

Famous People Said . . .

Albert Einstein on creativity and knowledge:

"Creativity is more important than knowledge."

Unknown:

"If you try you may get disappointed. If you don't even try, you're doomed."

Irish playwright George Bernard Shaw:

"Some people see things as they are, and ask 'Why?'. I dream of things that never were and ask 'Why not?'"

Albert Einstein on science:

"Science is a wonderful thing if one does not have to earn a living at it"

William Shockley on electrons and holes:

"The hole, or deficit produced by removing an electron from the valence-bond structure of a crystal, is the chief reason for the existence of [the] book [Electrons and Holes in Semiconductors]. Although the hole and its negative counterpart, the electron, have been prominent in the theory of solids [...], the announcement of the transistor in 1948 has given holes and electrons new technological significance."

Albert Einstein on axioms:

"The grand aim of all science is to cover the greatest number of empirical facts by logical deduction from the smallest number of axioms"

Albert Einstein on axioms:

"In the middle of difficulty lies opportunity"

Albert Einstein on axioms:

"Ethical axioms are found and tested not very differently from the axioms of science. The truth is what stands the test of time"

Albert Einstein on miracles:

"There are people to whom nothing appears to be a miracle and there are people to whom everything appears to be a miracle"

Albert Einstein on photons:

"Every fool thinks he knows what the photon is, but he is mistaken"

Henry Ford on commercial activity:

"The highest use of capital is not to make more money, but to make money do more for the betterment of life."

Arno Penzias on revisions in his book suggested by the editor:

"When the manuscript was returned to me [with revisions suggested by the editor], I saw it covered with more red ink than black ink"

Robert H. Goddard on what is impossible

"It is difficult to say what is impossible, for dreams of yesterday become the hopes of today and reality of tomorrow"

Johann Wolfgang von Goethe in 1798

„Alle Gestalten sind ähnlich, und keine gleicht der andern; und so deutet das Chor auf ein geheimes Gesetz, auf ein heiliges Rätsel.“ (aus "Die Metamorphose der Pflanzen")

"All shapes are similar, and none resembles another one; and so the ensemble points to a secret law, to a holy mystery" (from "The metamorphosis of the plants")

Johann Wolfgang von Goethe

"Wer immer strebend sich bemüht, den werden wir erlösen" (in "Faust")

"Those who continue to strive will be delivered" (from "Faust")

C. Knight

"A goal is a dream with a deadline"

Unknown:

"Never say never"

Norbert Wiener

"In Research it is the strongest move that decides your success. In chess, it is the weakest move that decides the game" (paraphrased)

Some Quotes Related to Quantum Mechanics

Erwin Schrödinger on quantum rules:

"The appearance of quantum rules for the hydrogen atom is just as natural as is the existence of resonances for a vibrating string." Ann. Phys. 79, 361 (1926)

Max Born on the probability density:

" $\Psi^(x, t) \times \Psi(x, t) dx$ is the probability to find a particle within a particular interval x and $x + dx$. Therefore, $\Psi^*(x, t) \times \Psi(x, t)$ is called the probability density. $\Psi^*(x, t) \times \Psi(x, t)$ is the window of quantum mechanics to the 'real world'."*

Niels Bohr on the correspondence principle:

"The results of quantum mechanics should be identical to the results of Newton's classical mechanics in the classical limit, i. e. for energies much higher than the ground state energy or for large quantum numbers."

Albert Einstein on axioms:

"The grand aim of all science is to cover the greatest number of empirical facts by logical deduction from the smallest number of hypotheses or axioms"

Albert Einstein on quantum mechanics:

"I have thought a hundred times as much about the quantum problems as I have about general relativity theory."

Albert Einstein on the uncertainty principle:

"God does not throw the dice"

Implications of Werner Heisenberg's uncertainty principle for the School of Determinism

Prior to the advent of quantum mechanics, there was a prominent philosophical branch called the Philosophy of Determinism which assumed that everything including our thoughts and lives are governed by strict physical laws. Therefore, everything is predetermined and we have no influence on the outcome of any process. The uncertainty principle showed that the basic assumption of the strict deterministic school is incorrect.

Paul Dirac on the Dirac equation:

"Of course, if you solve one difficulty, other new difficulties arise. You then try to solve them. You can

never solve all difficulties at once."

Gottfried Wilhelm von Leibniz

The Latin phrase "Natura non facit saltus" could be translated as "Natural processes do not jump" or "Physical variables do not change discontinuously". With the advent of quantum mechanics, this principle no longer holds true.