# Exercising Choice


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## Decisions

As Descartes asserted, "I think therefor I am"[1], but about what do we think, and to what end? In many cases, we think in order to make decisions. The range of decisions is vast, although many are only of a minor nature. If a glass is seen on the kitchen table, is it left where it is or put away in a cupboard? A very small matter, but still a decision. At the other end of the spectrum, however, decisions can occasionally be life changing. Between the extremes, significant decisions often have a social content. Of particular importance, we need decision-making in order to exercise conscience, to be moral persons. In this context, the whole complex system of law and justice depends on our capacity to make decisions, to exercise free will.

Whilst decisions may apply only in the realm of thought, much more often they apply to physical events. These are undertaken by our bodies, and can lead on to activities in the wider world.

For a decision to be meaningful, there has to be choice available. In fact, given that decision-making is essential to our nature as human beings, so too must be the presence of choice in our lives. Furthermore, choice in many cases will need to be exercised in the wider physical world.

## Science

So how does this wider physical world function? Our underlying belief, or at least assumption, is that the regularities we normally observe apply not only throughout the earth but extend into the further reaches of the Universe and continue at all times. We have no proof of this, but it is more a matter of necessity than of faith. We seek to codify these regularities into the laws of science, and believe that they too apply in all places and at all times. The laws, themselves, are either deterministic or probabilistic, the former applying in

both the common and astronomic ranges, the latter in the sub-atomic world of minute particles[2].

## Choice

But, as previously remarked, we can only make decisions if we have choice available, and therein lies a fundamental problem. How can choice apply in a world behaving in accordance with scientific law? At most, physical law will admit probabilities, but chance is not the same as choice. Nevertheless, a human being must be able to exercise choice, and very often this will need to be implemented in the physical world, even though the opportunity would apparently be denied by the regularities of scientific law.

In seeking an explanation, consider the very minor decision about the glass on the table. If the decision is to move the glass, then signals go from the brain of the person involved to the muscles of the body, and the intended action duly takes place. It all happens in accordance with the relevant scientific laws. But suppose the decision goes the other way. Different signals go from the brain, and, once again, the resulting activity (or inactivity) happens within the bounds of scientific law. So where is choice to be found? The first place to look would seem to be the human brain.

Beginning cautiously, there is no initial reason to suppose that the brain functions other than in accordance with scientific law. The brain comprises vast numbers of neurons (brain cells), all acting within a complex network of connections. Neurons receive input signals, either from the senses or from other neurons, and deliver output signals, either to the muscles of the body or to other neurons. The delivery of output signals is termed ‘firing’. It uses physical energy, and takes place in accordance with normal scientific requirements. There is still no apparent place for choice.

But what of the decision-making mind. It is tempting to think that the mind, in thinking and reaching a decision, also uses physical energy for the purpose. But physical energy is constrained by physical law, and the same difficulty of delivering choice would unavoidably be present. What is needed instead is a quite distinct form of energy, mental energy, providing the mind with the power of decision-making.

But when the mind uses mental energy in making a decision, something also seems to happen in the brain, so that different output signals ensue. Basically, certain actions of the mind, certain uses of mental energy, appear to override physical law in the working of the brain. So, how does this happen, and does it mean that there are places and times in the brain where scientific law does not obtain? Here are two possible responses.

Firstly, as indicated, the mind uses mental energy in its thought processes and duly reaches a decision. The mental energy of the decision then imposes itself on the relevant brain cells, causing them to fire or not to fire, outside the previous requirements of physical law. Thus, the appropriate signals, prompted by the decision, are delivered to the muscles of the body.

This is a straightforward answer, but it presents problems in respect of the universality of physical law. There will be places and times in the brain where physical law no longer applies.

But there is a second way forward. Once again, the idea is that the mind uses mental energy in reaching a decision. The mental energy then effects changes to the physical energy of the brain, thus altering the firing pattern of the neurons. Basically, the mind acts creatively in the brain, adding to (or subtracting from) its total energy. The vital difference in this proposition is that the physical energy, once created by the decision-making mind, is immediately subject to scientific law. There is no lack of universality in science!

