

February 2012

## WHAT SCIENTISTS REALLY SAY ABOUT GOD, CREATION, AND EVOLUTION

By Joe Spears

**H**ave you ever heard that “All scientists accept evolution as a proven fact” or “real scientists don’t believe in God?” Did you believe it? This article will show just how untrue these statements are. The article does not go into scientific proofs or disproofs of evolution; rather, it focuses on statements from scientists about evolution, creation, and God.

We will be looking at statements from various scientists, including the inventor of the magnetic resonance imaging (MRI) scanner and Nobel Prize winners. The result may surprise you.

Most of the quotes here came from two websites:

1. <http://nobelists.net>, the site of an online book, titled *50 Nobel Laureates and Other Great Scientists Who Believe in God*.
2. <http://www.dissentfromdarwin.org>, the site of a petition that questions evolution, which is signed by hundreds of PhD scientists and MDs who are professors of medicine.

Any other quotation sources are provided in the footnotes.

### Albert Einstein

In 1905 Albert Einstein produced a group of papers that were to revolutionize the world of science. One paper described the famous equation  $E=mc^2$ , another put forth his theory of special relativity, another laid a foundation for the quantization of energy in quantum mechanics (e.g., the existence of the photon), and there were more papers Einstein wrote that year.

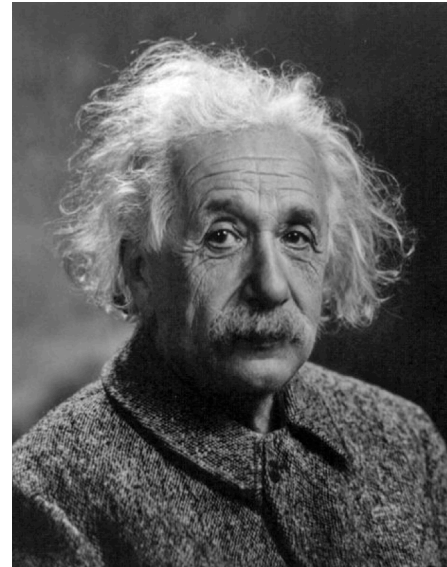
Some think the five papers he published in 1905, when he was in his twenties, warranted him multiple Noble prizes. Here is a quote indicating that some people believed at least three Nobel prizes were deserved by Einstein:

Each of Albert Einstein’s three ground-breaking papers of 1905 is nowadays considered to have merited the Nobel physics prize. He was nominated from 1910 onwards by increasing numbers of leading physicists.<sup>1</sup>

*Time* magazine described their Person of the Century, Albert Einstein, as:

...the embodiment of pure intellect...unfathomably profound—the genius among geniuses who discovered,

<sup>1</sup> Wallis MK, Einstein's Nobel Prize  
<<http://ysfine.com/einstein/einnobel.html>> Accessed 2013 Jan 19



Albert Einstein

merely by thinking about it, that the universe was not as it seemed.

Even now scientists marvel at the daring of general relativity (“I still can’t see how he thought of it,” said the late Richard Feynman, no slouch himself).<sup>2</sup>

(Feynman received the Nobel prize for physics.)

Special relativity was the topic of one of those 1905 papers; general relativity, at which Feynman marveled, is quite different from special relativity, came years later, and is regarded as more of an achievement than special relativity. Since the 1905 paper on special relativity is regarded by many as worthy of a Nobel prize, then general relativity would even more so warrant a Nobel prize. This brings the count up to four prizes.

