How dare you?

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> "If your bottle was shaped like a torus, we could stir its content so that no point has come back to its original position!" Professor Carcan said enthusiastically to his student coming back empty-handed from the last source of drinking water of the city. She will be his first student to die from dehydration.
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> In: *The Mathematics of Professor Carcan*

Introduction. If you are spending some time wondering to what extent AI should be developped, spread and used within activities of the mathematical community, administrativewise, teachingwise and researchwise, this note is for you.

The purpose of this note is not to extend the Overton window. The Overton window has been dislodged and carried away from its original location. The purpose of this note is to center it back. Or, under time constraints, to make use of an overlooked inscription on the Overton window: *in case of emergency, break glass.*

Before stating our main result, let us recall the state of the art. All IPCC results cited in this note are taken from [IPC23]. The following theorem is directly taken from there:

Theorem 1 (IPCC)**.** *Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. Human-caused climate change is already affecting many weather and climate extremes in every region across the globe. This has led to widespread adverse impacts and related losses and damages to nature and people (high confidence). Vulnerable communities who have historically contributed the least to current climate change are disproportionately affected (high confidence).*

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Highly alarming is the fact that this situation is not improving:

Theorem 2 (IPCC)**.** *Hazards and associated risks expected in the near term include an increase in heat-related human mortality and morbidity (high confidence), food-borne, water-borne, and vector-borne diseases (high confidence), and mental health challenges (very high confidence), flooding in coastal and other low-lying cities and regions (high confidence), biodiversity loss in land, freshwater and ocean ecosystems (medium to very high confidence, depending on ecosystem), and a decrease in food production in some regions (high confidence). Cryosphere-related changes in floods, landslides, and water availability have the potential to lead to severe consequences for people, infrastructure and the economy in most mountain regions (high confidence).*

As always, IPCC results have two main advantages: they come with a scientific level of confidence and they are crystal clear. *Mortality and losses. Death and desolation*, if we go business as usual. This is what the statements above mean.

Remark 3. To give some order of magnitude of what needs to be done, let us give a few numbers. To keep global warming under +2°C, we need to divide the greenhouse gases emissions by 2 to 3 worldwide before 2050. This means a decrease of roughly 5% every year until 2050. A decrease of 5% is very easy, it already happened: during the COVID19 crisis. In other words, we need a COVID19 crisis effect on the greenhouse gases emissions every year until 2050. A COVID19 crisis effect. Every year. For 24 years.

But AI does not propose to keep business as usual, it proposes to increase the speed at which these consequences arise:

Theorem 4. *Generative AI is, from an ecological standpoint, a disaster.*

Proof. The fact that generative AI has dramatic ecological consequences which will not be compensated by its benefits is not only obvious, but also scientifically grounded; see for instance [AGAC26]. A detailed proof is outside the scope of this note, but I still want to add an evidence which appears too rarely. The main application of generative AI is to speed up processes. The main activity of the countries having access to generative AI is a capitalistic extractivism and productivism which pollutes and destroy ecosystems by design. Speeding up these processes will do nothing but speeding up pollution and destruction. □

This is the state of affairs, from which any discussion on generative AI should start. Arguing the opposite is either a naive hallucination or a guilty lie.

Main result. The purpose of this note is to expose the following theorem.

Theorem 5. *There exists an integer $N \in \mathbb{N}$ such that when our human-based activities will have killed N humans*[1]*, mathematicians will stop wondering if using AI will help them solve Erdös problems to start taking strong political actions and putting their knowledge into fruitful directions*[2]*.*

The proof of the theorem is obvious. The opposite would mean that mathematicians would prefer to let everyone die than changing the course of their activities. In spite of being a triviality, Theorem 5 naturally induces a useful question:

Question 6. *What is the value of N?*

The number N could be refined to depend on the mathematician considered. Some people already satisfy the conclusion of the theorem. Some do not. For instance, contributing to collections of mathematical problems that help big tech companies to further develop their algorithms does not satisfy the conclusion of the theorem. It is irresponsible and immoral. This means that N has not been reach for these mathematicians. Of course, a very useful question if you are a mathematician is: what is your value of N?

Conclusion. Thanks to Theorem 2, we know that the number of human beings dying due to ecological reasons is stricly increasing and will rise at an increasing pace if we do not change radically our activities (see also Remark 3). This brings us back to our starting point. If you are spending time wondering to what extent AI should be developped, spread and used within activities of the mathematical community, administrativewise, teachingwise and researchwise, then the above developments naturally lead to nothing but:

Question 7. *How dare you?*

How can you spend your energy on discussing what is a good way of using AI for mathematics, how to provide AI-based learning tools to students, what is a smart way of prompting to find new theorems or write grant applications when you know Theorems 1, 2 and 4?

Maybe you think it is easy to point fingers at people without proposing concrete solutions. I should make myself clearer. I am not asking why you do not pursue *options A or B* that I would have proposed. I am asking

[1] We mean, via the ecological disaster as stated in Theorem 2.

[2] By *fruitful directions*, we mean fruitful for humanity as a whole, not for a small subset of individuals.

why you do not put time and effort into *seriously and rigorously seeking* for scientific activities which benefit humanity as a whole. Why you do not use your valuable knowledge and your ability to produce analytical and critical thinking to produce an urgent and radical change in society — instead of enslaving it to the growth of a technology which has such deleterious effects on humans, ecosystems and ressources. The unquestionned, vague and business as usual biological application you are working on does not qualify as such. It is not up to the task. If you think it is, you should probably read again Theorems 1 and 2. The one-hour weekly discussion on AI with your colleagues is not up to the task. If you think it is, you should probably read again Theorems 1 and 2. Why don't you *stop* and *think* about it? This is my question.

Of course, my question does not apply identically whether you are undergrad or grad student, postdoc, tenured or not. So let me be even more precise here. I want to address my question to tenured mathematicians with permanent positions who have not yet reached their number N: what is your excuse?

References

[AGAC26] Will Alpine, Nathan Geldner, Holly Alpine, and Maksym G. Chepeliev, *AI-driven productivity gains enable more CO2 emissions than they avoid in a global energy–economy model*, npj Climate Action **5** (2026), no. 1, 71.

[IPC23] IPCC, *Summary for Policymakers*, Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. Geneva, Switzerland (2023), pp. 1–34.