Mirror Life and the Limits of a Cure

What a warning from scientists who wanted to build it teaches anyone deploying AI.

A goal that works as intended

Part 6 was about faults that spread too fast. This part is about a goal that works exactly as intended and leads somewhere nobody should go.

Every molecule has a hand

Natural proteins use left-handed amino acids. DNA and RNA use right-handed sugars. Mirror life would reverse all of them.

Technical report on mirror bacteria, Dec 2024

38

authors, 299 pages, one request

Science, 20 December 2024: research aimed at creating mirror bacteria should not be conducted.

Adamala and others, Science 386:1351

$4M

The builders said stop

The US National Science Foundation funded work toward mirror cells in 2019. Authors of the warning had worked toward the goal.

Technical report, footnote 1

Two reasons it could spread

Immune evasion

Natural immune sensors are built for natural handedness.

No predators

Natural microbes that keep bacteria in check are built for natural handedness too.

Reported by Scientific American, Dec 2024

The dangerous changes would be made for good reasons

The report’s example: letting mirror bacteria use ordinary D-glucose so they grow in standard lab media. Easier for the researcher. Also easier in the wild.

10+

years away, and AI could shorten it

The report says further advances in AI might accelerate solutions to several technical hurdles. A forecast from the authors, not a finding.

Five outer limits

1. Name outcomes, not only actions
2. Put the limit where the barrier is high and visible
3. Tie stop conditions to categories
4. Treat widening a goal as a decision
5. Ask suppliers what they refuse

Write the list of outcomes nobody should reach

Name an owner. Put a stop condition on the agents that touch it before they are good enough to need one.



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