

# Disclosure

of things evolutionists don't want you to know

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## THE POLITICS AND ECONOMICS OF SCIENCE

*It's not a hobby, it's a career.*

Before the twentieth century, especially in the eighteenth and nineteenth centuries, science was the exclusive domain of rich men. Independently wealthy men financed their own research. They studied whatever interested them. They wrote down whatever they learned, and presented their papers at meetings of other rich men who shared the same passion for science. Science was a hobby practiced by a privileged few.

By the end of the twentieth century, however, science became a career. I personally am glad of that because I would not have been able to support my science habit from my earnings playing the guitar. **It is certainly a good thing that the pursuit of scientific knowledge has been opened up to the masses.** The more scientists there are at work, the more will be learned. We could not have made the first trip to the moon without the cooperative effort of thousands of scientists whose salaries were paid (directly or indirectly) by the United States Government. Few people could afford to conduct as much medical research as national governments can. Most professional scientists today work for somebody else, doing whatever that somebody else pays them to do.

### MONEY CORRUPTS SCIENCE

Unfortunately, the benefits of science for money come at a high price. **One might reasonably question the conclusions of a scientific study of the effects of smoking on health if that study was sponsored by the tobacco industry.** Pharmaceutical companies routinely sponsor studies to determine the safety of drugs they intend to market, which might possibly influence the conclusion. It is possible that the conclusion of a study of global climate change might reflect

the political views of whichever side paid for the study. If you want to keep getting paid, you have to keep the sponsor happy.

### THE POLITICS OF POST-MODERN EVOLUTION

We mention this because there were a few revealing paragraphs at the end of the *Nature* article on post-modern evolution that we wrote about last month.<sup>1</sup> Since we ran out of space last month, we had to cut out those paragraphs that mentioned outside economic and political influences that affected the conclusions drawn at the conference. Let's look at those paragraphs now.

Love saw **the Altenberg meeting** as an attempt to bridge the divide, but one that, by avoiding conflict (partly through invitations being declined), ended up a little **one-sided**. "Altenberg was an attempt to pull people together; the hard part was that it didn't pull in people who were less than sympathetic towards one another," he says. "It could have been a much more eraser-throwing meeting, but there is no reward for organizing that — **you don't get another grant** by trying to get people in the same room, you just have to **take time away from the lab** or fieldwork."<sup>2</sup>

The people at the Altenberg meeting were people who were pretty much in agreement before the meeting began. **People who disagreed didn't attend because they didn't want the meeting**

<sup>1</sup> *Disclosure*, October 2008, "Post-modern Evolution"

<sup>2</sup> John Whitfield, *Nature*, 18 September 2008, "Biological theory: Postmodern evolution?", pp. 281-284

to succeed. Through no fault of the meeting organizers, the meeting was biased, so the conclusions are likely to be biased.

Notice, too, that when money is uncertain (when you have to depend upon getting a grant every year or so), it becomes a factor in deciding what you do. If the choice is between getting your field research written up and presented to your sponsor on time, or going to a meeting, you write up the research—especially if you don't agree with the premise of the meeting.

Personalities play a part, too. In addition to the emotional satisfaction of ego, it is also true that it is easier to get your research funded if you are famous. But there is even more beyond that. You don't have to take our word for it. Here it is, straight from the horse's mouth.

And there are forces at play beyond jockeying for disciplinary prestige. Never mind what can happen and what did happen. What should happen? It's a fight that evolutionary theory — rooted as it is in a world view shaped by Victorian capitalism — has always found itself dragged into. To give one example, the championing of 'punctuated equilibrium' in the fossil record by Gould and Eldredge was easily construed by participants on both sides of the debate in the 1970s as an attack from the political left — part of a broader rising of hackles at the arrival of sociobiology, selfish genes and the like. Evolutionary ideas and political metaphors still seem to seek each other out — in an extended synthesis, says Gilbert, "the gene will be a much more constitutional monarch, taking instructions from the cell and environment".

