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BEAUTY, GOD AND SCIENCE

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One of the most profound connections between science and faith is the concept of beauty. A deeper appreciation of beauty not only illuminates the work of scientists, it also extends our understanding of the reason for faith and the divine nature of God.

It is well accepted that experimentation and reason are critical elements of scientific pursuits of all kinds. But some would reckon that beauty is even more important. Nobel prize winning physicist Paul Dirac argues that it is more important to have beauty in mathematical equations than to have them fit experimental data. After all, data which seem to be out of place could well be the result of experimental error. Werner Heisenberg, the creator of the theory of quantum mechanics, said the theory 'was immediately found convincing by virtue of its completeness and abstract beauty'.

Science is the pursuit of truth and this means it is a search for beauty. According to physicist Richard Feynman, 'you can recognise truth by its beauty and simplicity.' Many of us who are not scientists at all, but who deeply appreciate seeing the results of science and like thinking the profound and illuminating thoughts of others after them, do so precisely because we can see in them something of the beauty and wonder of the world which God has made.

Some see beauty as purely subjective ('in the eye of the beholder') but many scientists, among others, see it as more objective than that. Beauty is something that can be examined. The classical analysis of beauty usually describes it in terms of qualities such as unity, harmony, proportion, wholeness and radiance of the inner being. The last of these is perhaps the most important – and the least definable.

The objectivity of beauty means that scientists can, at a certain level 'explain' at least some aspects of it. For example, take one illustration of proportion. The Golden Ratio has been known to architects and artists alike at least since the time of the Greek sculptor Phidias (ca. 490-430 BC) who, allegedly, worked on the construction of the Parthenon and made extensive use of the Golden Ratio in his work. While you do not need to understand the following equation to follow the rest of the discussion, those that are interested should note that the Golden Ratio is a ratio of two numbers defined as 'a + b is to a, as a is to b'. This very simple but important relationship between two numbers exists visually in the form of a very specifically proportioned rectangle: one which can itself be divided by a single line into two parts - a square and smaller rectangle that has exactly the same proportions as the original one. The ratio of the sides of the rectangle is 1 to 1.6180339887... (etc).

The rectangle that is produced has been widely used by artists and architects and is considered to be a shape that is particularly attractive to the eye. It is the ratio for the framing of many paintings and

also for the structuring of elements within the scene. It is also related to another sequence of numbers which helps form the beauty of the natural world. The Fibonacci Sequence, as it is known, starts with 0 and 1 and continues by adding two successive numbers together to find the next in the sequence, hence, 0, 1, 1, 2, 3, 5, 8, 13, etc. Successive numbers taken as a ratio $2/1$, $3/2$, $5/3$, $8/5$, etc approach the value of the Golden Ratio. This sequence of numbers appears in many places, including, for example, in the development of spirals in shells and flower petals.

Beauty, as something that is at once very rational and also beyond mere rationality, contains within it the possibility of integrating important aspects of life which are often contrasted or even in conflict. For example, the sharply rationalist turn of the Intelligent Design debate - with the futile attempts on one side to prove God and the equally unhelpful pleading on the other to keep science without any reference to God or purpose - is illustrative of the way that the rational is in desperate need of the aesthetic. For it is beauty that takes us to God.

God is supreme beauty – a unique beauty biblically described as glory. And Christ is the epitome of all that is beautiful. As the writer to the Hebrews says, ‘he is the reflection of God’s glory’. The simple fact is that God is beautiful and we can learn about beauty from the world around us. It teaches us to seek beauty.

Beauty is the dynamic for faith. Faith is not irrational at all, but despite our proud claim to be *homo sapiens* (the thinking ones) rationality is not our most basic motivator. We trust in Jesus not simply because of the rationality of theology but because Jesus is beautiful and in him we know that God is revealed in glory. The divine rationality which is so often contrary to human wisdom then seems glorious and beautiful. There is an almost irresistible power in beauty, and we are persuaded that what is beautiful is true. Beauty has a compelling power to point us to truth.

Thomas Dubay says that, ‘a genuine falling in love ... is a capitulation to beauty.’ Beauty is the motivating factor in so much of what we do. Why do we appreciate a work of art? Because we are persuaded it is beautiful. Why do we fall in love with someone? Because we are persuaded they are beautiful in body, mind or personality. Why does someone trust in God? Because they see Jesus as one who is glorious, wonderful and beautiful.

Beauty has an inner power and it is found in science because it exists in the natural world. It also central to faith. Dubay says that whoever rejects genuine beauty ‘can no longer pray and will soon no longer be able to love.’ The one who capitulates to genuine beauty will see the glory of God.