Abraham Pais, biographer of Einstein, mentioned that in a room containing scientists, even another Nobel laureate, that when Einstein walked in the room, there was a silence which Pais attributed to awe.<sup>3</sup>

<sup>2</sup> Golden F (1999 Dec 31) Albert Einstein  
<<http://www.time.com/time/magazine/article/0,9171,993017,00.html>> Accessed 2013 Jan 19

<sup>3</sup> Pais A (1982) *Subtle is the Lord: The Science and the Life of Albert Einstein*, Oxford University Press, Oxford

Antisemitism has been suggested as one possible reason for Einstein's not receiving a Nobel prize for his relativity theories.<sup>4</sup>

### What Einstein commented about God

Einstein said he was angry that people used him to promote the view there is no God:

In view of such harmony in the cosmos which I, with my limited human mind, am able to recognize, there are yet people who say there is no God. But what really makes me angry is that they quote me for the support of such views.<sup>5,6</sup>

Einstein did comment that he came to question and mistrust authority—perhaps not surprising for a Jew in Germany during the first half of the 20<sup>th</sup> century—which included the authority of religion as practiced by man. (One should note that even many religious people, who claim some religion as true, will often deny the validity of other religions.) Although Einstein questioned humanity's practice of religion, he found evidence for a creative intelligence behind the universe. Speaking of his childhood, he said:

Mistrust of every kind of authority grew...an attitude that has never again left me, even though, later on, it has been tempered by a better insight into the causal connections.<sup>7</sup>

Einstein also said:

Every one who is seriously involved in the pursuit of science becomes convinced that a Spirit is manifest in the laws of the universe—a Spirit vastly superior to that of man, and one in the face of which we with our modest powers must feel humble. In this way the pursuit of science leads to a religious feeling of a special sort, which is indeed quite different from the religiosity of someone more naive.<sup>8</sup>

Other remarks attributed to Einstein:

"The deeper one penetrates into nature's secrets, the greater becomes one's respect for God."<sup>9</sup>

The most beautiful and most profound emotion we can experience is the sensation of the mystical. It is the sower of all true science. He to whom this emotion is a stranger, who can no longer stand rapt in awe, is as good as dead. That deeply emotional conviction of the presence of a su-

perior Reasoning Power, which is revealed in the incomprehensible Universe, forms my idea of God.<sup>10</sup>

My religiosity consists in a humble admiration of the infinitely superior Spirit that reveals itself in the little that we, with our weak and transitory understanding, can comprehend of reality.<sup>11</sup>

The more I study science the more I believe in God.<sup>12</sup>

What I see in Nature is a magnificent structure that we can comprehend only very imperfectly, and that must fill a thinking person with a feeling of humility. This is a genuinely religious feeling that has nothing to do with mysticism.<sup>13</sup>

### The inventor of magnetic resonance imaging on evolution

Associated with the Massachusetts Institute of Technology (MIT), one of the most well known engineering institutions, is a prize for inventors, the Lemelson-MIT Achievement Award. The quote below is from Dr. Raymond Vahan Damadian, biophysicist, the recipient of this award as the man who invented the magnetic resonance imaging (MRI) scanner. In 1988 he was awarded the National Medal of Technology, America's highest award for applied science, and a year later he was inducted into the Inventors Hall of Fame, an honor he shares with Thomas Edison, Samuel Morse, and the Wright Brothers. The first MRI scanner that Dr. Damadian and his colleagues built in 1977, "The Indomitable," resides at the Smithsonian Institution in Washington, DC.

The evidence for evolution is non-existent. In my opinion, evolution is science fiction.<sup>14</sup>

### Paul Davies on origin of life

Paul Davies is a theoretical physicist who has worked at Arizona State University, the University of Cambridge, and others. He has lectured on science at the United Nations and Windsor Castle. He is also a best-selling author of books on physics. He "helped create the theory of quantum fields in curved spacetime" according to the biography page for him at Arizona State University.<sup>15</sup>

Davies wrote on the improbability of life:

When I give public lectures and talk about the universe and all the stars and planets and so on, someone from the

<sup>4</sup> Clark S (2012 Oct 8) Why Einstein never received a Nobel prize for relativity. <<http://www.guardian.co.uk/science/across-the-universe/2012/oct/08/einstein-nobel-prize-relativity>> Accessed 2013 Jan 19

