

The Lie of “It’s Just Math”

👤 jadeedenstarmaster 📁 Uncategorized ⌚ December 11, 2020December 14, 2020 ⌘ 2 Minutes

In 2020 the Defense Advance Research Projects Agency (DARPA) funded over 220 million dollars in Math and Computer Science Research ([DARPA Budget \(https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/budget_justification/pdfs/03_RDT_and_E/RDTE_Vol3_OSD_RDTE_PB21_Justification_Book.pdf\)](https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/budget_justification/pdfs/03_RDT_and_E/RDTE_Vol3_OSD_RDTE_PB21_Justification_Book.pdf)). In my field (Applied Category Theory) the best funded research programs are funded by either DARPA or the Air Force. At first this seems kind of baffling. Why does the Air Force care about using homotopy theory to find an alternative foundation for mathematics? Why does DARPA care about the properties of colored operads? Many mathematicians give them the benefit of the doubt. If the military is interested in funding projects which seem to just enrich mathematics as a whole, then maybe their intentions aren’t so bad. This is a convenient explanation, made more convenient by the high paying jobs and hefty grants that the Department of Defense (DoD) offers. Unfortunately, my personal experience has shown me that there is no truth in it.

The DoD’s real goal is not just the math you produce, they want to gain access to your mathematical community. Maybe you would never work on missile guidance systems. That’s okay, the people you work with at the DoD will gain expertise in your mathematical specialty. They will present at conferences and find new collaborators who will have more flexible morals than you.

Your math is not too abstract to be useful. The DoD wants to build themselves into these mathematical communities from the very beginning so that when it does eventually become practical they will be poised to take advantage. If it takes a longer time to become practical then that means the DoD will have enough time to become entrenched into the foundations of the subject.

The DoD wants to normalize themselves in your non-mathematical communities. Since 2001, over 800,000 people have been *directly* killed and more than 37 million made refugees in the US post 9-11 wars (<https://watson.brown.edu/costsofwar/>). The DoD wants US Citizens to be okay with that and the best way to gain an ally is to go in business together. The DoD wants to demonstrate that they can put food on your table and advance your interests so that you will turn a blind eye to the violence they commit abroad.

The DoD will lie to you. A friend of mine worked for a project whose public goal was to provide technology for search and rescue operations. However, in more private conversations the terminology slipped from “search and rescue” to “search and destroy”. None of the researchers in this project or their collaborators were made aware of this. The DoD is under no obligation to tell you the true motivations behind your grant or job. Sometimes these motivations are classified.

As conditions in US worsen, I think one of the best things we can do to heal the world is to stop doing things that make it worse. I personally do not plan on collaborating with DoD funded mathematicians and I hope you will join me. If Grothendieck knew what his math was being used for he would roll in his grave.



Published by jadeedenstarmaster

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16 thoughts on “The Lie of “It’s Just Math””

Johan says:

February 22, 2021 at 5:56 pm

There is an article Grothendieck wrote in his moment.

I’t seems appropriate:

[Click to access scientist.pdf](#)

↪ Reply

jadeedenstarmaster says:

February 25, 2021 at 7:02 pm

Thank you Johan, this a great article which is indeed super relevant.

↪ Reply

Pingback: [A clarification. – Cat Blog](#)

Abel Jansma says:

December 17, 2020 at 2:50 pm

I think Timnit Gebru makes a good point in this interview:

<https://www.technologyreview.com/2020/12/16/1014634/google-ai-ethics-lead-timnit-gebru-tells-story/>

“(…) I don’t think the lesson is that there should be no AI ethics research in tech companies, but I think the lesson is that a) there needs to be a lot more independent research. We need to have more choices than just DARPA (…)”

I was also reminded of the discussion on community values at ACT2020. Coecke defended the military funding by saying “without them, there would be no ZX-calculus” (or something along those lines). That’s true, but that sentiment is exactly the loyalty the money creates. While they are not applying the math directly, their support creates a loyalty to the military that persists across academic generations.

↪ Reply

jadeedenstarmaster says:

December 17, 2020 at 4:51 pm

Yes I totally agree. I wish I had been able to attend more of ACT 2020 as I'm sure I would have found that conversation very informative.

↳ Reply

Abel Jansma says:

December 17, 2020 at 5:13 pm

I'm pretty sure there are notes of this discussion somewhere on the Zulip channel.

↳ Reply

jadeedenstarmaster says:

December 17, 2020 at 5:30 pm

I couldn't find anything there. There was an ACT "Statement of Values" but no record of the discussion which occurred.

↳ Reply

Abel Jansma says:

December 17, 2020 at 5:52 pm

hmm ok yeah maybe I misremembered and that statement is all that was recorded. I'm not in the zulip anymore, so can't help any further I'm afraid. Great post by the way!

↳ Reply

pnips says:

December 17, 2020 at 12:14 am

This argument would be stronger with some more direct examples or case studies. For example, the DoD rolled a ton of money into developing semantic web technologies (eg, OWL & predecessors). Are you convinced this was (a) money ill-spent due to negative consequences or (b) a devil's bargain for the formal reasoning community (who got jobs, tools and a corporate ecosystem out of the deal)?

What's wrong with the argument that military funding is a given (in the US, at least), and this sort of research funding is the least-bad outcome from that money?

I don't necessarily disagree with your conclusion, but I don't think you've made the case yet.

↳ Reply

jadeedenstarmaster says:

December 17, 2020 at 5:00 pm

One point is that the military budget is so large that taking a math grant isn't going to funnel money away from more nefarious projects. They will still have plenty of money for those regardless. I think that both a) and b) of your two points are true. The formal reasoning community certainly benefited, and people benefited from the technology they produced, but this is like a bribe. It helps build the military into these mathematical communities so that anyone who produces research has no choice but to contribute to the military applications indirectly.

↳ Reply

jadeedenstarmaster says:

December 17, 2020 at 5:01 pm

And thank you for the suggestion about how to make the argument stronger. I might make a longer version of this to publish somewhere else.

↳ Reply

Pingback: [The ethical mathematician – General abstract nonsense.](#)

ALAN says:

December 12, 2020 at 1:14 am

ALAN ALAN ALAN ALAN ALAN ALAN ALAN ALAN ALAN ALAN ALAN ALAN

We will never let you control Eugene

↳ Reply

jadeedenstarmaster says:

December 12, 2020 at 2:04 am

???

↳ Reply

moziburullah says:

January 8, 2021 at 7:15 pm

Well done for initiating an important conversation in mathematics. There was a time when Hardy could justifiably say that his kind of mathematics – number theory – was of no military use at all. But mathematics now is so tightly interconnected that a similar statement couldn't be made today. Nevertheless, one can say that a mathematicians intentions is important. That is whether he or she would want his research to be used for military ends or not. Since there are plenty of non-military uses of mathematics, I'd say its important to pushback against the colonising of mathematics research by the military. Its not their plaything.

↳ Reply

jadeedenstarmaster says:

February 25, 2021 at 7:02 pm

I absolutely agree. If we want to avoid responsibility for catastrophes like the bombing of hiroshima for example we need to actively push back against people trying to use it for things like that.

↳ Reply

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