

Dr. Einstein

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### The Evolution of the Physicist in Popular Culture

What does one think of when the word Physicist is mentioned? There are many different plausible responses, but the answers to this question will show a definite majority of people describing a scientist they saw on television, or in the movies, or even described in a book. This is because popular culture affects how we think, and by examining popular culture it, "Can allow us to investigate a society's larger worldview, as well as a detailed self-view of its belief system, so that the examiner can make educated assumptions and perhaps draw some conclusions about the way a particular readership may think and behave today (or yesterday)" (Gary Hoppenstand 1). In popular culture, the same, stock portrayal of the physicist appears again and again. He has wild eyes, unkempt hair, a scrawny physique, a lab coat on, and is usually wearing glasses or goggles. This stereotypical image of a physicist that popular culture is so fond of comes from a variety of sources, most notably from prominent scientists, such as Albert Einstein, and from more historical works, like Victor from Mary Shelley's Frankenstein. Because of commonalities of these figures, certain generalizations have been made in popular culture's portrayal of the physicist. One of these is that physicist have a tendency to be nerds, or not athletic, not cool people with poor social skills. Another is that physicists are all a bunch of mad scientists who push the moral boundaries and have a tendency to be evil or crazy. Also, physicists appeared to be almost robotic from their coldness, logic, and detachment. Despite

the traditional depiction being almost ubiquitous, I discovered a small, rising trend in popular culture where these stereotypes were being erased. The plethora of examples in popular culture of physicists being nerds, mad scientists, and robots helps shape the worldview of much of the public, but I believe that the few, but increasing number of examples that contradict these stereotypes will help people grasp the reality of what a physicist is like.

Nerd is a fitting, but negative term used to describe the physicist because of the abundance of characters that have nerdy traits as seen on such shows such as “The Big Bang Theory”, “Dexter's Laboratory”, and “The Venture Brothers”. The four physicists in “The Big Bang Theory”, Leonard, Sheldon, Howard, and Rajesh all display characteristics of nerdiness. They spend their free time together talking about comic books, playing video games, talking about science, all activities that are considered nerdy by society. The focus of the show is the lack of social skills of these characters because they are scientists. This show is currently running on television, demonstrating clearly how even in the present day, the physicist is jabbed at and even mocked (cbs.com). “Dexter's Laboratory” has the boy genius, Dexter, preferring to work on his inventions and talk to his robots in his lab, than go outside or make any human friends (cartoonnetwork.com). Similarly, the character Dr. Venture in the show, “The Venture Brothers”, is depicted as a scrawny man that has to hire a bodyguard to protect his family because he is quite incapable of even defending himself. He also has no friends outside of fellow scientists, and even with these people that have similar social skills, he is not really close and does not have healthy relationships with many of them (adultswim.com).

I believe that being a nerd is a negative stereotype. I am considered by the social norms of our culture to be a nerd. Although this is a point of pride for me, that I am different from the

norm, being separated from the mainstream populace by my status is not always a good thing. People mock some of the things I do, like competing on the Quizbowl team or playing video games instead of going out and partying. They can be condescending and even look down upon us. Making physicists out to be a bunch of nerds, gives the population the impression that being a physicist is not a particularly good thing, a fact which is completely false.

The stereotype of physicists being mad scientists is illustrated in Shelley's Frankenstein, "Dr. Horrible's Sing-Along Blog", Austin Grossman's Soon I Will Be Invincible, "Back to the Future", and the Mega Man video game series. Victor von Frankenstein is the quintessential mad scientist figure upon whom all others are somewhat based. He usually his skills in the sciences to unlock the mysteries of life and in doing so, builds a monster which proceeds to ruin every facet of his life. He is almost never stable in the whole novel and the Monster's actions push him way over the edge (Frankenstein). Dr. Horrible is an evil physicist who builds a freeze ray, trans-matter ray, and death ray all to upset the status quo. He clearly has anti-social behavior problems as well as a likely case of Dissociative Identity disorder (dr.horrible.com). Another similar case to Dr. Horrible in medical problems that make them act crazy is Dr. Impossible in Soon I Will Be Invincible who has a diagnosed case of Malign Hypercognition Disorder. This disorder is basically a statement that he is an evil genius from no fault of his own (Soon I Will Be Invincible). In a different strain of mad scientist, the inventor Dr. Emmett Brown from "Back to the Future" is the ideal image for a mad scientist. He has the crazy eyes and hair and pushes the boundaries of the natural world because of his borderline obsession and curiosity about the ability to travel through time (bttfmovie.com). Dr. Wily from the Mega Man series is yet another case of a mad scientist. He creates a new world

in tandem with Dr. Light then betrays him and uses his inventions to take control of the entire world (megaman.capcom.com).

