

Nanotechnology

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You hear "similar" threats regarding genetic engineering. An important question "is" not necessarily what the adverse effects of genetic engineering and nanotechnology will have on human beings "directly" but how these continuing technological advances will erode and change human society in a species already mismatched to its ancestral environment and non-adaptive to its current environment. The Industrial Revolution while producing beneficial results was forced on the masses but it also produced tremendous dislocation, anomie, alienation and exploitation. If the past is prologue than we can expect the Biotechnological and Nanotechnological Revolutions to be no different. The technology itself isn't the issue per se but rather how it is used. It seems the only "revolutions" there are is scientific and technological revolutions and with human societies in upheaval.

I'm for genetic engineering and nanotechnology but I think an effort should be made to research what effects it will have on human society and to introduce these technologies in a way which minimizes the chances of upheavals. To be sure there were upheavals in our evolutionary past but the stakes are astronomically higher for self destruction today.

Michael Ragland

Nanotech moratorium would speed research on invisible threat

BY TALLI NAUMAN
El Universal
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We've become conditioned to accepting invisible threats to our environment and health. Ever since the Industrial Revolution, we've

Nanotechnology

learned to take for granted that toxic fumes from production will corrode living tissues and cause cancer deaths, for example. It's way past time we wake up to the essential need to prevent the proliferation of risky materials. This is particularly true now with the advent of the nanotechnology revolution, possibly the era of most sweeping innovation in history.

If ever an invisible threat loomed, nanotechnology is it. Nanotechnology is the science of creating new substances by manipulating the atoms and molecules of materials. It produces engineered particles so tiny they amount to no more than 1/80,000th of the diameter of a human hair.

But it is not splitting hairs to argue that we will be better off if the effects of these itty bitty inventions are better known before we allow them to continue being unleashed in the consumer market without labels.

Some of the nigh-onto-miraculous unmarked stuff in which they already substitute for natural ingredients are: sporting goods, stain-resistant fabrics, food packaging, pesticides, sunscreen, and cosmetics. The problem is that their unprecedented electrical, chemical and physical properties are so perplexing, more study is needed to understand their impact.

SCIENTISTS PUSHING FOR CONTROLS

You don't have to be a rocket scientist to understand the concept of nanomaterials and the ethical challenges they pose. Yet, interestingly enough, it is scientists themselves who are leading the campaign to keep tabs on the spread of products derived through nanotechnology.

Evidence is mounting that the artificial nano-particles can be hazardous to production workers and to the environment when they break down in the waste stream. The modified atoms kill both waterborne bugs and soil-dwelling micro-organisms. They have caused fatalities in lab rodents and brain damage to fish, as well. They generate free radicals, which can be precursors of cancer, and also can harm DNA.

Questions are being raised about immune systems' ability to detect and react appropriately to the custom-made molecules. Still other gaps in research must be filled in order for us to grasp the broader implications of spreading nanomaterials. Their popularity among big

Nanotechnology

producers could displace farmers and other suppliers of traditional manufacturing inputs. The connotations of test-tube biodiversity and intellectual property patenting are among conundrums.

Those are some of the reasons why the week ahead marks the end of a comment period for the U.S. Environmental Protection Agency on its recommendations for nanotechnology policy. An expert review of the comments will conclude with the release of suggestions for regulatory measures early in 2006.

‘A TECHNOLOGICAL TSUNAMI’

In Mexico City, award-winning Canadian biotechnology pioneer Pat Mooney recently drew attention to the issue, saying, "More than a new wave of technology, nanotechnology is a technological tsunami, unseen until it is upon us." Her observation seems particularly apt at this juncture, the first anniversary of the Indian Ocean tidal wave that heralded the year of 2005.

With 720 nano-engineered products on the market that have no regulation, Mooney and colleagues at the international Erosion, Technology and Concentration (ETC) Group advocate public participation in debate to address the unprecedented panorama.

Along with Mexican and other experts around the world, Mooney advocates a moratorium on further commercialization of nanomaterials until these articles can be investigated more. That is just plain good sense and application of the U.N. precautionary principle.

Mexico should jump on the moratorium bandwagon right now.

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- Prev by Date: ***Re: Name the earliest living thing***
 - Next by Date: ***Re: BREAKING THE ESOTERIC BARRIER***

Nanotechnology

- Previous by thread: **Re: BREAKING THE ESOTERIC BARRIER**
- Next by thread: **Natural Selection and the Death Instinct**
- Index(es):
 - ◆ **Date**
 - ◆ **Thread**