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The Tenacity of Science Part 1 of 4

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Conspiracy of Silence

This year marks the 400th anniversary of the first criminal trial of the astronomer and mathematician Galileo by the religious authorities (who exerted way too much power) as they challenged the man's declaration that the planet earth revolved around the sun. An excerpt from the Special Injunction of the Roman Catholic Inquisition reads:

"At the palace of the usual residence of the said Most Illustrious Lord Cardinal Bellarmine...in the name of His Holiness the Pope and the whole Congregation of the Holy Office, ordered and enjoined the said Galileo, who was himself still present, to abandon completely the above-mentioned opinion that the sun stands still at the centre of the world and the earth moves, and henceforth not to hold, teach, or defend it in any way whatever....The same Galileo acquiesced in this injunction and promised to obey."

The ideas were suppressed, but not the man, who freely walked away. Nine years later, with the election of a new pope, Galileo was back endorsing heliocentrism (hail our fearless leader!), his primary evidence being the motion of the tides. Galileo was charged again and finally placed under house arrest in 1633, where he remained until his death in 1642.

🌣 Unconventional in Other Ways

Galileo had three children with his common-law wife. For reasons unknown, he placed his two daughters in a convent when they each reached age 13. Having personally tutored his offspring to full literacy, he maintained regular correspondence with his eldest child, Virginia. The collection of her letters to Galileo (his responses were retained in the convent and have never been found) were published in Letters to Father. Virginia (Suor Maria Celeste) became the convent's apothecary and would describe remedies to Galileo "a fusion of dried figs, nuts, rue, salt, and honey, with the advice to "take it every morning, before eating, in a dose about the sixe of a walnut, followed immediately by drinking a little Greek or other good wine...." ". Galileo was devastated when she pre-deceased him at age 33.

State Power and Political Secrecy

The 21st century struggles with suppression of scientific endeavour due to odds with political goals, research plans truncated by inadequate funding, or both. In Canada, the previous federal government muzzled all federal scientists, unless cleared by the top elected official (the Minister). The election of a different ideological party in October 2015 may improve public access to tax-payer funded research.

Sodium Non-responders

Hypertension (High Blood Pressure [HBp]) is widely prevalent in the western world adult population. The DASH (Dietary Approach to Stop Hypertension) - a low-sodium, healthy, balanced diet calibrated to reduce HBp - was first clinically evaluated in 1993 and again in 1997. The results of the Phase I DASH diet were immediately and positively embraced by most experts when first released. However, some nutritionists retained a level of professional scepticism. The Phase II second trial validated what is becoming accepted in the fields of nutrition and medicine – some HBp subjects have a high salt sensitivity; accordingly, their HBp does not respond to reduced sodium intake. In clinical terms, these people are "non-responders". A 2003 study -Individual blood pressure responses to changes in salt intake - illustrates that while aggregate values in a low-sodium-diet intervention study indicate a reduction in HBp, a close look at individual statistics reveals the several study participants whose HBp defied the downward average. The authors conclude: "These results show low-order consistency of response and confirm that identifying individuals as sodium responders is difficult."

🌣 Integration into Nutrition Policies

Discussion and analysis in the scientific literature of the relevance of a universal sodium-restriction policy to sodium non-responders in the general population, and in some ethnic groups, is a validation of, and an encouragement of, scientific persistence. FF

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