<sup>5</sup> Clark RW (1973) *Einstein: The Life and Times*, Hodder and Stoughton Ltd., London, 400

<sup>6</sup> Jammer M (2002) *Einstein and Religion: Physics and Theology*, Princeton University Press, Princeton, NJ, 97

<sup>7</sup> Religious Views of Albert Einstein <[https://en.wikipedia.org/wiki/Religious\\_views\\_of\\_Albert\\_Einstein](https://en.wikipedia.org/wiki/Religious_views_of_Albert_Einstein)> Accessed 2013 Jan 20

<sup>8</sup> Dukas H, Hoffmann B (1979) *Albert Einstein: The Human Side, New Glimpses from His Archives*, Princeton University Press, Princeton, NJ, 33

<sup>9</sup> Brian D (1996) *Einstein: A Life*, John Wiley and Sons, New York, NY, 119

<sup>10</sup> Anfinson L (1995) Memorial speech for Christian Anfinson at Memorial Garden Dedication. The Christian Anfinson Papers. Profiles in Science, U.S. National Library of Medicine, Weizmann Institute, November 16. Available at <<http://profiles.nlm.nih.gov/ps/retrieve/ResourceMetadata/KKBBDK>> Accessed 2013 Feb 2

<sup>11</sup> Dukas H, Hoffmann B (1979) 66

<sup>12</sup> Holt J (1997 Dec 24) Science Resurrects God. *The Wall Street Journal*, Dow Jones & Co., Inc.

<sup>13</sup> Dukas H, Hoffmann B (1979) 39

<sup>14</sup> Inventor of the MRI Says Evolution is Science Fiction <[http://www.wayoflife.org/index\\_files/bc32881c452b61c7e4dc0c272c3436fd-1027.html](http://www.wayoflife.org/index_files/bc32881c452b61c7e4dc0c272c3436fd-1027.html)> Accessed 2013 Feb 2

<sup>15</sup> Paul Davies, Biography <<http://cosmos.asu.edu/about/bio.htm>> Accessed 1-21-2013

audience will often comment at the end: "The universe is so vast, there are so many stars out there, so many planets, it would be absurd to suppose that we are alone. There must be life on one of those planets somewhere." But that is simply not true! The reasoning is wrong. When you look at the numbers we have just been talking about it is clearly a logical fallacy to suppose that just because you have a huge number of planets you are necessarily going to produce life somewhere else. The total number of planets that are likely to exist within our observable universe has been estimated at about 10<sup>20</sup>, that is a one followed by twenty zeros. And we were just talking about 1 followed by 130 zeros, and that is for a single protein! Seventy powers of ten doesn't make much of a dent in 130. It clearly is not going to help very much just extending the space to the observable universe. The mathematics is clear: the odds against making life by some sort of random molecular shuffling anywhere in the observable universe are infinitesimal. So I don't think that random shuffling explains how it happened.<sup>16</sup>

### **Molecular biologist regarding DNA**

A molecular biologist, who apparently did not want to be identified, was interviewed by George Caylor and is reported to have commented that nobody in his profession believed the information in DNA evolved. This scientist also stated that the information in DNA was the result of "genius beyond genius."<sup>17</sup>

### **National Aeronautics and Space Administration-sponsored scientist regarding odds of molecules for life**

Harold Morowitz from Yale University was hired by National Aeronautics and Space Administration (NASA) to determine the likelihood of life evolving in space; as you know, NASA does not want germs from space to come back to earth. Dr. Morowitz said:

The universe would have to be trillions of years older, and trillions of times larger, for a protein molecule to have occurred by random chance.<sup>18</sup>

### **Massachusetts Institute of Technology/University of California at Los Angeles professor regarding evolution**

Dr. Wolfgang Smith taught at MIT and the University of California at Los Angeles and had this to say:

And the salient fact is this: if by evolution we mean macroevolution (as we henceforth shall), then it can be said with

the utmost rigor that the doctrine is totally bereft of scientific sanction. Now, to be sure, given the multitude of extravagant claims about evolution promulgated by evolutionists with an air of scientific infallibility, this may indeed sound strange. And yet the fact remains that there exists to this day not a shred of *bona fide* scientific evidence in support of the thesis that macroevolutionary transformations have ever occurred.<sup>19</sup>

### **Nobel laureate in physics - Max Planck**

Max Planck did important work in both relativity theory and in quantum theory. He was a founder of quantum theory.

