



Science, Arrogance and Humility

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A recent headline reads, “Bright Scientists, Dim Notions.”¹ The article refers to comments made last month by the famous scientist James Watson. Watson and Francis Crick arguably made the greatest scientific discovery of the 20th century: the double helix structure of the DNA molecule. This discovery sparked the genetic revolution, which has had tremendous impacts in biomedicine and gave rise to the biotech industry. Last month, Watson said that he is, “gloomy about the prospects of Africa” because he believes that for reasons of genetics, black people are not as intelligent as white people.² While these comments were quickly condemned by his fellow scientists as having no scientific supports, Watson is no stranger to controversy.

This is not the first time Watson’s comments have generated controversy. Previously, he suggested that genes influencing beauty could be engineered. He remarked, “People say it would be terrible if we made all girls pretty. I think it would be great.” He has also suggested that stupidity is a genetic disease that could be cured, and that it’s the duty of molecular biologists to find that cure— or at least to find effective screening measures.³

Watson’s scientific brilliance is fact, but so are these extreme public pronouncements. Some of his fellow scientists have called Watson’s statements “daft” or “silly” and tried to brush them aside. However, I don’t think they should be so easily dismissed: they represent a certain sort of intellectual arrogance that is worth examining. Watson’s comments provide the opportunity to examine the relationship between the vice of intellectual arrogance and the virtue of humility. Further, this kind of arrogance is particularly important to look at in light of the genetic revolution sparked by Watson and Crick’s discovery.

In writing about this recent controversy, one commentator notes: “There is a difference between bold speculations and Dr. Watson’s reckless remarks.”⁴ In part, Watson is a great scientist because he is bold. To make important scientific discoveries and extend the limits of knowledge, scientists must be bold and must challenge existing limits. However, such boldness can go too far and become mere arrogance.

¹ George Johnson, “Bright Scientists, Dim Notions,” New York Times, October, 28, 2007.

² Charlotte Hunt-Grubbs, “The Elementary DNA of Dr. Watson,” The Sunday Time, October 14, 2007.

³ John Crace, “Double Helix Trouble,” Guardian, October 16, 2007

⁴ Johnson.

Arrogance is the vice commonly opposed to the virtue of humility. Like all virtues, humility is middle point between two extremes. As a virtue, humility comes from an accurate awareness of the limits of one's moral and intellectual capabilities.⁵ Lack of awareness of our limitations can lead to overreaching, excessive boldness, the vice of arrogance. However, humility is also opposed to overestimating limits, to being overly timid. Rather than overvaluing one's abilities, the timid person undervalues them. This leads to a sort of "lowliness," and an inability to truthfully understand one's capacities. The timid person is one extreme, the arrogant person is the other. Staying in the middle ground of humility can be difficult.

The overreaching part of Watson's comments stems from placing too much confidence in the power of the genetic revolution. Intelligence and stupidity are complex phenomena, and are to some degree culturally defined; to quote the incomparable Forest Gump, "stupid is as stupid does." As for beauty, it could not be more complex. While genetics clearly play a role in human beauty, it cannot be reduced to genetics—particularly when ideas of "perfect beauty" differ depending on culture, century and season. As one bioethicist describes, things like intelligence and beauty are inherently "complex traits, with multiple genes interacting with the environment."⁶ In sum, Watson and those who share in his desire to achieve perfection through genetic engineering overestimate the both role and the power of genes.

At the beginning of the scientific revolution, the famous scientist and philosopher Blaise Pascal argued for intellectual humility. Pascal said, "Let us realize our limitations. We are something and we are not everything..."⁷ If we are to avoid the vice of arrogance, we should gain an accurate understanding of both the powers and the limits of science. In terms of engineering complex phenomena like intelligence, some of Pascal's comments are still relevant. As he writes, "all things are both caused and causing... in a chain linking together naturally and imperceptibly the most distant and different things, I consider it as impossible to know the parts without knowing the whole, as to know the whole without knowing the parts."⁸

In some circles, the genetic revolution has given rise to the belief that it is possible to engineer things like intelligence and beauty. This arrogantly overestimates the powers of science. However, the opposite extreme would be to underestimate these powers. The genetic revolution does create the possibility to cure many serious diseases. As geneticist Steve Jones remarks, "The problem is where to draw the line?"⁹ In order to know where to put that line, scientists must not only be bold, but must also temper that boldness with the wisdom of humility.

⁵ André Comte-Sponville, *A Small Treatise on the Great Virtues*.

⁶ Sharon Bhattacharya, "Stupidity Should be Cured, Says DNA Disvoerer," *New Scientist.com*, February, 28, 2003.

⁷ Blaise Pascal, *Penseés*.

⁸ *Ibid.*

⁹ Bhattacharya.