Eva Jablonka of the University of Tel Aviv, Israel, is explicit about a political side to her work. ... "There are social implications to our approach," says Jablonka. "Our way of looking at heredity and evolution counters genetic determinism and its political implications."<sup>3</sup>

Scientific research always has social and political consequences to a greater or lesser degree. Evolutionary research is one of those areas where the social and political consequences are great. Clearly, from the two paragraphs quoted above, the scientists involved are keenly aware of that fact, and it affects how conclusions are reached and presented.

Yet there was no sense at Altenberg of a desire to attack evolutionary theory from the left. Quite the reverse — the dominant political concern was a fear of attack from fundamentalists. As Gould discovered,

creationists seize on any hint of splits in evolutionary theory or dissatisfaction with Darwinism. In the past couple of decades, everyone has become keenly aware of this, regardless of their satisfaction or otherwise with the modern synthesis. "You always feel like you're trying to cover your rear," says Love. "If you criticize, it's like handing ammunition to these folks." So don't criticize in a grandstanding way, says Coyne: "People shouldn't suppress their differences to placate creationists, but to suggest that neo-Darwinism has reached some kind of crisis point plays into creationists' hands," he says.<sup>4</sup>

Scientists are afraid to tell the truth because creationists will publish it. That's why the reports in the popular science tabloids (*Scientific American*, *National Geographic*, *Discover*, *New Scientist*) often differ from what is written in the real science journals (*Science*, *Nature*, *Proceedings of the National Academy of Science*) that only professional scientists read. You probably won't read about post-modern evolution in *Scientific American* until they can figure out some way to spin it properly.

Changing science from a rich man's hobby into a career choice for the masses is a valuable improvement that comes with a price. Increasing the number of scientists increases the amount of work that can be done. But the work done has to satisfy the goals of the sponsor, or the job ends. Rich men who financed their own work could allow science to lead them anywhere, and publish any truth they discovered. Paid scientists don't always have that luxury.

## Evolution in the News

### BIOLOGICAL COMPUTERS

*A collection of articles on DNA computers and cell signaling provides some real insight into how the theory of evolution impedes scientific progress.*

Yes, we know *Scientific American* is just a science tabloid that presents pseudo-science in a sensational manner. We subscribe simply to monitor the outrageous claims they make about the theory of evolution from time to time. That's why we were shocked that they printed an excellent, informative story about a simple computer that plays tic-tac-toe using synthetic DNA as logic elements. It sounds bizarre, but this isn't the first time that something like this has been done.

<sup>3</sup> *ibid.*

<sup>4</sup> *ibid.*

Researchers reported logic gates based on synthetic molecules as long ago as the early 1990s.<sup>5</sup>

You might wonder why one would bother to build a computer using DNA. After all, modern silicon-based electronic computers are tiny, powerful, and can do almost everything. Why try to compete with them?

We did not aim, however, to compete with silicon-based computers. Instead, because Stojanovic had just finished a brief stint with a pharmaceutical company, we settled on developing a system that could be useful for making “smart” therapeutic agents, such as drugs that could sense and analyze conditions in a patient and respond appropriately with no human intervention after being injected. For example, one such smart agent might monitor glucose levels in the blood and decide when to release insulin. Thus, our molecular logic gates had to be biocompatible.<sup>6</sup>

Using this new science, we have constructed molecular versions of logic gates that can operate in water solution. Our goal in building these DNA-based computing modules is to develop nanoscopic machines that could exist in living organisms, sensing conditions and making decisions based on what they sense, then responding with actions such as releasing medicine or killing specific cells.<sup>7</sup>

## BABY STEPS FIRST

Their goal is to create chemically-based systems that act like computers in the human body. That’s a pretty ambitious project. One has to work up to that ability step-by-step. So, they started with the same simple program that digital computer programmers wrote more than 50 years ago.