Yet in the whole of the universe there is no force that is either intelligent or eternal, and we must therefore assume that behind this force there is a conscious, intelligent Mind or Spirit. This is the very origin of all matter.<sup>20</sup>

### **Nobel laureate in physics - Erwin Schroedinger**

Erwin Schroedinger is well-known for his name used in the phrase "Schroedinger's Cat" as well as for his wave equation. He worked in quantum theory and developed wave mechanics, later shown to be mathematically equivalent to Heisenberg's matrix mechanics.

Schroedinger denies Materialism (i.e. the theory that matter is the only reality). Schroedinger affirms that human consciousness is absolutely different from the material bodily processes:

Consciousness cannot be accounted for in physical terms. For consciousness is absolutely fundamental. It cannot be accounted for in terms of anything else.<sup>21</sup>

Concerning Schroedinger (as well as Einstein, Heisenberg, and others), science writer Ken Wilber states:

My book *Quantum Questions* centered on the remarkable fact that virtually every one of the great pioneers of modern physics—men like Einstein, Schroedinger, and Heisenberg—were spiritual mystics of one sort or another, an altogether extraordinary situation. The hardest of the sciences, physics, had run smack into the tenderest of religions, mysticism. Why? And what exactly was mysticism, anyway?

So I collected the writings of Einstein, Heisenberg, Schroedinger, Louis de Broglie, Max Planck, Niels Bohr, Wolfgang Pauli, Sir Arthur Eddington, and Sir James Jeans. The scientific genius of these men is beyond dispute (all but two were Nobel laureates); what is so amazing, as I said, is that they all shared a profoundly

<sup>16</sup> Davies PCW, Adams P (1998) *More Big Questions*, ABC Books, Sydney, Australia, 49-50

<sup>17</sup> Brown W (2013 Jan 23) The Elephant in the Living Room. In the Beginning: Compelling Evidence for Creation and the Flood <<http://creationscience.com/onlinebook/LifeSciences38.html>> Accessed 2013 Jan 23

<sup>18</sup> Caylor G (2008) The Odds Against Life <<http://ontherightside.com/the-odds-against-life/>> Accessed 2013 Jan 21

<sup>19</sup> Smith W (1998) *Teilhardism and the New Religion*, Tan Books, Rockford., IL, 5-6

<sup>20</sup> Eggenstein K (1984) Part I, Materialistic Science on the Wrong Track. The Prophet J. Lorber Predicts Coming Catastrophes & the True Christianity, PU Valkyrie Publishing House, St. Petersburg, Florida, USA

<sup>21</sup> Schrödinger E (1984) General Scientific and Popular Papers. Collected Papers, Vol. 4, Austrian Academy of Sciences, Vienna, Friedr. Vieweg & Sohn, Braunschweig/Wiesbaden, 334

spiritual or mystical worldview, which is perhaps the last thing one would expect from pioneering scientists.<sup>22</sup>

### **Nobel laureate in physics - Werner Heisenberg**

Werner Heisenberg, famous for the “Heisenberg uncertainty principle,” is one of the founders of quantum theory and also developed a matrix mechanics formulation of quantum mechanics.

