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The 2009 Nobel prizes were announced in October. The Nobel Prize in Chemistry was awarded to Venkatraman Ramakrishnan, Thomas Steitz, and Ada Yonath for their studies of the structure and function of ribosomes. Ribosomes are essential cellular components responsible for translating messenger RNA into complex proteins. In Physics, the prize was shared between Charles Kao, for his groundbreaking achievements regarding light transmission through optic fibers, and the scientists Willard Boyle and George Smith for their invention of the charged coupled devices (CCD) sensor, an imaging semiconductor circuit. Fiber optic cables consist of glass or plastic fibers that carry light along their pathway, and they are used extensively in medicine, the military, and telecommunications. CCD is a device used to displace electrical charges, usually from within the device to an area where the charge can be manipulated. CCD is used in digital cameras, allowing the captured image to be converted to a digital signal. The Nobel Prize in Medicine was awarded to Elizabeth Blackburn, Carol Greider, and Jack Szostak for their discovery of how chromosomes are protected by telomeres and the enzyme telomerase. Telomerase rebuilds the tips of chromosomes and ultimately determines the life span of cells. Their finding is extremely important in many fields, particularly the study of genetic diseases and cancers.

Carol Greider

Thomas Steitz

George Smith