The first known video game, OXO (or Noughts and Crosses, 1952) for the EDSAC computer played perfect games of tic-tac-toe against a human opponent.<sup>8</sup>

We have demonstrated some of the abilities of our DNA gates by building automata that play perfect games of tic-tac-toe. The human player adds solutions of DNA strands to signal his or her moves, and the DNA computer responds by lighting up the square it has chosen to take next. Any mistake by the human player

will be punished with defeat. Although game playing is a long way from our ultimate goals, it is a good test of how readily the elementary molecular computing modules can be combined in plug-and-play fashion to perform complicated functions, just as the silicon-based gates in modern computers can be wired up to form the complex logic circuits that carry out everything that computers do for us today.<sup>9</sup>

Since there are only 76 ways to put X’s and O’s on a 3x3 matrix, it is relatively simple to enumerate all the possibilities, and use a lookup table to see where to move next, and that’s basically what they did. The second version of their tic-tac-toe computer is called MAYA-II.

The sheer size of this automaton made building and testing MAYA-II an enormous challenge. One of us (Macdonald) led the project and trained several high school students to test automata, mostly during summers and on Saturdays. The students checked all 76 games multiple times. They had to make changes in MAYA-II’s design to deal with several problems (and then recheck all the games after each tweak).

Our chief concern going into the project was that some sequences might bind in unintended places. Our computer-modeling tools were not advanced enough to be able to predict such difficulties. In fact, spurious binding was relatively rare. Instead the more serious problem turned out to be individual gates cleaving their substrates at different rates. We (or, rather, our students) had to adjust concentrations and structures to correct for this variability. We also quickly discovered that some gates acted differently within a mixture than they did on their own, necessitating other redesigns. Finally, after three consecutive summers and many Saturdays, through some changes of inputs and many small adjustments of gate sequences and concentrations, our team had a system in which we could clearly distinguish active and inactive gates in all wells, for all the games, reproducibly.<sup>10</sup>

So, it is possible to create biologic systems which respond intelligently to external stimuli; but it took more than three summers of intelligent design! Imagine how long it would have taken using random trial and error.

## CELL SIGNALING

Ironically, at the same time as this *Scientific*

<sup>5</sup> Macdonald, *et al.*, *Scientific American*, November 2008, “Smart DNA: Programming the Molecule of Life for Work and Play”, pages 84-91

<sup>6</sup> *ibid.*

<sup>7</sup> *ibid.*

<sup>8</sup> <http://en.wikipedia.org/wiki/Tic-tac-toe>

<sup>9</sup> Macdonald, *et al.*, *Scientific American*, November 2008, “Smart DNA: Programming the Molecule of Life for Work and Play”, pages 84-91

<sup>10</sup> *ibid.*

American article came out, *Science* magazine published a special report on cell signaling. It contained several interesting observations about the biologic computations that occur in living things.

Mammalian species use over 3000 signaling proteins and over 15 second messengers to build hundreds of cell-specific signaling systems. Many of the signaling components have multiple upstream regulators and downstream targets, creating a web of connectivity within and between signaling pathways. The presence of multiple feedback loops in these systems poses a challenge to understanding how receptor inputs control cellular behavior.<sup>11</sup>

Signaling proteins operate in complex networks in cells. The networks are wired into long serial chains, and these chains are arrayed in numerous parallel pathways that diverge from common inputs, converge onto intermediate nodes, and diverge again to many different effectors. Signals from the external world that are detected at the cell membrane are transmitted in the plane of the membrane and through the cytoplasm, with feedback and feed-forward loops onto organelles and the nucleus. The upshot of this complex connectivity is the control of outputs as diverse as membrane transport, cell metabolism, protein translation, cell shape and migration, gene transcription, cell cycle, and cell survival. The sheer number of signaling proteins and complexity of their connectivity is staggering, and the depictions in textbooks and on glossy posters from chemical companies are as dense and as difficult to decipher as spirographs.<sup>12</sup>

It makes the MAYA-II look rather pathetic by comparison. Animal bodies already have many chemical computers that do the kinds of things the authors of the *Scientific American* article want to do. The specific chemical computer the authors of the *Scientific American* article want to simulate is called, "the pancreas." But there are many other, less well known biological computers that control "outputs as diverse as membrane transport, cell metabolism, protein translation, cell shape and migration, gene transcription, cell cycle, and cell survival. The sheer number of signaling proteins and complexity of their connectivity is staggering."