The first gulp from the glass of natural sciences will turn you into an atheist, but at the bottom of the glass God is waiting for you. [Der erste Trunk aus dem Becher der Naturwissenschaft macht atheistisch, aber auf dem Grund des Bechers wartet Gott.]<sup>23</sup>

Henry Margenau, Professor Emeritus of Physics and Natural Philosophy at Yale University, had this to say about Heisenberg:

I have said nothing about the years between 1936 and 1950. There were, however, a few experiences I cannot forget. One was my first meeting with Heisenberg, who came to America soon after the end of the Second World War. Our conversation was intimate and he impressed me by his deep religious conviction. He was a true Christian in every sense of that word.<sup>24</sup>

### **Nobel laureate in physics - Robert Millikan**

Robert Millikan experimentally verified Einstein’s photoelectric equation and did work on the charge of the electron. From [atheismexposed.tripod.com/nobelistsgod.htm](http://atheismexposed.tripod.com/nobelistsgod.htm):

To me it is unthinkable that a real atheist could be a scientist.<sup>25</sup>

Thousands of years ago Job saw the futility of finite man’s attempting to define God when he cried, “Can man with searching find out God?” Similarly, wise men ever since have always looked in amazement at the wonderful orderliness of nature and then recognized their own ignorance and finiteness and have been content to stand in silence and in reverence before the Being who is immanent in Nature, repeating with the psalmist, “The fool hath said in his heart, there is no God.”<sup>26</sup>

A purely materialistic philosophy is to me the height of unintelligence.<sup>27</sup>

The map of science is still a great blank sheet with only here and there a dot to show what has been charted; and the more we investigate the more we see how far we are from any real comprehension of it all, and the clearer we see that in the very admission of our ignorance and finiteness, we recognize the existence of a Something, a Power, a Being in whom and because of whom we live and move and have our being—a Creator by whatever name we may call Him.<sup>28</sup>

Many of our great scientists have actually been men of profound religious convictions and life: Sir Isaac Newton, Michael Faraday, James Clerk Maxwell, Louis Pasteur. All these men were not only religious men, but they were also faithful members of their communions. For the most important thing in the world is a belief in moral and spiritual values—a belief that there is a significance and a meaning to existence—a belief that we are going somewhere! These men could scarcely have been so great had they been lacking in this belief.<sup>28</sup>

### **Nobel laureate in physics - Charles Townes**

Charles Townes, together with Arthur Schawlow (see below), invented the laser. Both received the Nobel prize, and both believed in the creator God.

To the inquiry, “What do you think about the existence of God?” Charles Townes said:

I strongly believe in the existence of God, based on intuition, observations, logic, and also scientific knowledge.<sup>29</sup>

If you believe in God at all, there is no particular “where”, He is always there, everywhere, He is in all of these things. To me, God is personal yet omnipresent. A great source of strength, He has made an enormous difference to me.<sup>30</sup>

With regard to the origin of life, Charles Townes said:

In my view, the question of origin seems to be left unanswered if we explore from a scientific view alone. Thus, I believe there is a need for some religious or metaphysical explanation. I believe in the concept of God and in His existence.<sup>30</sup>

In a Newsweek cover article, Sharon Begley cited the words of Charles Townes:

As a religious person, I strongly sense the presence and actions of a creative Being far beyond myself and yet always personal and close by.

Townes believes that recent discoveries in cosmology reveal “a universe that fits religious views.” - specifically, that

<sup>22</sup> Wilber K (1998) *The Essential Ken Wilber: An Introductory Reader*, Shambhala Publications, Boston, MA, 16

<sup>23</sup> Hildebrand U (1988) *Das Universum - Hinweis auf Gott?*, Ethos (die Zeitschrift für die ganze Familie), No. 10, Oktober, Schwengeler Verlag AG, Berneck, Schweiz, Reprinted by permission of the publisher, Schwengeler Verlag AG, 10

<sup>24</sup> Margenau H (1985) *Why I Am a Christian* <<http://www.leaderu.com/truth/1truth16.html>> Accessed 2013 Feb 2

<sup>25</sup> Grounds VC (1945) *The Reason for Our Hope*, Moody Press, Chicago, 22

