

Treacherous metaphors: Newton, Darwin and intelligent design.

The recent surge in anti-evolutionary sentiment, exemplified by the attempts to introduce disclaimers in Georgia textbooks and intelligent design teaching in the Pennsylvania school, as well as to withdraw evolutionary theory from Italy's curriculum, was covered by reports in this journal and elsewhere (1-4). Are these events simply the latest "wrinkles", as *Science* put it (1), caused by the background activity of a few souls lost to creationism, which by accident happened to dominate on school boards and in the education ministry of a country, or may be they are vestiges of a larger wave in public beliefs and attitudes? Whatever the answer is, it seems that life is not without an irony, for biomedical scientists and their public relations appear to do their best to promote an idea of intelligent design themselves. Consider the following metaphors broadly used for communication of information pertaining to life phenomena in both professional and public media: "blueprint of life", "genetic program", "designed for the purpose of", "instructions coded", "genetic engineering", "protein engineering", "drug design", "circuit", "molecular machines", "design chart", "power stroke", "lever arm", "rheostat", "control system", etc. The mechanistic metaphors are routinely used by researchers as means to conceptualize novel phenomena encountered at the molecular and cellular levels in terms of our familiar human-scale physical reality. These metaphors are intuitively appealing and convincing for both scientists and the general public. Their utility in negotiation with funding agencies should not be underestimated either. For, if the difference between protein engineers and automobile engineers is only the size of the objects they handle, then the public has all the reasons to believe in the promises of the former thriving on the achievements of the latter. However, the intuitive appeal and political convenience of the mechanistic perception of life are backlashing in at least two ways. First, as it was argued elsewhere (5, 6), both the conscious and the sub-conscious adherence to mechanistic interpretations appear to limit the ability of researchers to understand and model biology. Second, the more actively the mechanistic interpretation of life is promoted to the public, the more avidly the latter will gravitate towards ideas of intelligent design and creationism. To expect a different reaction is to deny a common sense to the public.

Sincerely,

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References:

1. J. Mervis, *Science* **307**, 505 (Jan 28, 2005).
2. C. Holden, *Science* **307**, 334 (Jan 21, 2005).
3. News-in-brief, *Nature* **428**, 595 (8 April, 2004).
4. News-in-brief, *Nature* **429**, 8 (6 May, 2004).
5. A. Kurakin, *Dev Genes Evol* **215**, 46 (Jan, 2005).
6. A. Kurakin, <http://www.alexeikurakin.org/text/ak030304.pdf> (March, 2004).