Why there must be a public debate on nanos

The editorial staff

"The sky's the limit in the nano world", is a pet quip among nanotechnologists. But the pleasantry doesn't just point up the promised progress we expect nanos to bring. It also exemplifies the quantum leap into the unknown that industrialized countries and their so-called "emerging" rivals are poised to make – or may already have made.

There is some risk to any technology leap, which is often surrounded by stormy debates between what could be crudely divided into "standard-bearers of progress" and "prophets of doom".

As long ago as the early 19th century, the development of the railways in Europe aroused passions, with church leaders stepping into the debate to warn their flock against this "work of the devil" which "could hasten the decline of mankind".

The row over genetically modified organisms (GMOs) is the most recent example of how this kind of controversy bursts onto the public scene. Where nanotechnologies are concerned, the low-profile meetings and expert seminars stole a march on the public forum, as if the politicians, economic, scientific and other policy makers were desperate to avoid another "Frankenstein foods"-type scenario.

Talking to those involved with the nano world, one thing they all share is an unquestioning belief that our society will be progressively changed by the technologies of the infinitely small. Many – and not just those in business – believe that society cannot do without their positive spin-offs. But it could be argued that putative benefits to society cannot legitimate the use of nanotechnologies outside of all democratic control.

Why do we need a real society-wide debate? For one thing, because nanoparticles are something completely new. The scientific consensus is that in this new world, the traditional laws of science do not obtain. At the nanometre scale, the particles and the objects that result from them have specific properties and behave in unique ways. How are these nanoparticles – alone or in combination with one another or macroscopic substances – going to interact with our bodies and our environment? What about the vexed issue of recycling and elimination of nanoproducts – those increasingly common consumer goods that contain nanoparticles? Is it acceptable for consumers and workers to be exposed unbeknown to substances whose toxicological properties we know so little about?

Alongside these health and environmental challenges, nanotechnologies raise other fundamental issues for the future of our societies, not least the protection of privacy, the control of these technologies and their potential use as instruments of domination, and the radical changes they will make to our relationships to each other, and to nature.

Policymakers now face a critical decision. They can either keep backing nanotechnologies willy-nilly, hoping the risks will be rapidly controlled or, more disingenuously, that the chain of responsibilities will eventually be so blurred that society will not bother looking for the architects of misfortune. Or they can engage a real policy of dialogue with their citizens on an issue on which all our futures depend.

Over to them.

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