

Cell Water as Membrane-Enclosed Normal Liquid Water, Its Origin and Immunity to Experimental Disproof. Thoughts on How to Save Science and Humanity from the Stranglehold of This and Other Sacred Cows. by Gilbert Ling, Damadian Fdn for Basic and Cancer Research, Melville, NY (gilbertling@dobar.org)

The idea that water in living cells is a (solution of) *normal liquid water*, whose chemical makeup is controlled by devices in the cell membrane (a.k.a. metabolic pumps) first came in Theodor Schwann's Cell Theory introduced in 1839. As such, it originated from Schwann's mistaken belief that the cellulose cell wall *plus* the entire layer of cytoplasm lying directly beneath the cell wall (seen in reality only in old plant cells) is the cell membrane and the watery cell sap inside this "cell membrane" is typical of all living cells, plant or animal, young or old. Schwann's thesis was granted approval by Archbishop of Malines and adopted without criticism or questioning by all German textbooks. And, unbelievable as it is, 168 years later on this day, September 25, 2007, an essentially-unmodified picture of Schwann's view of the living cell is still being taught as established truth in every high-school and college biology textbooks in the US (and elsewhere) despite the facts: (i) the membrane-pump theory has been thoroughly disproved more than 40 years ago; (ii) progress made in fundamental physics (statistical mechanics) and chemistry (protein structure) has made it possible to introduce in 1962-65 a new unifying theory of the living cell called the *association-induction (AI) hypothesis*, which is a follow-up of the work of Dujardin, Schultze and Huxley on protoplasm. It suggests that the cell is made of (*cooperatively*-linked) nano-assemblies of associated (extended) protein, (polarized-oriented) water and (close-contact adsorbed) K^+ , maintained at a high (negative) energy-low entropy *resting living state* by ATP and other key *cardinal adsorbents* (for brief summary and extensive worldwide confirmation, see www.gilbertling.org/lp6c.htm and www.gilbertling.org.) The wanton disregard of contradicting evidence severely harmful as it is all around, in my view, may be turned into a rare opportunity to bring together all humanity from the stranglehold of divisive *sacred cows* by teaching 9th graders how to distinguish genuine truth from propaganda by following the *Scientific Methods* and (the newly proposed) ethical rules toward a peaceful, happier and prosperous future. As a first step, I present a set of four Ethical Codes for scientist (and eventually all humanity) including the *Code of Bruno*, who chose to die at the stake rather than recanting the truth he discovered on the basis of evidence and believed in and submitting to the notorious sacred cow of a geocentric universe.