<sup>26</sup> Millikan RA (1950) *The Autobiography of Robert A. Millikan*, Prentice-Hall, Inc., New York, NY, 286-287

<sup>27</sup> *Ibid.*, 277-278

<sup>28</sup> Millikan RA (1925) *A Scientist’s God*, *Collier’s, The National Weekly*, October 24, Collier’s Publishing Company

<sup>29</sup> Townes CH (2002 May 24) A letter to the compiler T. Dimittov, Reprinted by permission of Charles H. Townes

<sup>30</sup> Townes CH (1995) *Making Waves*, American Institute of Physics Press, New York, NY

somehow intelligence must have been involved in the laws of the universe.<sup>31</sup>

## **Nobel laureate in physics - Arthur Schawlow**

According to Henry Margenau, Professor Emeritus of Physics and Natural Philosophy at Yale University, Arthur Schawlow, a co-founder of laser science and co-inventor of the laser, said:

We are fortunate to have the Bible, and especially the New Testament, which tells us so much about God in widely accessible human terms.<sup>32</sup>

I find a need for God in the universe and in my own life.<sup>32</sup>

The world is just so wonderful that I can't imagine it was just having come by pure chance.<sup>33</sup>

## **Other quotes**

The following quotes are from the website, <http://www.dissentfromdarwin.org>:

The Scientific Dissent From Darwinism is a short public statement by scientists expressing their skepticism of Neo-Darwinism's key claim that natural selection acting on random mutations is the primary mechanism for the development of the complexity of life. ...Prominent scientists who have signed the statement include...geneticist Giuseppe Sermoni, Editor Emeritus of *Rivista di Biologia / Biology Forum* and discoverer of genetic recombination in antibiotic-producing *Penicillium* and *Streptomyces*.<sup>34</sup>

I found it important to sign this statement because I believe intellectual freedom fuels scientific discovery. If we, as scientists are not allowed to question, ponder, explore, and critically evaluate all areas of science but forced to comply with current scientific orthodoxy then we are operating in a mode completely antithetical to the very nature of science. (Dr. Rebecca Keller, Biophysical Chemistry)

Darwinian evolution, whatever its other virtues, does not provide a fruitful heuristic in experimental biology. (Dr. Philip S. Skell, Member National Academy of Sciences, Emeritus Evan Pugh Professor at Pennsylvania State University)

Darwinism was an interesting idea in the 19<sup>th</sup> century, when handwaving explanations gave a plausible, if not properly scientific, framework into which we could fit biological facts. However, what we have learned since the days of Darwin throws doubt on natural selection's ability

to create complex biological systems - and we still have little more than handwaving as an argument in its favour. D(Professor Colin Reeves, Dept of Mathematical Sciences, Coventry University)

As a biochemist and software developer who works in genetic and metabolic screening, I am continually amazed by the incredible complexity of life. ... evolutionists still can provide no substantive details at all about the origin of life, and particularly the origin of genetic information in the first self-replicating organism.... Clearly the origin of life – the foundation of evolution – is still virtually all speculation, and little if no fact. (Chris Williams, PhD, Biochemistry, Ohio State University)

As a chemist, the most fascinating issue for me revolves around the origin of life. ...It is only when an intelligent agent (such as a scientist or graduate student) intervenes and "tweaks" the reactions conditions "just right" do we see any progress at all, and even then it is still quite limited and very far from where we need to get. ... a need for something more than just time and chance. ... But what we do know is the random chemical reactions are both woefully insufficient and are often working against the pathways needed to succeed. For these reasons I have serious doubts about whether the current Darwinian paradigm will ever make additional progress in this area. (Edward Peltzer PhD, Oceanography, University of California, San Diego [Scripps Institute], Associate Editor, *Marine Chemistry*)

