

There are Two Types of Theory – Scientific Theories and Unscientific Theories

There are countless theories but they can be clearly classified into two groups: Scientific Theories which are considered "true" or "facts" because they have been found experimentally to work and we know why they work, and Un-scientific Theories which have been found wanting when similarly experimentally tested.

A few examples of "true" theories or "facts":

1. Newton's Theory of Gravity is a "fact" because, among many other things, it enables us to launch satellites into correct orbits and get men to the Moon.
2. Maxwell's Theory of Electromagnetism is a "fact" because among many other things it has enabled us to develop electric power, radio and TV technology and mobile phones and body scanners.
3. Einstein's Theory of Relativity is a "fact" because, among many other things, it has enabled us to obtain electricity from nuclear fission and is needed in GPS technology
4. Mendeleev's Periodic Table Theory is a fact because, among many other things, it underpins the whole of the Chemical Sciences and governs all reactions leading to materials such as plastics and the silicon in chips and the synthesis of drugs.
5. Quantum Mechanical Theory is a "fact" because among many other things it explains the structure of the Periodic Table and was fundamental to the creation of such devices as lasers in DVDs and chips in computers and superconducting magnets.
6. Darwin's Theory of Evolution is a "fact" because, among many other things, it underpins every aspect of Biology and Medicine and is for instance absolutely crucial in our never ending battle against life-threatening diseases.

As far as the last case is concerned the 1859 treatise by Charles Darwin, "The Origin of Species - By Means of Natural Selection" is arguably the most beautiful example of a "fact" or "true" Scientific Theory. Darwin's theory is as fundamental to Biology as Mendeleev's Periodic Table Theory is to the Chemical Sciences. It explained perfectly Darwin's exhaustively meticulous, carefully documented, painstakingly detailed and accurately recorded observations. Not only were Darwin's original observations explained but every pertinent observation made since has fitted perfectly. For the last 150 years supporting evidence has flooded in from every branch of the Sciences: Paleontology, anthropology, physics, chemistry, biology, medicine, geology, etc. There are millions of pieces in the jigsaw puzzle and they all fit perfectly. Furthermore the Theory of Evolution, is absolutely crucial to a wide range of humanitarian issues: The development of effective antibiotic strategies for fighting diseases; DNA fingerprinting which has led to the release from prison of numerous innocent people – many from death row - and the ways in which we might safeguard the lives of children who might have serious genetically transmitted illnesses. Penicillin is a miraculous drug that has saved countless lives – it works almost every time and when it does not work, we know why and can try to devise an alternative strategy.

There are of course many theories that do not appear to work at all. Is it not odd – indeed hypocritical- that most of the people who are violently opposed to the teaching of Evolution seem to prefer to put their "faith" in medical advances that have arisen as a consequence of our understanding this theory before resorting to the strategies offered by the alternative unscientific theories such as "Creationism" which they are hell-bent on foisting on our young? Basically the fact that so much medical science works so well on so complex a system as the human body is the most obvious and compelling vindication of the Theory of Evolution at almost every level.

Finally I think it is disgracefully unethical, for individuals who rail against the teaching of Evolution to young people as a proven "fact", to accept either for themselves or their families, the humanitarian benefits accruing from medical scientific research underpinned by the theory.

Evolution is the backbone of Biology, in particular Molecular Biology, and such people should be asked to forgo all medical treatments – including almost all drugs - that could not have been developed if previous generations of young biology and medical students had not been taught evolutionary concepts to aid the development of medical advances. The treatment of mutating diseases by antibiotics, such as penicillin, is an example.

The people of Florida must have no illusions about the consequences of the success of this movement. It is truly criminal to interfere with the scientific education of the next generation of young scientists and if these people get their way they will seriously impede scientific progress and in particular the ability of the next cohort of young scientists to create the defenses we shall need in the fight against debilitating diseases in the next century. If such people had had their way in the last century we would have no antibiotics and blood poisoning would still cause death or lead to amputation as it did before 1940. I hope the people of Florida are intelligent enough to recognize that the present campaign is as detrimental to their interests as it is misguided and as fundamentally anti-humanitarian as it is intellectually dishonest.
Sincerely,



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