



Oh, You Write Grants? *No, I Write Proposals.*

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**Proposals are proposals, like driving is driving.
But the environment, vehicle, and driving
conditions aren't always the same.**

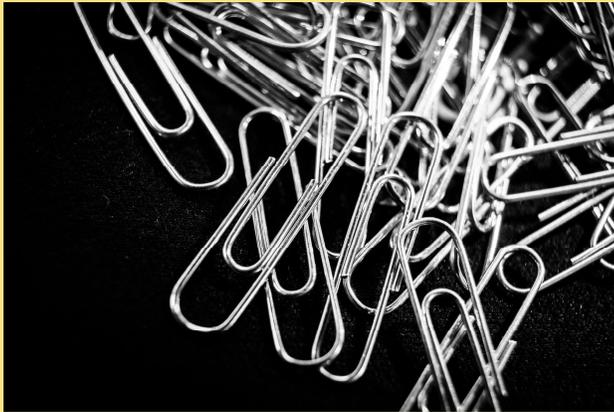


What's the difference? What's the sameness? Here is what we will take up today.

- Different funding mechanisms and their characteristics.
- How those differences drive the way we frame our capture efforts and formulate our value proposition and proposal.
- Scope of work, milestones, deliverables, outputs, outcomes.
- A case study: Let's write two proposals for a perpetual motion machine: one for a contract, one for a grant.

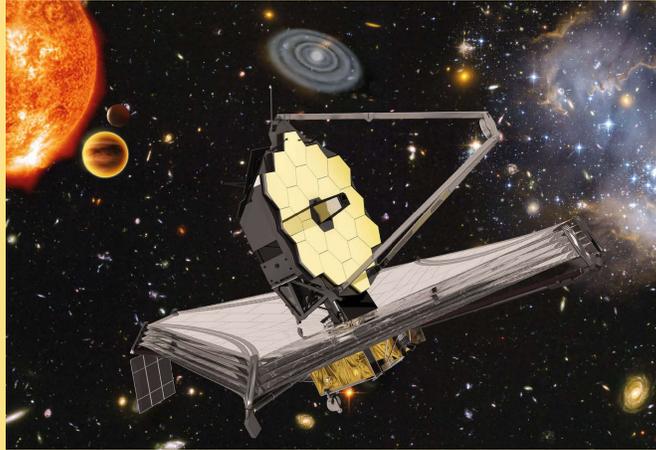
Let's start with definitions ...or at least characteristics.

Purchase: When you need to buy paper clips (or maybe conceal a contract from the contracting office).



More definitions...

Contract: When you need something done: empty the wastebaskets, build an observatory and launch it into space...



Still more definitions, and an important warning before we concentrate on grants!

- Cooperative Agreements.
- Other Transactions.
- Gifts. Outside the government space, sometimes gifts pretend to be grants. Sometimes grants pretend to be gifts. It gets confusing. Talk to your contracting or accounting office. ***When you begin, always to know what you are applying for!***

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In the US, a cooperative agreement is a contract in which the customer plays a “substantial role” in carrying out the scope of work.

In the US, an Other Transaction, or Other Transaction for Prototype, can be for a project with less clear-cut deliverables. During the first year of the Covid pandemic, there were a lot of OTs for development of vaccines and studies of the virus.

Traditionally, a gift is just what it sounds like. It can be restricted (designated for a specific purpose) or unrestricted. The donor is to receive nothing of value in return for the gift. Sometimes, foundations and (especially) corporations will provide funding that works like a gift, but they call them grants, presumably for tax and accounting purposes.

More definitions: finally, he got to “grant.”

Grant: Here is the official US government definition, which is a good starting point.

Grant Agreement

A legal instrument of financial assistance between a Federal awarding agency or pass-through entity and a non-Federal entity that, consistent with 31 U.S.C. 6302, 6304:

- a. Is used to enter into a relationship the principal purpose of which is to transfer anything of value from the Federal awarding agency or pass-through entity to the non-Federal entity to carry out a public purpose authorized by a law of the United States (see 31 U.S.C. 6101(3)); and not to acquire property or services for the Federal awarding agency or pass-through entity's direct benefit or use.
- b. Is distinguished from a cooperative agreement in that it does not provide for substantial involvement between the Federal awarding agency or pass-through entity and the non-Federal entity in carrying out the activity contemplated by the Federal award.
- c. Does not include an agreement that provides only: (1) Direct United States Government cash assistance to an individual; (2) A subsidy; (3) A loan; (4) A loan guarantee; or (5) Insurance.

