I think that Schumer's initiative has a sputnik-like feeling to it. This call for America to take big action to be technologically competitive with threatening countries is very reminiscent of the spirit behind our Sputnik response. However, I worry that in the past we were able to rally specifically behind the space race and a Russian enemy, and this proposal has a more vague enemy and a more ambiguous path to victory with its focus on multiple areas of technology and multiple competitive countries, so this more complicated proposal might lack the easily unifying drive of a real SLM. Also, I think that American politics are in a much more polarized, petty place now that would make a modern SLM difficult. Since Schumer's proposal mentions immigration reform, which is seen as a partisan issue, I can see this proposal being torn apart by fox news as a scheme by Schumer to sneak a liberal agenda into R&D.

However, I think that this idea for a NSTF could become an SLM response, if leaders pick an issue, or perhaps use a blanket term like "technological superiority" or something along those lines that could make the public think of scary sci-fi things. That could spark a desire to be the biggliest sci-fi nation and rally support for science. I think this is especially possible because of the adversarial way that Schumer, and the US government as a whole approaches China and Russia. This may be a good sign that the environment that made Sputnik monumental is resurfacing.

The fact of the matter is the threat of things like falling behind in computing poses just aren't as easy for people to wrap their heads around as bombs falling from the sky.

Putin says AI is the future of global power and our government interprets this as a threat.If power is gained via scientific progress is it must be supported to reach global authority.

I do not think this is a Sputnik Like Moment, but I do think that it could become that. It seems that there are a few different criteria for an event to meet that causes a SLM. First, there needs to be some element of need to feel superior over another country or group of people. As mentioned in the article, I think that the investment certainly hits this mark, as they mention the concern over China and Russia's developing AI and quantum computing capabilities. Secondly, there needs to be some sort of push from the general public to claim that the funding is necessary, developing into a bipartisan effort. At this point in time, though there is concern from the general public, there is no wide-spread panic and push from all sides to have this funding. However, if there is some sort of event caused by Russia or China that people feel endangered by in their daily lives, it may become something that looks more like a SLM. At this point, the efforts seem more proactive than reactive, and the American public usually act more strongly in reactive situations.

I think the large number of authors per publication, the longevity that keeps a grad student from finishing the project, and lack of recognition for younger scientists are all reasons why the scientists themselves may not be all that inspired to work on big-science projects.

Research University Problems

Major quality assurance challenges. Or maybe administrative issues. Sprawl is a problem in any large project. And with that areas that lack sufficient oversight pop up. Additionally, with any large expensive project the pressure to produce results can incentivize dishonest conduct.

Big projects I imagine are only problems to science culture if its scientists and administrator are incompetent. Having research that challenges not only its field of immediate interest but also of others is a great opportunity for exploration. In the best of circumstance, big projects offer the scientific community space for collaboration.

I think drawback (5) touches on an issue that has come up a lot in class, and is an issue I think may be very bad for the scientific process/culture around science. If there are too many long term, expensive projects that don't result in any discoveries, Universities will want to invest in "safer projects" that don't take as much of a risk that have a chance of discovering something great.

Balancing Issue - should "big" projects be done under a separate budget? PIs vs Infrastructure funding