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<sup>11</sup> Brandman and Meyer, *Science*, 17 October 2008, "Feedback Loops Shape Cellular Signals in Space and Time" pp. 390 - 395

<sup>12</sup> Gorostiza1 and Isacoff, *Science*, 17 October 2008, "Optical Switches for Remote and Noninvasive Control of Cell Signaling" pp. 395 - 399

## YOUR POINT OF VIEW MATTERS

Let's look at this from an evolutionary perspective, and then from an intelligent design perspective.

If one takes an evolutionary approach, believing that these 3000 signaling proteins arose by chance, then the focus of study will be an analysis of the probabilities necessary to make this happen. Scientists will determine the number of independent variables, the number of ways they can be combined, speculate on the rate at which they can combine, and compute the average time it would take for the right combination to occur. This will necessarily lead to the conclusion that evolution must have been going on for a very, very long time for all these lucky breaks to happen.

Here's how an evolutionary bias has affected one scientist in particular.

Given a signaling center, one can easily imagine how it can organize the pattern of cell differentiation in its neighborhood. But how does the signaling center itself arise? If we start with a more or less homogeneous field of cells, what internal mechanism can make one region different from another and break the symmetry?<sup>13</sup>

Subconsciously, he must realize that this could not have happened by chance. But since there is no other explanation than chance, he imagines that cell differentiation takes place in a neighborhood. The mechanism by which cell differentiation takes place isn't completely understood. (If it were, there would be no need for stem cell research.) But even so, he imagines that there must be some natural process that arose by chance because it happens. But even given his willingness to imagine the unimaginable, he still can't imagine how the signaling center arose by chance in the first place. So, he is likely to focus his research by starting with a "more or less homogeneous field of cells" and look for some random process that "can make one region different from another and break the symmetry."

But, if one believes that life is the product of intelligent design, then the scientist is going to ignore chance and focus on the underlying design philosophy of life. That is, the scientist will seek to understand what processes are taking place, and then seek to understand why those processes exist, and what their purpose is. He isn't going to waste time trying to find some way that these processes might have arisen by chance.

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<sup>13</sup> Lewis, *Science*, 17 October 2008, "From Signals to Patterns: Space, Time, and Mathematics in Developmental Biology", pp. 399 - 403

## TAKE A JOKE!

Since evolutionists can't argue with the facts, they argue with our jokes. In our February 2006 feature article, "What's Love Got to Do with It?", we explored the problem the theory of evolution has explaining altruism. In that article we joked about people who love cats. Cyrus couldn't take the joke.

Subject: Stick to the truth  
Your arguments would be much more compelling if your writers would stick to fact. Your site posted this statement:  
"Some people love cats. What's up with that? Cats have never been good for anything except catching mice and making guitar strings! ☺ ----. Cats are selfish and uncooperative. How could a love for cats possibly have evolved? There isn't even a hint of direct reciprocity. And yet, **the existence of cat lovers proves that there really are people who love the unlovable.** ☺"

That kind of statement can come only from ignorance. Cats may not really be useful pets, but, they can be very affectionate, and they can be cooperative. I speak from personal experience and from the reported experiences of others. The evidence for cats displaying affection are [sic] so numerous and so prevalent that only those blind to any reality which displeases them could remain unaware.

I am not making any attempt to explain why some people love cats as pets, nor am I making any claim about reciprocity, I am just pointing out that any claim that cats are not affectionate and not cooperative is an unjustified assumption. Since your site so frequently speaks against unjustifiable assumptions, you weaken your own arguments when you make the same error.  
Respectfully,  
Cyrus

Ironically, in his last paragraph, he admits he can't explain how a love for cats could have evolved, which was our only point. Love makes no sense from an evolutionary perspective.