<https://www.grants.gov/web/grants/learn-grants/grant-terminology.html#G>

“...transfer anything of value...”

...to carry out a public purpose...

...and not to acquire property or services...”

For convenient reference, here are major characteristics of different funding mechanisms.

Component	Purchase	Contract, Coop. Agmt., Other Trans.	Grant	Gift
SOW and milestones	No.	Almost always.	Frequently.	Rarely.
Deliverables	Yes.	Explicit.	Typically reports or work products.	None (except stewardship).
Products	Same as deliverables.	Same as deliverables.	Typically owned by the grantee.	Owned by recipient.
Budget and indirect costs	Line items but no justification. Usually no indirect costs beyond sales tax.	Usually detailed. Indirect costs are included.	Degree of detail varies widely. Should pay indirect costs.	Generally, no detail required, and no indirect costs.

Grants have a few other unique attributes, too...next slide, please.

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Stewardship is a report to the donor describing how the donation was used. It can be as brief as a thank-you letter or as elaborate as a visit. It is not a deliverable. It is good manners.

Grants often have a few other important features.

- Eligibility restrictions.
- Multiple awards from a single solicitation.
- Recurring windows to propose to the same opportunity. Best example: The US National Institutes of Health call for a one-page summary of what you changed in response to reviewer comments from the previous submission. I love this.

APPLICATION FOR FEDERAL ASSISTANCE SF 424 (R&R)		3. DATE RECEIVED BY STATE <input type="text"/>	State Application Identifier <input type="text"/>
1. TYPE OF SUBMISSION <input type="radio"/> Pre-application <input type="radio"/> Application <input type="radio"/> Changed/Corrected Application		4. a. Federal Identifier <input type="text"/>	<input type="text"/>
2. DATE SUBMITTED <input type="text"/>		b. Agency Routing Identifier <input type="text"/>	
Applicant Identifier <input type="text"/>		c. Previous Grants.gov Tracking ID <input type="text"/>	

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The US National Science Foundation has a program called EAGER, which makes small grants for exploratory, high-risk projects. One way we use EAGER is in the case where a proposal is declined because one reviewer dug in his/her heels over one technical point in the proposal. The EAGER grant can fund research on just that one question. Once you do that EAGER project and prove you were right and the reviewer was wrong, you submit the proposal again.

The centerpiece of a grant is a public benefit as set forth in the solicitation or by the proposer.

The public benefit is the heart of a grant proposal's value proposition. That doesn't mean you have to promise rainbow unicorns and people joining hands in song.



<https://www.goodfreephotos.com/public-domain-images/rainbow-unicorn-vector-graphics.png.php>

On a grant, the “public benefit” isn’t always obvious.

Why did the US Department of Agriculture make grants to the economic development agency of Berwick, Pennsylvania, to repair its movie theater in 2017?



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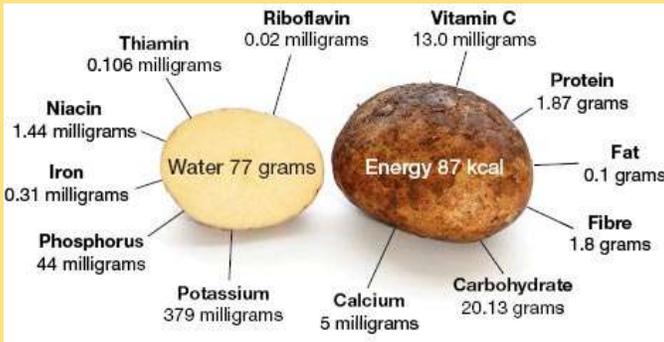
It's because USDA's mission includes supporting healthy rural communities.

*The United States Department of Agriculture (USDA) works to support the American **agricultural economy** to **strengthen rural communities**; to protect and conserve our natural resources; and to provide **a safe, sufficient, and nutritious food supply for the American people**. The Department's wide range of programs and responsibilities touches the lives of every American every day.*

So, then, how would that value proposition manifest in the grant proposal?

Two public benefits in accordance with USDA's mission: a vibrant rural community in Pennsylvania and a sufficient supply of potatoes.

Nutritious? Well...



<https://www.fao.org/potato-2008/en/potato/factsheets.html>

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So let's take a minute to think about how sponsoring* agencies view public benefit.

Agriculture: enough food and fiber for all.

Energy: reliable, affordable, safe, clean energy for a healthy economy and happy populace.

