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# The fate of great minds when denounced

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## ABSTRACT

Looking at the annals of humans, one can infer that some of the greatest thoughts and discoveries were often derided when first brought to public, resulting in the delay of the employment of many innovative contraptions and some even led to the lost of thousands of lives. The reasons for the dismissal of such pragmatic data can be vast. Some great thoughts might already be lost because of the existence of restrains. In this article, brief biographies of two great scientists are highlighted as examples to illuminate our point. Our point being the importance of free thinking, appropriate reasoning and even radical ideology, and the possible future of science from such singular mind. It has been concluded that we should not belittle others' idea because what we believe is true can be far from right. Instead, we should encourage others to think beyond the box so that such seemingly ridiculous notions, if ever they are right, could bring a brighter tomorrow.

**Key words**: Galileo; Mendel; freedom; suppression; encourage.

## INTRODUCTION

From times immemorial, we, the human beings (in case you think an elephant is writing this article) have been striving under regulations and laws propounded by members of our own species. Although these regulations and laws differ from place to place and time to time, the fundamental ideology is after all the same, "For the betterment of the species". However, due to various diplomatic or pious governances, philosophical and scientific conclusions and interpretations were often biased, and consequently proper scientific inferences were often rejected.[1]The reason might be that societal, spiritual or political leaders believed that the truth might indeed be much too perilous for the general populous to handle, or they were slow to understand facts. Nevertheless, it is very intricate to conclude whether any scientific findings should be accepted not only by the individual researcher but by the scientific community, or by the universe as a whole. Many young researchers, I suppose, but not all, have not reach their full academic proficiency due to suppression by higher authorities or peers, in any possible means; either by personal or professional sentiments. To paraphrase Dr. Sheldon Lee Cooper from the CBS television serial *The Big Bang The-*

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*ory*, "The truth can indeed be a finger down the throat for those unprepared to hear".

## THE CONDEMNED HEROES

It would have been a marvelous experience to observe the universe in great detail, and much closer, for the first time in the history of humankind. But as variation is the basic rule of nature, the feeling was not mutual back then. The sentiment Galileo Galilei experienced on his first view into the night sky at Padua with his new invention, the telescope, was so grand that he could not, at heart, part with the prove he later made of the heliocentric model of the solar system, and this took away his freedom. The birth of modern astronomy began with a conflict between belief and empirical data. Then, at particular places within our universe, liberal ideology was blasphemous. The freedom to embrace even the most personal credence was not in the air but in the hands of doctrinaires. His book published in 1632 "*Dialogosoprai due massimisistemidelmondo* (Dialogue Concerning the Two Chief World Systems)" was examined, charged and prohibited. He was tried and condemned of heresy in 1633 and was made to abjure his life work; an observation that defied the belief of his days; that the position of the Earth was divine and immovable and is at the centre of the universe, and all the stars, planets and the Sun revolve around it.[1-3]

House imprisonment was the honor Galileo was awarded for clinging boldly to what he knew and what the then authorities did not believe.[1-3] If Galileo had hidden his observations for fear of the authorities, the heliocentric model of the solar system proposed by Nicolas Copernicus right before he kicked the bucket, which is improved in great details through deliberate surveillance by Johannes Kepler, a champion of observation and a man as daring as Galileo himself, might not ever exist at all.[1]

It is melancholic and cheerful at the same time to mention that Galileo gave up his freedom for the truth he knew; the foundation of modern science. Could there be any more saviors for science other than him? Galileo had the balls to advocate heliocentrism because only a few decades ago, precisely in 1600 CE, the Italian jack of fairly a number of trades, Giordano Bruno was accused of heresy and burned at the stake for holding a belief that defied the teaching of the Church.[2,3]

The faithful and fearless knight of science, who had provided humankind the magnifying tool to observe the unknown cosmos, breathed his last on the night of 8 January 1642. Though blind and still under house arrest, he courageously defended the dignity of the truth he knew till the last beat of his heart. However true his stance was, Galileo had to wait till 1992 to be acknowledged by the Church as just in his scientific pursue.[1-3] Truly, if not for Copernicus, Kepler and Galileo, to mention a few, the Sun might still revolve around the Earth, or so we might think. (Still, there might be fanatics who still hold the Aristotelian-Ptolemaic depiction of the universe. The world is full of fanatics, so who knows?)

## THE DISREGARDED VIRTUOSO

One vital, if not most, matter in any scientific investigation is the methodology of an experiment. Like legendary criminals could be distinguished by their *modus operandi,* I believe that a great scientist may be identified from the better lot by the blueprint of his work. Many great findings in science came from unexpected results, [4] while some others came from rigorous experimentations. I could only imagine Gregor Mendel to be from the latter kind. It is not hard to envisage that it would take Mendel an elegant planning for the pea experiment he is so famous for; or rather a series of experience mainly from disappointing results. Anyhow, it is his brilliant observation and conclusion that had shaped our many understandings in modern biology and the laws of inheritance he promulgated can be considered as the prime milestone in biology after Darwin's Natural Selection.

Great as it sounds, the air of the meetings of the Brunn Natural History Society on the 8 Feb-

ruary and 8 March, 1865 to which Mendel read his findings,[1,5-7] might not be as blissful as one would expect. The irony of Mendel's colossal contribution to science and ultimately humankind is the fact that his living soul was never referred to as the "Father of Genetics", and never did he raise a glass of champagne to celebrate his paradigm shifting verdict (or maybe he did, but for personal gratification of course). Without Mendel's work our understanding of the mechanism of inheritance might still be as unsettled as it was centuries ago, and since a step would be missing in the foundation of science, the height of our education would only be much too tiny to be compared with the present enormous, yet incomplete gospel of facts.

