Chatbot RSI is a Fantasy, But Chatbot RMR is Real and Terrifying

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2026-11-03.00:20 EST Tue

Original post in LinkedIn:
https://www.linkedin.com/pulse/chatbot-rsi-fantasy-rmr-real-terrifying-terry-bollinger-czdhe/

PDF version (this document) in Apabistia Notes:
https://sarxive.org/apa.2026-11-03.0020.pdf



Figure 1. *"I'm an Engineer. This ChatGPT Test Scared Me." Michael Lydick (YouTube), Nov 1, 2026.*

If you are one of many folks uncomfortable with the increasingly popular Recursive Self-Improvement (RSI) explanation for why chatbots started working a lot better in late 2026, don't feel alone. The glamor, hope, and implicit terror of the RSI concept — which those of us in computer science have, for decades, more scarily referred to as the Singularity event — have created a new burst of enthusiasm similar to the mostly failed hopes that accompanied early ChatGPT releases.

The problem with the RSI concept is that it is uncomfortably similar to claiming that if you put a microphone up to a speaker, the resulting feedback loop must inevitably result in the answers to life, the universe, and everything.

People who have ever played with real microphones and real speakers know how untrue such a claim is, especially for digital logic computers where every bit change acts like a little noise-creating jackhammer that subtly but firmly degrades the connection between that information and its real-world sources. In short, the loop slowly goes psychotic. Add enough noise over enough time and repetitions, and all you end up with is an ear-shattering screech.

No one in industry, computer science, or mathematics has ever solved this problem. The reason seems rooted in our profound lack of understanding of how biology handles information with energy efficiency far beyond digital logic systems, including the ability to self-correct instead of degrading under common stresses. Biological systems can often self-correct in such cases, while binary-logic systems almost invariably self-degrade.

Given our decades-long lack of understanding of how biological systems self-correct and self-improve, I found it remarkable that a publication as conservative as the Wall Street Journal (WSJ) recently promoted arguably vacuous claims that a major chatbot company had "discovered" recursive self-improvement in their business processes [2]. The claim was not scientific, since it merely collected superficial internal statistics on employee chatbot usage, and then claimed, ex cathedra, that observed increases in usage were "proof" of RSI.

The report [3] actually documented a combination of employee self-preservation and improvements similar to those seen outside of the company. After all, if you can get demoted, fired, or pushed aside for not using chatbots, you tend to use more chatbots. One highly effective (and somewhat amusing) way to use any chatbot in such a situation is to get it to help you produce metrics that make your usage look better over time.

However, one would hope that such large reported improvements were more than the result of internal gaming of usage metrics. It's reasonable to assume that this second component of the report is also real. But if RSI did not lead to internal improvements, what did? Were the improvements even real?

A Better Source of Chatbot Improvement Data

It is unrealistic and unfair to expect trustworthy data from a company whose fate depends on finding positive results. A better approach is to collect data from end users who report what happened when they tested the latest chatbots on problems they initially assumed to be beyond chatbot abilities.

The November 1, 2026 YouTube video featured in my lead figure is one such example [1]:

> *I'm an Engineer. This ChatGPT Test Scared Me.*
> Michael Lydick (YouTube), Nov 1, 2026.
> https://youtu.be/TUqScwjnO_k

The video creator documents his chatbot experiences in a delightfully in-your-face, hard-to-deny fashion. The examples given suggest that recent chatbot improvements are not only genuinely impressive, but already capable of annihilating entire sectors of engineering, design, and their software tools:

The video is a fast-paced, stark summary of how an engineer accustomed to spending hours or days using leading-edge laser sensors, Computer-Aided Design (CAD) tools, manual corrections, and 3D printers discovered that he could get the same or better results for replacing a broken part by using nothing more than a camera, a caliper, graph paper, and a few extremely simple conversational requests to ChatGPT. As has also happened recently in mathematics, this disrupted his perception of what someone with no training could do to replace his profession. He saw himself become obsolete in 30 minutes, and was left holding a plastic part that instantly evaporated any notions that what he had just seen was a sloppy fluke.

Forget meaningless internal pro-chat data surveys. That is real and scary data.

But examples like this also get at the central problem: If RSI, recursive self-improvement, is not the source of such efficiency improvements, what is?

A Closer Look at the Man Behind the Curtain

One unfortunate consequence of the powerful marketing incentives to sell chatbot systems as "human-like" or "superhuman" intelligences is that such talk masks what is really going on. This process is powerful enough that one can easily mistake it for beyond-human intelligence, but, critically, it remains mindless and firmly limited by the human component that guides and uses it. The giant flaming image is a sham, yes. However, the power hidden behind the curtain has its own subtler power: almost infinitely detailed mimicry.

But if the flaming false image is RSI, what do you call the multi-level mimicry that ws hiding quietly behind the curtain?

I call it Recursive Multilevel Reuse, or RMR.

Think of RMR as reusing past solutions and work at so many levels of context and customization that a simple request with minimal guiding data suddenly transforms a simple picture into a crisp, fully detailed, printable part on a 3D printer. Smaller-scale, adaptation-focused reuse of past solutions helps adapt an initial rough image or concept into a final result that would take a human many days to complete.