“...Victor Frankenstein have provided the most consistent and ready metaphor for cutting-edge research, especially in physics, biology, and medical science. From the splitting of the atom to genetic engineering, these disciplines have inspired fictional characters based on this stereotype—arrogant, power-crazy, secretive, and insane in their pretensions to transcend the human condition and the limits of “permitted” knowledge” (Roslynn Haynes 4). This quote exemplifies my belief that physicists are considered mad scientists, because like Frankenstein, they delve into the very unknown. The fear of the unknown paralyzes most everyone with fear. Physicists strive to uncover the hidden workings of our universe and this terrifies people. For example, the realization that we do not live in a geocentric universe, for instance, frightened people so greatly that this belief was not accepted for the longest time. I believe that ignorance is a terrible thing and that even if we have to overturn some of our preconceptions and venture out into the unknown it is worth it to gain a new understanding. I suppose I am in the minority though, which is why the physicist is painted how he is.

The automatism that seems to pervade the character of the physicist in popular culture have clear exemplary figures in “Star Trek”, “Star Trek: The Next Generation”, and “Ant Man”. Spock is a half Vulcan and half human science officer of the USS Enterprise. He has no visible emotion and uses only logic. This, in addition to the fact that he is part alien, make him an outsider on the ship, making him seem detached from the rest of the crew. He seems like a computer in the way that he spouts out facts and calculations (startrek.com). Data from “Star Trek: The Next Generation” is a cyborg and science officer who lacks human emotions in his

initial programming. His lack of emotions make him incapable of developing bonds with the crew and his detachment is furthered by the fact that he is a cyborg that performs different roles than the rest of the crew, such as underwater missions (startrek.com). Hank Pym, in the “Ant Man” comics, abandons the world to focus on his research. Because of his voluntary detachment, he starts living in his lab and ignores his wife (marvel.com).

Spending all of your time researching, like these three characters do dehumanizes them because of “1. the psychological effects of voluntary isolation; 2. suppression of human affections; 3. loss of the ability to appreciate natural beauty; 4. the naive optimism that knowledge will inevitably be for the good of all; 5. the desire to be always the first to discover something; 6. the delusion that one’s research is for the benefit of humanity; 7. the fanatical desire to complete a project whatever the human cost” (Haynes 8). All of Haynes's list of dehumanizing factors due to the implication of research are all tied to the idea of detachment. I feel that it is the primary cause of the physicist appearing to be a robot, because he is in his own little world. This gives the impression that a physicist is not even human. A poem that I read by William Blake, “Newton”, is emblematic of this. Newton loses all sense of his humanity because he is too involved in his research; this shows how this idea is not a new one, but a traditional stereotype of the physicist.

The shift from the stereotype of a physicist from a nerd is a slow, but clear one as symbolized in “The Rock”, “Superman”, and Soon I Will Be Invincible. Dr. Stanley Goodspeed in the movie, “The Rock” is a scientist employed by the government. When biological weaponry in the form of missiles are being used to threaten the entire United States, his expertise is called on by the United States government to stop these missiles from being

used on America. Initially he seems to fit the profile of a nerd, working in a lab all day and having an obsessive personality. But as the movie goes on, he gets involved in car chases, firefights with some ex-military, and disarming the rockets in highly pressured situations. Instead of just being a nerd, he is an action hero, something that most popular culture would see as mutually exclusive (imdb.com) Lex Luthor is another not nerdy physicist. He is an extremely charismatic man who excels in social settings; he even gets elected as president because he is so charismatic. He is most certainly athletic, he is at the peak of human fitness and even fights Superman on a handful of occasions. He is a physicist that is active in the world, for example he uses his inventions to make Lexcorp into a successful business (dc.wikia.com). Dr. Impossible, as I previously mentioned is an evil scientist. But what makes him go against the grain of the nerd stereotype are his superpowers. Whereas most physicists are scrawny, he has super strength and a measure of invulnerability which makes him anything but the not athletic, nerdy physicist (Soon I Will Be Invincible).

The physicist becoming less and less like a nerd is, in my mind, a great step forward in making people be able to accurately perceive the physicist. Although there are cases in the past where the scientist held a role that was not that of the nerd, such as "One of Conan Doyle's two scientists in *The Lost World*, Professor Challenger, the 'famous zoologist' who serves as a central protagonist of the story, is held up to the reader as a heroic ideal" (Hoppenstand 4), this was not always the case. I think that the nerd image is a relatively recent one that grew out of the science boom in the 1950s. Scientists like J. Robert Oppenheimer had almost a celebrity like status, but I feel that because science was promoted to such an extent in schools that it had a negative effect on those that did not succeed. The stigma of being good at science was spread

by these people. The kids good at science were picked on and mocked by these people. Just now, I believe, we are overcoming this stereotype that has been passed on as science has become a more integrated part of society.

