

Damozels: Blessed and Earth-Bound

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To begin this comment on the relationship between science and the humanities, I would like to point out what appears to be an inconsistency in Dante Gabriel Rossetti's pre-Raphaelite poem, 'The Blessed Damozel'. Stanzas five and six read as follows:

It was the rampart of God's house
That she was standing on;
By God built over the sheer depth
The which is Space begun;
So high, that looking downward thence
She scarce could see the sun.

It lies in Heaven, across the flood
Of ether, as a bridge.
Beneath, the tides of day and night
With flame and darkness ridge
The void, as low as where this earth
Spins like a fretful midge.

It appears as though Rossetti is combining, if ever so subtly, images of both the geocentric and the heliocentric models of the universe. That the damozel is at all capable of looking down from heaven to her earth-bound lover, that the progression from day to night and then again to day is described as 'tides', that elsewhere in the poem 'the stars in her hair were seven', all hint at a model of the universe in which the earth is centre. Of course, the abundant references to a sun-centred model around which 'this earth / Spins like a fretful midge' reflect the world view in the middle of the nineteenth century. The physical world of Rossetti's poem is preposterous, illogical, although the poem is discussed unquestioningly. So, what are we to make of this anomaly in the poem? How may these observations assist in drawing any conclusions about the relationship between science and the arts? Before trying to answer questions such as these, I would like to examine some other people's ideas on the matter.

In the 1990 History and Philosophy of Science course at Sydney University, it was suggested by way of introduction that of all the

types of questions people ask, fifty per cent are trivial, such as 'What shall I wear today?', 'What am I going to eat tonight?'. Forty-nine per cent are important questions to which there appear to be no absolute answers, such as 'Why am I here?' and 'Where am I going?'. I venture to suggest that questions from this group are explored using various approaches by Arts faculties and the like. The remaining one per cent (or less) comprises the types of questions which science asks: questions about physical phenomena, the natural world, the workings of the body, to which answers with some definiteness are sought.

To a large extent I agree with this—we can measure the velocity, acceleration, mass, force, kinetic energy of a moving object; we can predict earthquakes and weather patterns; we can understand what we are doing to our natural environment; we can explain the causes of some diseases and use our knowledge of the body to heal the ill. But there must come a point at which these questions lead to others for which a relatively simple answer is not necessarily guaranteed.

An interesting example is the question, 'What is the basic unit of matter?' Once, it was quite confidently pronounced to be the atom. Rutherford showed that atoms were, for the most part, made of nothing, and what little was left comprised a nucleus of protons and neutrons surrounded by orbiting electrons. By 1963, Murray Gell-Mann began the inquiry into further division of these supposedly 'core' elements of the atom. The fruits of his efforts are 'quarks', a name taken from Joyce's *Finnegans Wake*, which come in six 'flavours': up; down; strange; charm; beauty; and the yet to be observed (I believe) truth quark. *Science and Technology Illustrated* concludes its entry on quarks with the suggestion that they 'may yet turn out to be a final answer to the question, "What is the world made of?" Or, they may turn out to be yet another starting point'. One gets the impression that the more Science explores basic questions whose answers can be sought in the natural world, the less simple, though by no means magnificent, becomes the search for a definitive answer.

We must begin to philosophise upon what we cannot see. It is with some irony that in the neurosciences questions about the very concept of the self and the relationship with its environment arise; and one begins to wonder whether the ideas dealt with were once thought to be exclusive to the domain of philosophy. I offer an extract by Vernon Mountcastle (1975) quoted in a neurosciences text book by Kandle and Schwartz:

... a brain linked to what is 'out there' by a few million fragile sensory nerve fibres, our only information channels, our lifelines to reality. They also provide what is essential for life itself: an afferent excitation that maintains the conscious state, the aware self.

Sensations are set by the encoding functions of sensory nerve endings, and by the integrated neural mechanics of the central nervous system. Afferent nerve fibres are not high fidelity recorders, for they accentuate certain stimulus features, neglect others. The central neuron is a story-teller with regard to the nerve fibres, and it is never completely trustworthy, allowing distortions of quality and measure ... *Sensation is an abstraction, not a replication of the real world.*

The nervous system is a wondrous thing, even if its anatomy is impossible to memorise. In relation to the quoted passage, I would like to suggest the following: it does not negate or diminish scientific behaviour—science becomes a human endeavour, sensitive to, but not all-embracing of the so-called 'real world'; secondly, it hints at the uniqueness of individual experiences and, in a sense, justifies the efforts of poets, artists and musicians to explore, express and enrich the human condition.

I believe that it is in the phenomenon of selfhood that what C. P. Snow termed the 'two cultures' begin to meet. In experiences that are shared in part, in part intensely personal, do the one per cent of questions overlap with the other forty-nine. Perhaps it can be thus expressed: Science attempts to make sense of the universe in which is found the self; the Arts attempt to make sense of the universe contained within that self.

C. P. Snow's argument is valuably considered at this point, for he makes sense of science and the arts in the context of society. At a basic level, the arts affect the way we think and come to make decisions, they enable us to perceive our responsibilities as a society; science, on the other hand, provides the means by which these responsibilities may be acted upon. Snow cites, as an example, the resources which agricultural sciences can provide in efforts to combat poverty throughout the world. Today, we can also consider the application of earth sciences in developing strategies to counter the possibility of ecological disaster. He makes this point of scientists in general, which, although perhaps more easily or obviously practised by scientists, may be extended to all members of a society:

But nearly all of them—and this is where the colour of hope genuinely come is—would see no reason why, just because the individual condition is tragic, so must the social condition be. Each

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of us is solitary; each of us dies alone; all right, that's a fate against which we can't struggle—but there is plenty in our condition which is not fate, and against which we are less than human unless we do struggle.

The arts and the sciences are able to come together, are able to infuse the universe with hope just at they may lead the way to despair. The direction taken, however, lies not with the body of knowledge but with us.

So, how if at all do any of these ideas shed light on Rossetti's poem? The allusions to heliocentrism create a sense of contemporaneity, an awareness that much of what we perceive to be so is only possible with the progress of science. The allusions to geocentrism suggest that, although a scientifically redundant model, it is not valueless; it is a key, or stepping stone, which leads to an imaginative recreation of the past. The marriage of the two images is both tense and rich. Because they cannot physically coexist, the poem becomes somewhat of 'an abstraction, nor a replication, of the real world'. Yet they attest to human efforts to deal with and learn from a perception that is incomplete—for out of these efforts are born imagination and ideas. Rossetti hints at a reality that is not physical, but ever important—a spiritual or, if you like, emotional or affective reality. 'The Blessed Damozel' suggests a relationship between questions answerable and unanswerable. I think one thing we can learn from the poem is that both scientists and artist make discoveries.

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