The ideology and philosophy of neo-Darwinism which is sold by its adepts as a scientific theoretical foundation of biology seriously hampers the development of science and hides from students the field's real problems. (Dr. Vladimir L. Voeikov, Professor of bioorganic, Moscow State University, Member of the Russian Academy of Natural Sciences)

Scientific journals now document many scientific problems and criticisms of evolutionary theory and students need to know about these as well. Many of the scientific criticisms of which I speak are well known by scientists in various disciplines, including the disciplines of chemistry and biochemistry, in which I have done my work. (Philip S. Skell, Member National Academy of Sciences, Emeritus Evan Pugh Professor at Pennsylvania State University)

## **Summary and Conclusion**

We see that, rather than all scientists who are *real* scientists questioning God and creation and accepting evolution, many real scientists accept the existence of God and question evolution; this is true for even many of the greatest scientists in the world, including Einstein, the inventors of the laser and the MRI scanner, as well as multiple Noble prize winners. So, the answer to the question "What do scientists say about God, creation, and evolution?" is that among scientists the response varies, but it is definitely not true that all real scientists accept evolution, nor do they all reject God or creation. We might then ask, "Why is there some difference of opinion among scientists, for some do seem to reject or question evolution, while others do seem to accept it."

<sup>31</sup> Begley S (1998) Science Finds God. *Newsweek*, Vol. CXXXII, No. 4, U.S. Edition, 27 July, 44-49, New York, 47

<sup>32</sup> Margenau H, Varghese RA, eds. (1997) *Cosmos, Bios, Theos: Scientists Reflect on Science, God, and the Origins of the Universe, Life, and Homo sapiens*, 4th ed., Open Court Publishing Company, Chicago and La Salle, IL, 107

<sup>33</sup> Schawlow AL (1998) Chapter 1. Part 5. *Optics and Laser Spectroscopy, Bell Telephone Laboratories, 1951-1961, and Stanford University Since 1961, an oral history* conducted in 1996 by Suzanne B. Riess (Interviewer/Editor), Regional Oral History Office, The Bancroft Library, University of California, Berkeley

<sup>34</sup> A Scientific Dissent from Darwinism <<http://www.dissentfromdarwin.org>> Accessed 2013 Feb 2

That is the subject of another article, but briefly, there are several factors, among which may be peer pressure and lack of courage to tell the truth as opposed to what is merely the prevailing scientific dogma of the day. I will close with some other quotes which may shed light on this question.

Leo Tolstoy said:

I know that most men, including those at ease with problems of the greatest complexity, can seldom accept even the simplest and most obvious truth, if it be such as would oblige them to admit the falsity of conclusions which they have delighted in explaining to colleagues, which they have proudly taught to others, and which they have woven, thread by thread, into the fabric of their lives.<sup>35</sup>

Max Planck, Noble laureate in physics, said:

A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation

grows up that is familiar with it.<sup>36</sup>

And according to [www.archivefreedom.org](http://www.archivefreedom.org), Nobel laureate Louis de Broglie said:

...it becomes more indispensable than ever to preserve the freedom of scientific research and the freedom of initiative for the original investigators, because these freedoms have always been and will always remain the most fertile sources for the grand progress of science.<sup>37</sup> ☞

## COMING EVENTS

**Thursday, February 14, 7:00 pm, Providence Baptist Church,  
6339 Glenwood Ave., Raleigh, Room 631**

Topic yet to be determined.

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<sup>35</sup> As quoted by physicist Joseph Ford in *Chaotic Dynamics and Fractals* (1985) edited by Michael Fielding Barnsley and Stephen G. Demko

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<sup>36</sup> Johann Ambrosius Barth Verlag, (Leipzig 1948), p. 22, as translated in *Scientific Autobiography and Other Papers*, trans. F. Gaynor (New York, 1949), pp.33-34 (as cited in T.S. Kuhn, *The Structure of Scientific Revolutions*)

<sup>37</sup> Archive Freedom Home Page  
<<http://www.archivefreedom.org>> Accessed 2013 Jan 21