Food neophobia is a trait with high heritability in human populations

An extra comment to EGE by Assoc. Prof. Jussi Tammisola, June 30, 2008
– Ethical contents are being buried within the biological and sociological considerations below

A recent breakthrough study on the genetics of human behaviour in Finland and Great Britain has shown that regarding suspicious (or unwelcoming) attitudes to novel foods, a high genetic component is being involved.
Knaapila A, Tuorila H, Silventoinen K, Keskitalo K, Kallela M, Wessman M, Peltonen L, Cherkash LF, Spector TD, Perola M (2007). Food neophobia shows heritable variation in humans. *Physiology & Behavior* 91: 573-578. http://dx.doi.org/10.1016/j.physbeh.2007.03.019

The degree of heritability of food neophobia was as high as generally 60–70 percent in both the Finnish and British populations.

In the Old Bad Times, during the millions of years of human evolution, it was impossible to acquire information on the usability of natural products as human food but with trial and error. And such trial could result in death.

The ones trying the tasting could be killed by the unknown poisons in plants (or food spoiled by malignant microbes). On the other hand, if a rich new source of food proved usable for human nutrition, the populations that were the first ones in succeeding to utilize such novel natural resources could flourish and broaden their space at the cost of their more stationary neighbours with slower genetic tendencies of changing their food habits.

Hence, during the Stone Ages, it was evolutionary advantageous to keep a large variation between individuals in a human population regarding their capability of taking the risk of tasting possible new sources of nutrition. On the contrary, in the modern ages such evolutionary relic may prove harmful, because it may slow down the important improvements in nutrition available due to advances in sciences, especially biology and science-based contemporary plant breeding.

One unfortunate consequence of such archaic, presently contra-adaptive genetic background of ours is the in practice unreasonably stiff adoption of nutritional novelty (one may compare the situation with new biological, genetically modified medicines, for which no such evolutionary fallacies have been formed).
- That also provides the long-searched scientific (biologic) explanation for the common phenomenon that regarding food (unlike other scientific novelties) even a slight but constant flow of scaring works well in slowing down nutritional development in human populations. It does not matter, however groundless were the notions or whether these were arriving from sources commonly known as unreliable.

Improvements in nutrition are not - and have never been – the responsibility of the "voting" majority of human populations but a minority of reform-minded (researching) individuals. That is, nutritional improvements in societies cannot be established with so-called "pulling" by the plain majority but with "pushing" by the less common progressive ones.

In conclusion: much effort should be devoted to promoting the development of new and more beneficial crop products (plant varieties) and especially for releasing such products on the market.

People shall be provided the possibility to see such novel products, to monitor the products being tried by their fellow citizens, and provisionally also test these later on by themselves.
- Opinions are not generated by infinite speaking and speaking (about some irrational objects never even seen by the debaters). But on doing – novel products shall be permitted on shop shelves. Testing the pudding is eating it.
- The ethical rights of the "slow genetic majority" are amply provided by the (even impractically strict) labelling demands in EC product legislation.