Introduction: "Since you have all read the paper and are now familiar with the ethical issues plaguing the scientific community,lets look at a couple of cases where these issues coalesced and had a major impact on scientific progress, public spending, and public support of science. In the book, *Science, Money, and Politics*, Daniel Greenberg brings up two cases, which we will be looking at closely today. These are the Strategic Defense Initiative, or SDI, and the Superconducting Supercollider, or SSC. Both are megaprojects which raked in billions of dollars of funding with very little scientific reasoning for doing so. The reasons the projects were able to garner so much financial support intertwines with the ethical issues presented in the paper."

SDI :

What it is: "The SDI was proposed by the Reagan administration. Its chief goal was to produce a nationwide shield to defend against a nuclear strike from the Soviet Union. This proposed shield was to be built using advanced technology, consisting largely of relatively undeveloped ideas and relying heavily on nuclear power. The core of the plan was to produce targeting systems with the ability to destroy an intercontinental ballistic missile... with lasers... from space. Now, if that seems overly fantastic to you, you are not alone: the media propagated the program's nickname of "Star Wars," based on the similarities to technology used in the, at the time, recently released film. This relation, of course, conjures the image of the famous Death Star from the first film, [pause] but in reality it had a far greater resemblance to the half-completed, ultimately-destroyed version from the third."

Teller: "So who do we have to blame for this mess? This boils down to the heavy seclusion of the scientific community from national politics and the relative influence of those who dare cross this border. One particular scientist took this role, and he was not new to the politics of weaponry. Edward Teller was a leading nuclear physicist, and contributor to the Manhattan Project. Dissatisfied with the power of the measly fission bomb, Teller sought out nuclear fusion and became the "Father of the Hydrogen Bomb." Still yearning to create ever more powerful weapons, Teller left Los Alamos labs and pushed for the creation of a new weapons research lab—the Lawrence Livermore National Laboratory, founded in 1952. Over the next several decades, Teller became the foremost promoter of nuclear weapons for creative purposes, such as building canals and even shooting down other nuclear missles. The latter purpose proved to be appealing to Ronald Reagan and Teller was tapped to join his White House Science Council. Teller had previously become a close friend to Reagan and had the most influence over the president out of all the members of the Council. Teller decided to use this position to expand the role of his Lawrence Livermore National Laboratory—this time for defense rather than offense.

X-ray laser: At the time, LLNL was developing the X-ray laser. Teller claimed that this laser would be the key to a missile defense system. In order to produce a laser powerful enough to destroy a nuclear missle mid-flight, Teller proposed discharging a nuclear weapon and focusing the X-rays it produces with several lasing crystals, a method also

discovered at LLNL. This application of the lasers, however, was severely overinflated. Several scientists who had worked on the X-ray laser even expressed doubt, but not until much later. Greenberg interviewed D. Allan Bromley, the presidential science advisor at the time of SDI's creation and the mentor of a graduate student who built the laser, and quotes him as saying, "The X-ray laser was hyped as far as I know from the very beginning... That was one of those areas where Ed Teller really hoped to make Livermore a key player." Reagan's previous science advisor, who personally worked on the X-ray laser, commented that "You know, Los Alamos, with all its imperfections, Los Alamos doesn't lie; Livermore lies." Of course, neither of these advisors had either the influence or the guts to stand against Teller and the president.

Science community: What was the rest of the scientific community doing during this time? The project itself was no secret to the public, and while some of the details were classified, it was a well-known fact that the system revolved around X-ray lasers. Well, many of the scientists were jumping at the prospect of more money. In fact, the Strategic Defense Initiative Organization reported that over 3,000 university scientists applied for funds to aid in the missile defense endeavor. The highly classified nature of the project meant that the extraordinary claims boasted by the supporters of the X-ray laser went unchecked.