We use humor because it can make a point more strongly than simple statements can. The fact that this is still bothering Cyrus two and a half years after it was written means that it has made impression on him. It bothers him enough that love can't be explained by the theory of evolution that he wrote to us to complain about our teasing.

Of course, some people love cats, and they enjoy having them as pets. The question is, "Where did that love come from?" It certainly isn't a result of natural selection's selfish struggle for survival.

You are permitted (even encouraged) to copy and distribute this newsletter.

The theory of evolution hinders scientific progress because it ignores the possibility that life operates as it does for a reason. Sometimes evolutionists claim that creationists cop out by saying, "God did it." But, in fact, it is the evolutionists who cop out by saying, "There's no reason for it—it just happened by chance." If you don't think there is a reason, then you won't look for the reason—you just give the credit to luck.

### MUM'S THE WORD

Despite the theory of evolution, science is progressing. Scientists actually are studying cell signaling. But, to keep their sponsors happy, they don't ever mention that signaling is a form of communication, and communication implies intelligence. There is a reason why data is sent from the sensor to the actuator. There really is a purpose to it, but they hope that never occurs to anyone else.

Scientists aren't free to talk about purpose because of the political and philosophical implications that result from such a conversation. But it has to be in the back of their minds. It slips out every now and again, as in this summary paragraph.

#### Conclusions

Remote and noninvasive manipulation of proteins with light provides a powerful approach for studying and reengineering signaling pathways by selectively establishing a fast and reversible remote control over specific proteins at specific locations within a cell or organism.<sup>14</sup>

Nothing can be reengineered unless it was engineered in the first place. The signaling pathways were designed, on purpose! If they really happened by chance in the first place, then it is pointless to study them. Just try random combination after random combination and see what happens. If that's the way they arose, then more will arise through the same technique.

The MAYA-II computer didn't figure out how to play tic-tac-toe all by itself. It took a conscious arrangement of biologic components by intelligent designers to achieve a goal. It would be foolish to try to reverse engineer it by examining the probabilities that those components arose and were connected by chance.

Intelligent design is a valid scientific hypothesis. But since it is incompatible with the failing theory of evolution, some people feel it must be suppressed.

<sup>14</sup> Gorostiza1 and Isacoff, *Science*, 17 October 2008, "Optical Switches for Remote and Noninvasive Control of Cell Signaling" pp. 395 - 399

by Lothar Janetzko

## MUSEUM OF THE EARTH

<http://www.museumoftheearth.org/outreach.php?page=394262>

### *Voters Guide to the 2008 Candidates on Science*

This month's web site review looks at a site that provides a "Voters Guide to the 2008 Candidates on Science". Since November 4<sup>th</sup> was Election Day in the United States, it is appropriate to look at the views of the candidates regarding science. This particular Voters Guide focused on the various candidates' views regarding the teaching of intelligent design in the science curriculum.

Senator Barak Obama is quoted from the *York Daily Record* as saying, "I believe in evolution, and I believe there's a difference between science and faith. That doesn't make faith any less important than science. It just means they're two different things. And I think it's a mistake to try to cloud the teaching of science with theories that frankly don't hold up to scientific inquiry."

Senator Joe Biden is quoted from *Fox News* as saying, "I refuse to believe the majority of people believe this malarkey!" the senior senator from Delaware exclaimed [referring to Intelligent Design].

Senator John McCain is portrayed as having an ambiguous record on whether he supports intelligent design. He is quoted from *Parade* magazine as saying, "McCain admires Darwin for being 'steadfast and honest in his pursuit of knowledge,' even in the face of illness and controversy... McCain quoted Darwin ... about the richness and diversity of life on Earth - then said: 'I don't see why that magnificence excludes religious faith from its interpretation'".

Governor Sarah Palin is quoted from *Framing Science* that "she supported teaching alternatives to evolution...Teach both. You know, don't be afraid of information. Healthy debate is so important, and it's so valuable in our schools".

The Voters Guide provides links to the quoted sources that allow the web reader to try to gain a better understanding of the views of the various candidates regarding creation and evolution.

### **Disclosure**

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