Health: reduced morbidity and lower costs, greater access, no pandemics.

Environment: Sustainable, healthful ecosystems (when Democrats are in power), or resilient communities (when Republicans are in power).

Space: stay ahead of Musk, Branson, Bezos, Russia, and China.

** Another example of driving on the other side of the street. You call them customers. I generally call them sponsors.*

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The same is true in the foundation/private/corporate space: What benefit do they want?



Bad example, good illustration: Ex-Beatle George Harrison famously financed *Monty Python's Life of Brian* because "I wanted to see the film."



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This was not a grant or a gift. He invested in the company that was making the picture and even got a cameo. The point is his motivation: It wasn't profit, it was to produce the benefit of a funny movie.

So, with public benefit as our north star, how do you do capture?

- Research potential sponsors and what they have funded before.
- Know their funding limits and restrictions (amounts, geographic, eligibility).
- Check out past winners: what does a successful project look like?
- Figure out who on your board is friends with someone on their board. Golf can be the Great Differentiator.
- Submit a letter of intent, preliminary proposal, or other inquiry.
- Have fall-back plans: If you ask for X and they ask what you can do for 0.25X, be ready with an answer. It is an audition for getting X next time.

From capture to proposal: In one form or another, there will be a solicitation.

Federal: An example: the daily feed from Grants.gov, Dec. 14, 2021.

Opportunity Title	Agency	Opportunity Status
Scientific Discovery Through Advanced Computing (SciDAC): Partnership in Nuclear Energy	PAMS-SC	Posted
Chesapeake Bay Program Office Fiscal Year 2022 Request for Applications for Bay Journal Support	EPA	Posted
Cooperative Agreement for CESU-affiliated Partner with North Atlantic Coast Cooperative Ecosystem Studies Unit	DOI-USGS1	Posted
EPSCoR Research Infrastructure Improvement Program: Bridging EPSCoR Communities	NSF	Posted
Secondary Analyses of Data on the National Incidence of Child Maltreatment	HHS-ACF-OPRE	Forecasted
Anti-Nostalgia Program	DOS-MDA	Posted
Optimization and Standardization of Methods to Suppress Ixodes scapularis and Disrupt Enzootic Pathogen Transmission in Settings Posing an Elevated Risk to Humans	HHS-CDC-HHSCDCERA	Posted
Cooperative Agreement for CESU-affiliated Partner with Piedmont-South Atlantic Coast Cooperative Ecosystem Studies Unit	DOI-USGS1	Posted
SPARC VNS Endpoints from Standardized Parameters (VESPA) (U54 Clinical Trial Required)	HHS-NIH11	Posted
2022 NOAA California Bay Watershed Education and Training (B-WET) Program	DOC	Posted

Foundation: As an example, here is what you find when you visit the Doris Duke Charitable Foundation:

The mission of the Doris Duke Charitable Foundation is to improve the quality of people's lives through grants supporting the performing arts, environmental conservation, medical research and child well-being, and through preservation of the cultural and environmental legacy of Doris Duke's properties.

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The end point is the same: Start digging and find where their priorities match your strengths.

Selected Doris Duke Charitable Foundation awards in 2021:

- 2021 Physician Scientist Fellowships, \$2.42 million.
- 2021 Clinical Scientist Development Award, \$495,000.
- 2021 Doris Duke Artist Awards, up to \$275,000 each to seven artists (2 theater, 3 jazz, 2 dance).
- Boston University Center on the Ecology of Early Development, \$1,500,000.
- South Carolina First Steps to School Readiness, \$1,500,000.

<https://www.ddcf.org/grants/what-weve-funded/>.

If public benefit defines your value proposition, how does the rest of the proposal shape up?

- Scope of work.
- Milestones (including payment milestones!).
- Outputs.
- Deliverables.
- Outcomes.

Let's put this into practice by proposing to build a perpetual motion machine under a grant versus under a contract.

As an aside, one solicitation can result in multiple awards and funding mechanisms.

For example: DARPA HR001122S0005 (December 2021), selected pretty much at random.

Multiple awards are anticipated. The amount of resources made available under this BAA will depend on the quality of the proposals received and the availability of funds.