The Mega Man video game series, “The Fantastic Four”, and “The Venture Brothers” are show the change from the mad scientist to that of a more nobler and stabler scientist, or the scientist hero. Dr. Light, in the Mega Man games, worked altruistically his whole life to make his world a better place, where people did not have to work themselves to death just to subsist on their wages. He selflessly gave up everything to achieve his goal, and when he did and things went awry, due to the maniacal workings of Dr. Wily, he lost a great deal, including many loved ones, to try and set things right ([megaman.capcom.com](http://megaman.capcom.com)). Likewise, Reed Richards, or Mr. Fantastic, uses his knowledge of physics for the good of mankind. He builds defense mechanisms to prevent the intrusion of hostile enemies from coming to Earth and destroying it. Not to mention that he also works on things like weaponry and jets to defend the world from internal threats, Such as Dr. Doom ([marvel.com](http://marvel.com)). In addition to these two heroes is Dr. Venture, Sr. from the show, “The Venture Brothers.” He is the quintessential hero scientist. He is revered after he dies as the greatest in the field of science. He was an absolutely brilliant man who fights evil forces with his science and works to help humanity as well. He even looks like what a hero scientist should by being depicted as a smiling, man with a kind face and a muscular physique ([adultswim.com](http://adultswim.com)).

The hero scientist is beneficial to the depiction of the scientist because it denies the belief that scientists are self-centered. Roslynn Haynes distills Francis Bacon's belief about the “noble scientist” in his work, New Atlantis as, “1. internationalism; 2. the open sharing of

knowledge; 3. team research (to show that that individuals were not pursuing private wealth or fame); 4. knowledge wholly directed to the benefit of society, so that any research likely to be harmful is censored and discontinued.” It seems to me that as ideal as these characteristics should be in a scientist, there are so few instances where this is the case. I feel as though it does more justice to portray physicists as they really are. Making them out to be the cheesy good guys that are completely giving of anything is not accurate. For the most part, physicists join the field to satisfy their own personal curiosities about the workings of the universe, an intrinsically selfish action. Even if they might go on to beneficial things with their new found knowledge, the end does not justify the means. It is better to paint the physicist as a flawed hero at best, someone like Dr. Brown, from “Back to the Future” whose motives are clear and his character real (btffmovie.com).

In addition, the perception of the physicist as a detached robot is appearing to fade away as demonstrated in “The Big Bang Theory”, “Dr. Horrible's Sing-Along Blog”, and “Bill Nye the Science Guy”. As mentioned above, “The Big Bang Theory” takes the audience into the lives of four physicists who are close friends. These characters are far from robots as most scientists are pictured. They all have tangible emotions that further the plots of episodes. They can be hurt, they can be full of joy, and they can be lonely and pitiful. Sheldon, is one character on the show is meant to be robotic. He shows the viewers that even the most robotic of physicists can have feelings. He has emotional trauma in the past that makes him upset when there is yelling, for instance (cbs.com). Dr. Horrible is incredibly human in his longing for a girl named Penny that goes to the same laundromat as he does. He admires her from afar and he is borderline obsessed with her. When she dies at the end, which is an indirect result from a

decision Dr. Horrible made, he is so pitiful. In fact, he can not even handle the grief and pain from what he had done so he completely gets absorbed into his super villain persona, almost abandoning his alter ego (dr.horrible.com). Lastly, Bill Nye is an exemplary figure in his lack of detachment. He teaches all forms of science to a young audience. Instead of being absorbed in his own little world, he has left that to reach out to the community (billnye.com). He is a warm, whimsical man who is easy to learn from, the opposite of people such as Spock (startrek.com).

It seems that the image of the detached scientist comes a great deal from the Cold War period. The period when physicists were researching weapons that can destroy the world in the blink of an eye has to make the mere mortals feel like this scientists do not even care about the world in which they are living. Because of this, popular culture reflected this belief. But in our modern age, scientists are starting to viewed positively again. They are making strides in fighting global warming, and are increasingly seen as fighters for the life of Mother Earth. This sense of attachment to the world in which common people live is doing wonders for the perception of the physicist. They are finally being seen as real human beings instead of robots of the past.

The physicist is being seen more realistically as society moves away from the Cold War era. It spawned many of the preconceptions of the scientist that we have today. Physicists as nerds comes from the stereotype that those that succeeded in the science boom were smart, but not cool. They are perceived as the mad scientist because they push the boundaries of the moral and natural world, in such actions like the building of nuclear weaponry. And they are seemingly robotic because the indifference to the world that people saw during the Cold War.

As we move away from the biases of the 20<sup>th</sup> century, we are coming to a more accurate depiction of the physicist. Instead of the not athletic, uncool, and socially inept physicist of the past, we see physicists as having the potential to be action heroes or presidents. The mad scientist image is fading and hero scientists who are altruistic and normal are coming into the light. The detached automatons of the past are now being replaced with real live human beings. This shift from the common preconceptions of the past is due to the 21<sup>st</sup> century's propensity to like the realistic. Popular culture wants to show these physicists as who they truly are. But in doing so, there will continue to be more stereotypical scientists than there are of the new scientist I described because there are only a few of them in comparison. And because of the shift in popular culture the perception of the physicist will hopefully change as well.

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