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## Description

Defining research as “independent” is not as simple as it might first appear. Which criteria are you considering for independence?

- *Freedom of Influence* – you have the money and resources to conduct independent research without any contractual obligations to a third party (corporation, institution, or grant agency) as to ownership of intellectual property or future rights.
- *Freedom of Research* – your research may be funded by a third party, but there are no restrictions on the direction in which you can take your research (provided it remains compliant with all relevant standards and regulations).
- *Freedom of Authorship* – your research may be funded by a third party, but you have the freedom to write about your study and your results in any way and in any venue you choose.

## Practical Realities

Unless you're a billionaire with the funds to underwrite your own research center, as Paul Allen, the co-founder of Microsoft, did with the Allen Institute for Brain Science, the increasingly high capital expense of research has to be covered from somewhere.

This requires a collaborative effort between institutions, corporations, grant agencies, and to a lesser degree government agencies, to provide sufficient funds for research studies that can take decades to be conducted.

However, such collaborations lead to questions of both ownership and control. Is the project owned according to a financial percentage of dollars funded? Is it a simple purchase of laboratory resources and expertise? Is it a long-term partnership of shared expenses and royalties?

Hence, a research plan is necessary for any researcher.

## DARPA

The Defense Advanced Research Projects Agency (DARPA) came into existence in 1958 as a part of America's response to Russia's leap into space technology with the Sputnik satellite. Originally called ARPA (the “D” for defense has been added and removed on more than one occasion), the agency was chartered with the freedom to “think independently” of the rest of the military in responding to national defense challenges.

The degree of “independence” presumably fluctuated in parallel with the addition and subtraction of the word “Defense” in the agency's title, but one low profile project in the late 1960s to connect some computers at four different university sites can be claimed to have changed the world.

The *APARNET* technology that was developed to allow those computers to connect laid the foundation for the packet and switching technology that allows the Internet to function today.

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Critics argue that DARPA's independence only extended to freedom from bureaucracy and paperwork in gaining funding when a perceived national emergency (Sputnik) seemed to appear out of nowhere. America's scientists were operating on the assumption that Russia was many years behind in the space race, and Sputnik clearly proved otherwise.

## What is Independence Worth?

If research cannot be conducted without funding, is a loss of independence an acceptable sacrifice if the bargain gets the project off the ground? That is the question troubling many researchers today. Declining federal funding is leading academic institutions towards broader collaborations who see the advantage of buying access to research resources instead of maintaining company laboratories and research centers.

However, although we are still in the early stages of these new relationships, there are already concerns over the direction we are taking. Research as an investment demands a return on that investment. That, in turn, favors [applied research projects](#), ideally those that produce marketable products or treatments, over the broader contribution of basic research studies that contribute to the greater body of knowledge.

If funding for basic research continues to decline, how is that body of knowledge going to grow in the future?

### Category

1. Publishing Research
2. Understanding Ethics

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