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18 November 2011
Period 6

Pierre-Gilles de Gennes

A distinguished professor and winner of the 1991 Nobel Prize Award in Physics, Pierre-Gilles de Gennes (1932-2007) was titled by the Royal Swedish Academy as the "Isaac Newton of our time" for his work on liquid crystals and long chain polymer molecules. Contrary to any layman's assumption of a haughty Nobel-Prize winning scientist, Pierre was a surprisingly humble and simple man according to his surviving colleagues. "He practiced science as many practice art, visualizing and sketching…dream[ing] up equations as elegant as they were simple, whose predictions rang uncannily true," (Hindu) said one former colleague of Pierre, Anita Mehta. Humble as he was, his breakthroughs on liquid crystals paved the way for the multi-billion dollar industry of LCD televisions.

Pierre-Gilles de Gennes was born in Paris, France on October 24, 1932, and died on May 18, 2007. He was home-schooled until the age of 12 by his parents, a doctor and a nurse. Exceptionally brilliant, once he grew older he was a definite a shoe-in for Paris' prestigious École normale supérieure university.

Shortly after leaving the college and majoring in Physics in 1955, he secured a job as a research engineer mainly studying neutron scattering and magnetism. He studied in both France and in the United States, in the labs of UC Berkeley and the labs of Orsay. Pierre briefly served in the French Navy for 27 months due to a forced conscription for the Algerian War. After his tenure as a soldier, he then took on the role as a professor of physics in the University of Paris in 1961. It was not until 1968 that he found his true calling, abruptly switching his research to

studying liquid crystals. Further intensifying his research, he began to study polymers (plastics, nylon, polyester) in 1971 as well. For many years he worked on research of both liquid crystals and polymers. He conducted experiments, created observations, and published his findings to the scientific community. A book he had written in 1974, simply titled the *The Physics of Liquid Crystals*, turned out to be the go-to reference book on the science of liquid crystals, and was used as a standard book for it everywhere in the scientific community.

His work on the science of polymers was also equally praised, as he had researched the practicality of them. Pierre sought to find a suitable adhesive for putting together airplane parts without the need for rivets. He also studied the various dynamics of the ability of a liquid to maintain contact with a solid surface, and the opposite, drying. Pierre managed to create relatively simple methods to study the order phenomena of the physical chemistries of adhesion, and the physical properties of complex polymers.

Steadily, as he published more and more work, De Gennes became more and more distinguished, winning numerous awards for his discoveries. His combined work on polymers and liquid crystals was then even more recognized by the awarding of one of the most prestigious scientific distinctions, the Nobel Prize in Physics. He was awarded the Nobel Prize in Physics in 1991 for "discovering methods developed for studying order phenomena in simple systems that can be generalized to more complex forms of matter, in particular to liquid crystals and polymers." After winning the Nobel Prize, he immediately became director of the Ecole Supérieure de physique et de chimie industrielles de la ville de Paris, an elite physics engineering college where he remained from 1972 until his death in 2007. He evermore broadened his studies, even in his final years. In his later years he went on to lecture in various places around the world, and even discuss his findings on the nature of associate memory and

memory retention in the human brain. Survived by his wife and three children, he died a happy man, legendary for his uncanny brilliance, broad interest in a variety of both scientific and non-scientific subjects (from surfactants to Japanese art), and a great sense of humor, *even for a Physicist*.

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