Science and Poetry[1]

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The notion that our responsibilities do not end at national frontiers – that we owe some real duty to other humans – is not, of course, a new one in our culture. It has quite strong traditional roots, which have always warred against the narrower contractual view. The idea that we might also owe duties to the non-human world is, however, much more shocking. The contractual model of rationality excludes that idea and our tradition has taken some pains to stigmatise it as sentimental, pagan and anti-human. And until lately, prudence did not seem to call for this kind of consideration either because the natural resources available to us were seen as literally infinite. As the Soviet historian Pokrovskiy put it in 1931: "It is easy to foresee that, in the future, when science and technique have attained to a perfection which we are as yet unable to visualise, nature will become soft wax in man's hands, which he will be able to cast into whatever form he chooses"[1].

This kind of confidence, generated by the industrial revolution, seemed for a long time to be a mere dictate of rationality, a simple correction of the earlier awe and respect for nature which now appeared primitive and superstitious. That is why we now find it so hard to take in the evidence that there was an enormous factual mistake here. For three centuries we had been

[1] This is an edited extract from Chapters 17 *Individualism and the Concept of Gaia* and 18 *Gods and Goddesses; the Role of Wonder* from Mary Midgley's book *Science and Poetry* published by Routledge (Taylor Francis) in paperback 2002. Please see bibliography for more details.

encouraged to consider the earth simply as an inert and bottomless larder stocked for our needs. To be forced to suspect now that it is instead a living system, a system on whose continued activity we are dependent, a system which is vulnerable and capable of failing, is extremely unnerving.

Yet the damage done undoubtedly shows that this is so.

How can we adjust to this change? As I have suggested throughout *Science and Poetry*, in conceptual emergencies like this, what we have to attend to is the nature of our imaginative visions – the world-pictures by which we live. In the vision belonging to the contractual tradition, the natural world only existed as a static background. It was imagined simply as a convenient stage to accommodate human drama. That vision radically obscured the fact that we are ourselves an organic part of this world, that we are not detached observers but living creatures continuous with all other such creatures and constantly acting upon them. It blinded us to the thought that we might be responsible for the effect of these actions.

In order now to shake the grip of that powerful vision what we need, as usual, is a different one that will shift it. We need a more realistic picture of the way the earth works, a picture which will correct the delusive idea that we are either engineers who can redesign our planet or chance passengers who can detach themselves from it when they please. I think that we need, in fact, the idea of Gaia[2].

In our culture at present, people find it somewhat surprising that an idea can be large enough to have both a scientific and a religious aspect. That is because, during the last century, our ideas of religion, of science and indeed of life have all become narrowed in a way that makes it difficult to get these topics into the same perspective. (Here our window has become a good deal narrower than it was when Galileo and Newton and Faraday used it. They never doubted that these things belonged together.) To get around this difficulty, Lovelock used a different image. He launched *the medical model of Gaia* – the idea of the damaged earth as a patient for whom we humans are the only available doctor, even though (as he points out) we lack the long experience of other sick planets which a doctor attending such a case really ought to have. So he invented the name *geophysiology* to cover the skills needed by such a physician.

This medical imagery at once made it much easier for scientists to accept the notion of Gaia. When the point is put in medical terms, they begin to find it plausible that the earth does indeed in some way function as an organic whole, that its climate and oceans work together with living things to maintain a normal balance, and that what gravely upsets any part of the system is liable to upset others. They can see that, for such a whole, the notion of *health* is really quite suitable. And of course they find the patient Gaia, lying in bed and politely awaiting their attention, much less threatening than that scandalous pagan goddess.

While Lovelock came under great pressure to calm the scientists by withdrawing the goddess he eventually decided that the whole idea had to be kept together because the complexity was real … "For me, Gaia is a religious as well as a scientific concept … God and Gaia, theology and science, even physics and biology are not separate but a single way of thought."[3]

This raises the question: is religious talk actually incompatible with science? It is interesting to note that in one prestigious area of science – an area which is often viewed as the archetype of all science – such talk is readily accepted. That area is theoretical physics. As Margaret Wertheim[4] has pointed out, most of the great physicists of the past, from Copernicus to Clerk Maxwell, insisted that their work was primarily and essentially religious. Rather more remarkably, their modern successors still make the same claim.

Is there perhaps some special reason why religious talk of this kind can count as a proper language for physics, but becomes inappropriate and scandalous when the chemical and biological concerns of Gaian thinking are in question? Or is it perhaps not so much the subject-matter as the sex of the deity that makes the scandal? Is it perhaps held to be scientifically proper to speak of a male power in the cosmos but not of a female one?

Notes

1. M.N. Pokrovskiy, *A Brief History of Russia*, 10th edition, 1931.
2. This concept was introduced by James Lovelock and was originally taken to stand for the Greek notion of the earth-goddess, mother of gods and men. Midgley contends that this origin led to scientists rejecting the concept of Gaia outright.
3. J. Lovelock, *The Ages of Gaia*, p212.
4. M. Wertheim, *Pythagoras' Trousers*, London: Fourth Estate, 1997