In life, there are many things that one cannot control and this was true for Mendel. The reason why he was not renowned soon after was not his blunder at all. Besides not being able to understand the significance of his findings, biologists of his days were too occupied with Darwin's faith breaking theory.[7] Well, it was not exclusively their fault to be occupied, because Darwin's theory was out of this world. A religious person would claim that fate had not chosen Mendel to die a heroic death. Perhaps Mendel was born in the wrong generation; a generation that did not understand the magnitude of his contribution; a generation blinded by Darwin. The story of Mendel is a popular tale among scientists, but the imagination of science without him might not be. Envision today without the rediscovery of Mendel's work by Hugo de Vries, Carl Correns and Erik von Tschermak.[8] If Mendel's findings lie shattered among the books of the forgotten, what will biology be at this very moment?

## THE POINT BEGINS

Up until now, we have only slightly brushed through the life of two pioneers who had laid a huge part of the foundation of science. It took the former his audacity and freedom to be remembered, and the latter a matter of chance to be claimed a Father. There are still many whose lives are worth mentioning, but biography is not our interest. The theme of this article, nonetheless, is not in the historical precision or the impact such great pioneers had, but in the significance of free thinking, appropriate reasoning, and even radical ideology to the farthest extent, as our heading vaguely implies, and the possible future of science from such.

If one is asked the question, "What is a great mind?" there would have been many answers. Some may argue that greatness of a person's mind rests in the magnitude of the contribution to the respective field where such contribution is made. This seems true to me in many senses. One answer that passed my simple slow drifting cart of thought besides the magnitude of contribution is in the effort that the researcher gave to attain the desired height of success. But, it is so very apparent from the lives of the two aforesaid heroes that though the effort may be gigantic, the result no matter how true might still be overlooked. To justly understand great minds we have to enter the domain of philosophy, which we will not. Yes, at times we still have to rely on philosophical deduction and reasoning to explain some bizarre statements and it may be awkward enough for practical scientists to tackle philosophical abstracts. Let us cut the chase and simply ask ourselves in our mind the plain definition of great minds and try to form a distinct boundary for it and leave it there.

## THE HIDDEN GREAT THINKER

Consider a classroom paradigm where the responsibility of teachers, as I understand, is to engage, communicate, entertain and educate the students. The approach of teaching might be by discussion, lecturing, demonstration or any means imaginable. As talent does not flow evenly among individuals, there are some gifted with the ability to explain even an elaborated mechanism in the most simple and comprehensible fashion. While there can be some, though whose research ability and individuality are beyond average, could not even explain a nursery rhyme to an empty room (I might have over ex-

aggerated). Anyhow, what I want to emphasize is the possibility of hidden great thinkers, who with a mere elicitation could be induced to think beyond the box of traditional understanding. What I consider is important here is the means of elicitation.

Some teachers, from personal and others' experiences, took classes as if students are all condemned criminals, accusing them of lacking commonsense and not trying a single bit to learn. I called this "the classroom torture", not teaching. It goes without saying that most of the current students and almost all great scientists and inventors in their youth, may not be all nevertheless, are not diligent at all times. Some even reached their academic competence only at a much later part of their lives. Do not get me wrong here; I am not in a single way trying to encourage students not to be diligent. These kinds of teachers I guess, even though I am no expert, had an unhappy schooldays, or childhood in a broader sense. Many of them will not be the best student in their lower education, and a greater of them may not be able to compete with their own students if it is an age-matched competition. The discouragement lodged by such irresponsible teachers on the students might be more than enough to hold back a future Nobel laureate, eventually an important discovery that might change the face of humanity. What I feel a teacher ought to do is to separate personal and professional sentiments while in the service of educating younger apprentices. Some beginners might even ask the most ridiculous of questions, but read the above biographies again, and even many more. There are instances when many great notions were considered ludicrous at first.

Let us take for instance Dr. Ignaz Philipp Semmelweis. A medical doctor by profession, working at Vienna General Hospital before the mid 1800's made an astounding discovery by statistically proving that hand washing with chlorinated lime could reduce the death of maternal and newborn from puerperal fever, also known as childbed fever. The logic behind this discovery is the killing of puerperal fever causing germ by simple hand washing by the obstetric attendants before attending deliveries. But his discovery was not welcomed with a standing ovation, rather his colleagues and senior doctors felt offended to be responsible for the spread of such deadly infection. He then experienced ignominy at the hands of his contemporaries and his discovery was ridiculed largely because they were not ready to accept their responsibilities as carriers of the infections and felt their ego contused. The scientific community of his days was not prepared to grasp his life saving discovery until 1862 when Louis Pasteur devised the germ theory of disease.[9] Then till date, surgeons and other medical practitioners always washed their hands thoroughly before performing their profession, or do they not?

## Concluding remark

We travel in this journey of life without a single idea about tomorrow, but being human we have hopes and desires, and from such come imaginations and ideas. The littlest idea that flickers in the mind of an individual, when nurtures with the right fuel can become the dazzling fire the lights the path of civilizations. No man is a born genius; rather each has to learn a great deal to become one. So, instead of trampling others' reasons by daunting disdainfully, let us supplement them with the manure of encouragement, because they may be correct after all. If we are hundred percent confident that they are mistaken, let us provide reason. The philosopher Bertrand Russell very agreeably quoted "Never try to discourage thinking, for you are sure to succeed".[10]

Then, I have the most ridiculous thought. If by chance I were given the opportunity to do the impossible, I would advocate the progress and stance of the 21st century science to the pioneers, the giants of the scientific community who had laid the foundation of science, upon whose shoulders our entire knowledge is erected. I strongly suppose that many of them, if not all, would be most astonished.

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