If this second proposition is right, it is a remarkably efficient arrangement. Tiny alterations in the physical state of the brain, wrought by the creative activities of the mind, induce activities in the body that can, on occasions, have most profound physical and social consequences. Choice is exercised in the wider world, through the minimum use of mental energy to effect physical changes in the brain.

## Creation

At this point, it is appropriate to widen the preceding argument, proceeding from a group of neurons in the brain to the entire physical Universe. According to cosmologists, the physical Universe began about fourteen and a half billion years ago. It was a Universe of energy and mass, time and space, and it subsequently developed according to the laws of physical science. As previously remarked, these laws were believed, or at least assumed, to apply at all times and at all places in the Universe. If an event occurred that did not match a law, then it was assumed that the law had not been correctly identified, not that there was something wrong with the underlying principle.

But of that very first moment, the actual beginning of the Universe, there was and is no explanation in terms of scientific principle or law. This points to the action of God, the Creator, bringing into being the physical Universe and its associated laws.

In like manner, according to biologists, life first appeared on earth in single cell form about three and a half billion years ago, and evolved thereafter within the framework of scientific law. But of those first living cells, there is no scientific account. The pointer, once again, is to God the Creator.

Finally, returning to the human brain and the second way forward, there is similarly no explanation within the boundaries of science for the creation of the additional physical energy that enables choice to be exercised via the body. Instead, it is found in the mental energy of the human mind.

Following the pointers, the sequence emerges in which God, the Creator, chose firstly to create the physical Universe, then life within it, and finally human beings, with their own

capacity for creation. Although limited, this capacity for creation provides human beings with the means to exercise choice.

As an associated remark, it would also be consistent for mental energy to be regarded as the means of creation by God, both of the physical Universe and of humankind. This would lead to a more general conclusion about the means of physical creation.

## Genesis

Of course, the writer of Genesis reached some very similar conclusions a long time ago, and did so in the absence of modern scientific knowledge or associated understanding. It is interesting to note the sequence in Genesis: first the creation of the heaven and the earth, then the emergence of life within it, and finally human beings with the capacity for moral choice[3]. Choice was first given physical expression in the scrumping of an apple! The match with the preceding modern argument is almost exact.

But Genesis did not stop there. Man, it asserted, is created in the image of God. How should this be understood? As first comprehended, God is the Creator, both of the physical world and of people within it. The reasonable expectation would follow that, human beings created in the image of God, would likewise be creators in the physical world. The scale of creation would of course be vastly different, and God would be the source of the energy used by man for creative purposes. Nevertheless, the connection with modern science and its associated thinking remains strikingly close.

## Conclusion

Whilst modern science accounts for the ongoing state of the Universe, it can give no explanation of its actual creation. In like manner, the evolutionary processes of life fall within the boundaries of science, but not the actual beginning of life on earth. The prompt in each case goes beyond the limits of science towards belief in God the Creator.

But the previous argument, deriving from the need for human beings to exercise choice, was for human minds to use mental energy creatively in the physical world. So, putting these thoughts together, the idea emerges of God using mental energy to create both the physical universe and then life forms within it. This is followed by the creation of human beings, made in the image of God, using mental energy to increase (or reduce) physical energy in the brain. In this way, human beings can exercise choice in the world, without intruding on the universality of physical science in space and time.

## Notes

1) Rene Descates, *Meditations*, 1641
2) Determinism was established by Sir Isaac Newton in his publication, *Philosophiae Naturalis Principia* Mathematica, 1687, as the principle underlying his laws of motion and gravitation. It held sway for more than two centuries, even with the advent of

relativity, until Quantum Theory established probabilities for the motion of sub-atomic particles.

3) *Genesis, Chapters 1 to 3*. The original text would have probably included a visual element, but this does not in itself deny the presence of the creative argument.

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