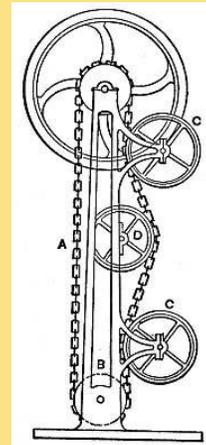
information. Proposals identified for negotiation may result in a procurement contract, grant, cooperative agreement, or other transaction, depending upon the nature of the work proposed, the required degree of interaction between parties, whether or not the research is classified as Fundamental Research, and other factors.

BAA is a Broad Agency Announcement, one type of US federal government solicitation.

Yes, perpetual motion is impossible. Proposal people do the impossible every day, right?

A perpetual motion machine of the first kind produces work without the input of energy. It thus violates the first law of thermodynamics: the law of conservation of energy.

Image from <https://www.lockhaven.edu/~dsimanek/museum/models/build-pm.htm>



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Let's use Tom Sant's framework for the proposal: Need, Outcome, Solution, Evidence.

	Contract	Grant
Need: <i>What the customer needs</i>	A machine that can perform work forever with no energy inputs.	
Outcome: <i>The good thing that will happen if you choose me</i>	A machine that can operate forever with no energy inputs.	Identification of possible exceptions to the first law of thermodynamics that could revolutionize global energy consumption.
Solution: <i>Details of why we are the best choice</i>	Anti-gravity paint (patent pending) and the proprietary Mitch's Magic Paintbrush (new! washable!).	Study holes in the laws of thermodynamics, then invent and test a magic flywheel.
Evidence: <i>Why you can be confident that we can do it</i>	Since the Middle Ages, our Alchemy Division has turned water into wine and lead into gold.	Our Trump Center for Denial of Science has had phenomenal success in denying reality.

Based on the framework suggested in *The Language of Success* by Tom Sant (Amacom, 2008)

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Outcome: the good thing on a contract is a benefit to the customer. The good thing on a grant is a benefit to the public.

Let's use Tom Sant's framework for the proposal: Need, Outcome, Solution, Evidence.

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Outcome: the good thing on a contract is a benefit to the customer. The good thing on a grant is a benefit to the public.

What would the scope of work look like?

	Contract	Grant
Scope	Preliminary design Design review Prototyping Testing Demonstration Documentation Delivery	Literature review Experimental design Experiments Interim reports Prototype and test Draft final report Final report Manuscripts and dissemination

Milestones.

	Contract	Grant
Milestones	Preliminary design Design review Prototype fabricated Testing completed Demonstration Documentation Delivery	Literature review completed Final experimental plan Report/present preliminary results Review and comment (not necessarily approval) Report/present/disseminate final results

Deliverables.

	Contract	Grant
Deliverables	The machine itself with one extra gallon of anti-gravity paint and three brushes Documentation and reports Final presentation/meeting	Reports Data* and dissemination

In general, US research grants give ownership of the products to the grantee. The government has some rights to data.

*Since 2012, the US government grants require data management plans to define what “data” the project will produce and how it will be disseminated. Data includes samples, artifacts, and prototypes.

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Outputs and outcomes.

	Contract	Grant
Outputs	The products that result from the project and are delivered to the customer.	The products that result from the project, are reported to the customer, and are disseminated according to the data management plan.
Outcomes	Not really the contractor's concern. (On Sant's NOSE paradigm, "outcome" refers to the good things that the customer gets, not a public benefit.)	Outside the specific scope of work, the rainbow unicorns and other public benefits that result from the success of the project.

It's not just which side of the road. It's also a question of what you are driving.

Universities, museums, hospitals, medical institutes get eight-figure grants to find a vaccine for Covid. The largest research institutions do more than US\$1 billion in grant-funded research activity per year.

Tiny non-profits get four-figure grants (or, we hope, gifts) to help the animal shelter or drive people to the Covid vaccination site. And they do a major happy dance when they get them.

Resources if you want to learn more or help your local library or animal shelter.

Book: *Writing for a Good Cause*, Joseph Barbato and Danielle S. Furlich, Fireside Books, 2000.

Grant Professionals Association (US), <https://grantprofessionals.org/>.

The Grantsmanship Center, <https://www.tgci.com/>.

National Organization of Research Development Professionals (US), <https://nordp.org>.

Federal Demonstration Partnership (US), standard pre-award and post-award government terms for grants, <http://thefdp.org/default/>.

Grant sources:

Grants.gov (US government), <https://www.grants.gov>.

State grant registers (e.g., <https://www.grants.ca.gov/> in California).

Foundation Directory/Candid (limited free; extensive paid); Instrumentl, GrantStation (moderately to significantly expensive), many others.

Thank you!

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