

## Small Minds Think Alike

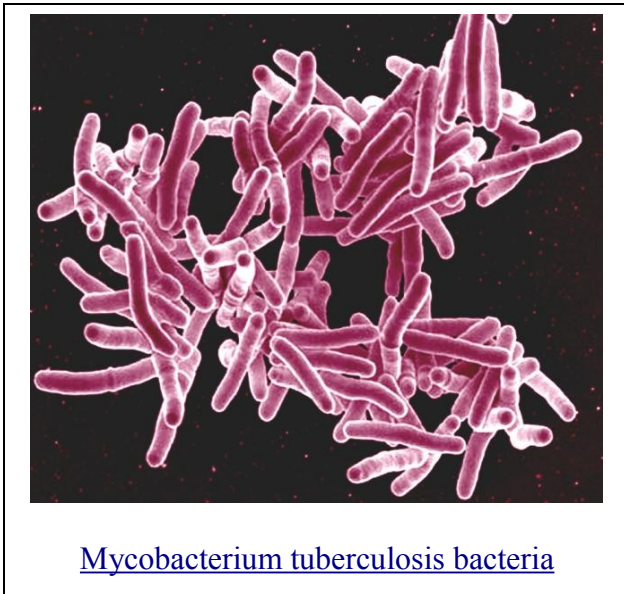
Freya and Max find themselves surrounded by microscopic minds.

by

Stephen J Brewer, December 2014\*

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Scene: Max and Freya are both sat at a table in the campus's Ultra-Fast Foodorama dressed in tracksuits and trainers. Max is helping himself to a Mega-burger and dipping his extra-large fries into tomato sauce while Freya is sipping a large vanilla latte.



Freya: I so wish we were as intelligent as bacteria. Unlike us they only choose food that's good for their survival then use it efficiently to grow and reproduce. Instead we overeat unhealthy foods then have to burn it all off by doing some pointless exercises at our overly expensive gym.

Max: I know that because these primitive creatures have made a home in every nook and cranny of the earth, you think they are the most

adaptable of all life, but they're not *intelligent*.

Freya: Why not?

Max: To be 'intelligent' you need a conscious mind. Like a human one, able to weigh alternatives and work out the solution to a problem using reason and logic. But with bacteria there's none of that. They just respond according to a certain set of rules fixed by trial and error over billions of years of evolution.

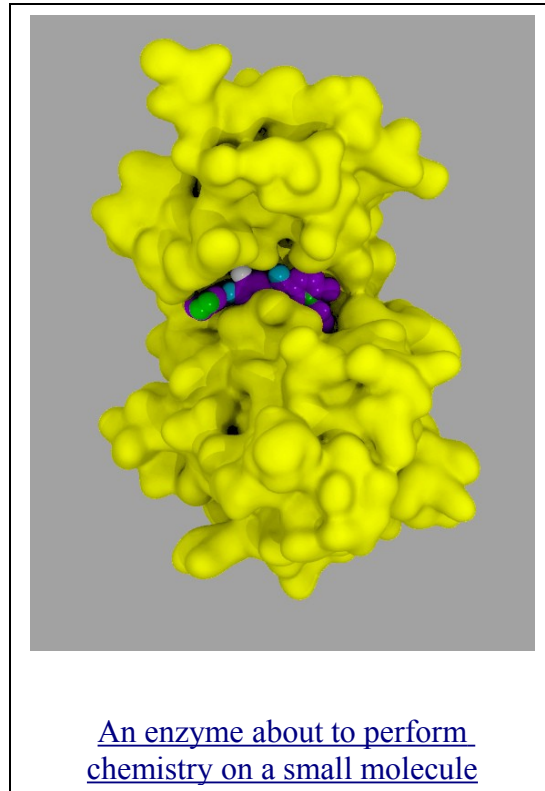
Freya: So how do you explain their ability to make such clever decisions and be able to do the right things at the right time?

Max: They're just machines based on organic chemistry. Each bacterial cell is a complex but highly organized chemical manufacturing plant. It's all a matter of control over inputs and processes to produce the right output, in

this case another copy of itself. Control and command over the system, that's the secret of doing the right thing at the right time if you're to survive and reproduce!

Freya: But where's the control system needed to run all this machinery held?

Max: It's all built into the biochemistry of the cell. In effect this forms a complex of chemical switches all connected in a logical order. If this is needed then that happens, and if something else is needed something different happens. It's just the sophistication of these controlling systems that gives the impression of an intelligent mind.



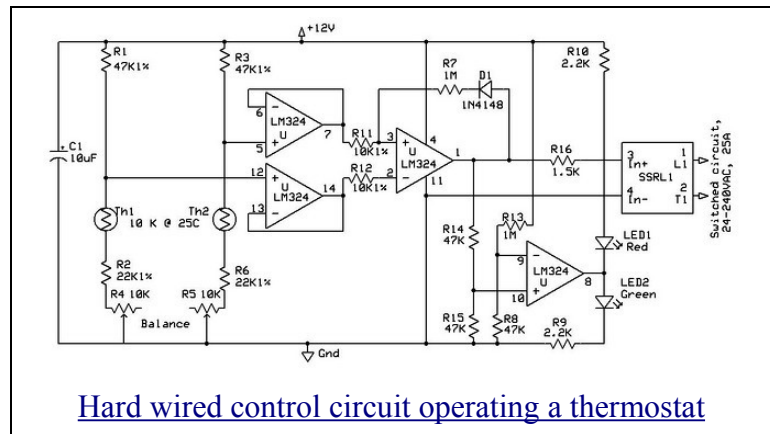
Freya: Then what you're saying is that some form of software must program all its actions.

Max: No, it's not like that at all, the controls are all integrated into the system, just like the thermostat in your house which turns down the heat if it gets too hot.

Freya: That's interesting because since bacteria have their intelligence built into their bodies. This means they must have an embodied mind.

Max: I think that's really going too far. The embodied mind simply states that a mind requires a brain. It's to get over the nonsense that minds come from some spirit world and can exist without bodies.

Freya: It's much more than that! It's used to describe how so many of the body's responses are built into the system without the need for conscious intervention. Just like your hand is automatically



shoving those disgusting fries into your mouth without any thought at all. All I'm suggesting is we move the concept of embodied mind down to the level of a cell. When you do this you find that even bacteria have chemical minds. It's just that their intelligence is hard wired into the system. What's more, because it's so simple, we can understand how it works.

Max: Well yes, the more I think about it, the term an 'embodied chemical mind' is fine since it fits in with the whole movement towards embodiment. It's just rather unusual to see it applied to an individual cell, especially one as simple as a bacterium.

Freya: When you think about it in that way, intelligent minds are not such a special thing after all. Bacteria surround us, each with its mind honed to perfection by billions of years of evolution. This mind directs each decision it takes towards its own survival and reproduction.

Max: Yes but it's a just a case of 'small minds think alike' but of course, we're infinitely more intelligent and cleverer than they are. But now you mention it, since we're well feed and watered and close to our own home, how about satisfying the other drive?

Freya: That's the worst chat-up line I've ever heard in my entire life! But it certainly proves its not just 'small minds that think alike', rather its 'all minds think alike'.

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