Max Shi

CAL 103 A9

Professor McBryan

31 October 2018

Research Proposal Rough Draft

Research and the pursuit of scientific advancement is a concept ingrained in human development, from primitive humans wrapping sticks and stones for tools, to the utilization of vaccines in medicine, to humans today trying to commercialize space travel with talks of colonizing new planets. With each discovery is another challenge to an idea that may be referred to as the “human condition,” an ambiguous term referring to the set of rules or beliefs that encapsulate the definition of humanity. Tools challenged the idea that primitive humans could use nothing but their hands; vaccines challenged the idea that humans would succumb to certain diseases as smallpox; colonization of new planets would challenge the idea that humans are confined to life on Earth. However, the scale of these challenges has increased greatly from the time of cavemen, modern projects requiring additional financial support to achieve significant impact on the scientific community. With much of the funding coming from federal governments, with finite resources, humanity must consider what aspect of the “human condition” must be challenged next. With such a dynamic definition being the basis for the allocation of funds, it is only natural that a democracy may struggle to come to an agreement on its distribution. Under Aristotelian definition, “democracy is the form of government in which the free are rulers,” and the consensus on such a broad definition would only be more divided in a free population (Aristotle, 75). Therefore, an exploration into how research funding is distributed within a democracy such as the United States is a valuable insight into the workings of a modern democracy, and whether the benefits and drawbacks of funding within a democracy make democracy a beneficial platform for research.

One of the first large-scale public federally funded projects would be the space race during the Cold War. The population, pushed by rhetoric such as the “’red moon’ overhead,” was all in favor for Congress to “[support] a flurry of federal spending that helped greatly expand the number of American research universities and scientists” (Brainard). Most of this money, however, was poured into the space race and space related organizations such as NASA, as seen from the history of federal spending from 1953 to the present, with an approximate $30 million out of the $48 million nondefense research budget being spent on space in 1966 (AAAS). It seems, that when the area of the human condition to challenge is so ubiquitous and agreed upon, democracy is more than willing to bend to the people’s will and allocate funding into that area. This, coupled with the urgency of competition with the USSR, seems to drive rapid progress within Congress to move policies through the democratic machine quickly. In the end, this proved effective, as the USA ended up “winning” the space race.

However, what happens when the people cannot agree on the point of contention with the human condition? Brainard, titling his article “50 Years After Sputnik, America Sees Itself in Another Space Race,” identifies the next target of competition, China. Bringing the 2007 “America Competes Act” into question, he points out China’s rapidly growing secondary and tertiary education system and the efficacy of the system, comparing it to a stagnant to declining American system. However, the focus this time is not something as exciting as “space,” or as uniting as a looming “red moon.” It is only a warning sign of a superior education system on track to uproot American scientific prowess, without any current tangible effects or accomplishments. In this situation, the competition is there, but the focus is not. Thus, the “America Competes Act” comes out to be on a much smaller scale than space-race era policies, even to the point where the act is simply a plan to spend more money, without the actual guarantee of money. This is likely due to indecision on where to spend it – Brainard identifies critics who support the act’s focus on “chemistry, physics, engineering, and computer science … However, science-policy experts say it is hard to justify Congress’s decision not to [also] double physical-sciences research” (Brainard). Democracy here seems to hamper the pipeline of scientific funding – in an effort to get everyone’s opinion into the final product, a less impactful compromise had to be made in the “America Competes Act,” that leads to no real guarantee of action or funding.

Thus, I have already found a possible benefit and drawback regarding the impact of democracy on research funding. On one hand, during the Cold War, with the focus of the people aligned, the American democracy becomes a scientific powerhouse. But in modern-day, without a focus for the population to rally behind, democracy becomes reserved in its actions. To expand on the benefits and drawbacks, and eventually come to a conclusion on the efficacy of a democracy within the research sphere, one plan of action is to continue to observe historical scientific events and draw conclusions on how democracy plays into those: some possibilities could be the impact of wars such as the Vietnam or Korean Wars on defense research, or the development of energy in the past and present. Another plan could be to examine other democracies outside the United States, such as Canada or Germany, and their approaches to scientific funding. Also, a comparison to other types of government, such as the communist governments of the former USSR and China could lead to some interesting findings.

As pushing the boundaries of science, humans, and the human condition is an interest shared by many, it is imperative to examine the methodology that we support such projects. By examining how democracy functions as the federal framework for distributing funds, I can make an evaluation on how the barriers toward scientific advancement are higher, lower, or only nuanced in a democracy, thus allowing for my findings to be used in the applications such as consideration of how to pursue federal funding in a democracy, or even how to improve scientific advancement within democracies by making them more conducive to progress.