Compared to ordinary reuse — e.g., borrowing a tool that is not quite what you need, but may suffice — multi-level adaptation escalates benefits quickly. One simple but inflexible reuse of a tool or result may solve a few closely similar problems. However, adaptive, multi-level reuse, especially when combined with an easy-to-use interactive language interface, suddenly becomes thousands or tens of thousands of times more powerful by revealing its applicability across a far larger range of similar problems.

This leads to a simple but important point: When people talk about "training" a chatbot, it is a mistake to think of the goals merely as adding more facts. The deeper goal — the one that trainers need constantly to aim for — is to structure the training so that the chatbot learns how to adapt solutions both correctly and at many different levels.

RMR is not new. In fact, it is the hidden, highly non-linear process that hides beneath the surface of all effective forms of computer automation. Chatbots arrived late to the RMR race, and to reach maximum efficiency, they need to use many of the same reduction techniques seen in traditional language compilers. After all, once you know what an adaptation looks like, there is almost always a vastly more efficient way to implement it.

Instead of computational efficiency, what chatbots bring to the RMR process is easy, fast recognition of connections that no human would detect. They also add enough layers of existing knowledge and solutions to convert processes such as a previously slow, highly manual sequence of tool applications into a compact, 30-minute run that even a well-organized amateur can control well enough to create high-quality results. This is the powerful multiplication effect of well-trained multi-level adaptation.

A Different (and Lesser) Kind of Threat

If Recursive Self-Improvement were real, then concerns about a runaway "self-aware" intelligence would be warranted. A real-world giant, flame-faced Wizard we cannot control would be terrifying for good reasons.

But Recursive Multilevel Reuse is an entirely different kind of threat, and arguably a far less catastrophic one. It can make ordinary people so efficient at obtaining what they need without further assistance that many job titles and roles disappear.

What you do not get with RMR is end-of-the-world scenarios in which the computer becomes self-guiding. The most powerful forms of RMR, no matter how intimidating, are, in the end, nothing more than elaborate forms of mindless expansion and mimicry, no matter how much their ability to grant wishes quickly makes them seem independently intelligent.

The Dangers of Confusing RMR with RSI

The design space in which all of these issues exist is not one of "artificial" or "super" intelligence, but of hybrid intelligence: What is the unique mix of connections and processes that allows combinations of slow, insightful, high-energy-efficiency human intelligence with fast, high-capacity computer processing that produce results that neither could produce by itself.

The danger right now is that people are convincing themselves that RMR is the same thing as RSI — that massive, almost instantaneous reuse of work that originated by humans is identical to replacing human intelligence entirely.

That cannot happen in RMR. What happens instead is that a tiny smattering of human guidance and inquiry begins to go a very long way. In the case of the video, tiny human nudges along the way become incredibly important for guiding the overall reuse process to a result that has meaning and value. This same need for human guidance occurs in chatbot math proofs, which depend critically on similar, often subtle nudges by the human components of the proof process.

A Deep Regret

Inattention to the critical but subtle role of humans in chatbot collaborations points out an important point: In terms of exploring that enormous design space of possible hybrid intelligence systems, what we are doing at the moment by focusing almost entirely on LLMs is much like a blindfolded exploration of a field full of sharp knives and unexpected chasms. Poorly trained chatbots can cause incredible harm to humans unaware of their dangers.

My deep regret is that none of this random exploration should have happened. At the Software Productivity Consortium in the late 1980s, I explored the relationship of reuse and intelligence deeply, and concluded that what was needed was an architecture that maximized the ability of humans to contribute effectively to a mostly automated development system. The concept, which I proposed to Bill Riddle as STAR*2000 (looking ahead a decade), was inherently recursive and intended to give the humans in the loop the simplest, clearest statements of unresolved problems at multiple levels of abstraction.

The idea was not implementable with the slow computers and networks of that era, which is why I tagged the year 2000 in the name. But that, too, was overly optimistic. Two of my later bosses, General Alan Salisbury and Andre von Tilborg, both eventually headed or led efforts to harvest and leverage common knowledge, including by using Wikipedia. But those, too, were too early for the technologies of those periods.

In retrospect, I wish I had openly posted or published the concept of a recursive hybrid intelligence architecture designed to maximize reuse. I think it could have provided some guidance on the critical issue of how to make the human-machine part of the collaboration work better and more safely. The current wild, unguided exploration of the exceptionally weak starting point of shallow statistical language models, which tend to maximize self-deception and create hallucinations even in the most sophisticated users, has caused a lot of harm to a lot of innocent bystanders. That should not have happened. I regret not doing more in the past to spread ideas that might have helped prevent, moderate, or at least understand the huge risks of such an unexpected design-path choice.

Looking Forward

The business and societal goal now should be to realize that what we are doing is hybrid, human-machine maximization of reuse. In terms of LLM systems, this advice becomes a simple recommendation: Keep training these machines not just to "find" things, but to fully embrace the role of mindless, multi-level reuse adaptation of past work, augmented by the levels of processing that only a computer can bring.

Mindless, multi-level reuse may not be as showy as the giant, scary fast of "super" intelligent RSI. But the good use is that focusing on RMR is far more likely to lead you to products that people actually want and find value in.

References

[1] M. Lydick, *I'm an Engineer. This ChatGPT Test Scared Me.* Michael Lydick (YouTube), Nov 1, 2026. https://youtu.be/TUqScwjnO_k

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