are conscious of and it is the means by which we are conscious of it. It is both form and content. It is the source of meaning and it is the way meaning reaches us. In short, energy is not just the object of our consciousness, but also the means that makes it possible.

Third, our definition does not specify the size of energy. Energy can be any size, because order and movement can be any size. We can have very small order-movement, such as the ordered movement within the quartz crystal that powers some watches. And we can have very large order-movement, such as the immense ordered movement of our own Sun as it makes its cycle through the galaxy once every 240 million years. Our own solar system has its own unique order as well as its own unique movement. It is very large, covering hundreds of millions of miles, and it is very complex, consisting of a star, several planets, and all the stuff on and in between the planets, including us. But it is still

its own order and movement. It is therefore a form of energy in its own right. If this is true for the solar system, it is surely true for any entity, whatever its nature and whatever its size. A galaxy is a form of energy, as is this planet, as is a giraffe, as is an orchid. It does not matter what we are talking about. So long as it consists in its own order and movement, it is a form of energy. This insight does not change physics. It simply adds to it. But it also adds to our understanding of consciousness because it tells us that, in our quest to understand the mysteries of life and the universe, we do not need to focus on the very small (the sub-atomic) to find “ultimate reality”. Ultimate reality comes in all shapes and sizes.

The fourth insight that we can draw from the definition is that energy implies meaning. If something did not have meaning, we would never be able to make sense of it, now or at any time in the future. It is worth stopping to think about this. Things make sense to us only because they have the potential to mean something to us. There are so many things out there – and inside us – just itching to mean something to us. If we are unsure about this, we need look no further than the story of creation as told by science. Although I have condensed the story, I believe I have included all the essentials.

Once upon a time, according to science, there was nothing. Suddenly, for no apparent reason, that “nothing” exploded – we call this the Big Bang. That explosion, still going on today, billions of years later, is the universe as described by science and as understood by many people. To be fair to science, it does not actually claim that the universe began from nothing. It claims that it began from something it calls a “singularity”. However, since this singularity had no dimensions, not even time, it was, for all practical purposes, nothing. As part of its creation story, we are also told by science that life emerged by chance on this planet and that it has no intrinsic meaning except to replicate itself. As if this were not enough, science asks us to accept that we do not exist before conception and that we cease to exist at the moment of death. Taking all this together, science seems to be telling us that we inhabit a universe devoid of intrinsic meaning and purpose. Such a belief must have a profound effect on us. If everything is ultimately meaningless, then what is the point of anything? The irony is that science itself could not exist if the universe were without intrinsic meaning, because, if it were, it would be inherently unknowable. The whole of science is predicated on the fact that the universe can be

known. If something has no meaning at all, then, by definition, nothing can be known about it, because it is meaning that confers knowability. Even if we are talking about an shapeless, colourless blob floating somewhere in space, there must be a reason, a meaning, for its being that particular blob, and being colourless, and being in that particular location in space and time.

Since we can say something about everything, even about shapeless blobs, it follows that everything, even the most boring, featureless thing, is intrinsically knowable and meaningful. This is very important because it strongly suggests that we live in a wholly meaningful universe. And since we are part of the universe, we must be part of that meaning. This is taking us into very interesting territory. If it is true that the universe is entirely meaningful, and that we are part of the universe, then perhaps what we know of our own meaning may be able to tell us something about the meaning of the universe as a whole. The Roman emperor Marcus Aurelius may have had this in mind when he wrote:

“Whether the universe is a concourse of atoms, or nature is a system, let this first be established, that I am part of the whole which is governed by nature; next, I am intimately to the parts, which are of the same kind with myself.”

Speaking personally, I feel that an important part of my own meaning in life is to get to myself more fully and more deeply. Perhaps part of the meaning of the universe is to be known more fully and deeply. At some exalted level, at present far beyond our comprehension, the universe may exist so that it can be more fully known and experienced. The universe wants to be known and we want to know it. This makes a lot of sense because, if the universe were not “knowable”, it would be impossible to know anything about it and there would certainly be no point in having consciousness!

Afterword

You may have found all this quite challenging, because I have invited you to question what may be some cherished beliefs. If it has made you think, it has served its purpose. I would like to end it with just one thought – that consciousness is very much about relationship. We become more conscious, and know more, not just because there seems

to be a desire inside us to do so, but also because there is a corresponding desire outside us too, the desire of the universe for us to grow in consciousness, which arises out its desire to be known. It is as if the universe is an immense university, with a vast range of subjects and knowledge available, if we wish. Our role, as students, is to decide what parts of this range we would like to get to know. One thing is clear. All of it is ultimately knowable, because that is the nature of order-movement.

I would love to hear from you with any comments or questions

chris@school-of-consciousness.com