

Title	Gustatory perception and behavior—A creation science view
Topic/Field	Life sciences
Target audience	Professionals / General
<p>After creating all the animals including humans, God blessed them and said, "Be fruitful, multiply and fill the earth" (Genesis 1:28). These words show that one of the purposes for which God created animals was to display His glory by letting them multiply and spread across the earth. Almost all animals have five senses. Among them, gustatory and olfactory senses are essential for survival and reproduction. At the beginning of creation, God the Creator provided only plants as food for animals (Genesis 1:29, 30). Since all living things were created according to their kinds, each kind would have been designed to eat different plants. Thus, the gustatory sense is essential for selecting the most appropriate food. The gustatory sense is designed with minimum number of elements necessary to realize such functions.</p> <p>Taste substances consist of the five basic tastes, each of which is a sign of a specific substance contained in food. Sweetness is a sign of carbohydrates as the main source of energy, umami is a sign of amino acids as components of protein, and saltiness is a sign of minerals such as sodium and calcium, all of which are signs of nutrients essential for survival and reproduction. In contrast, bitterness and sourness are signs of substances that are harmless or even beneficial in small amounts but become toxic when consumed in large amounts. In this way, the gustatory system is a perfect system consisting of the minimum essential elements from the beginning.</p> <p>On the other hand, for humans, the gustatory sense has a special meaning that is different from that of animals. For humans, eating and drinking are essential to ensure quality of life (QOL). If eating was taken away, not only would it be difficult to survive, but the QOL would be seriously impaired, because hedonic food not only provides nutrition but also employment, and opportunities for pleasant communication (fellowship). This is a unique characteristic of humans, created in the image of God, which is why Jesus Christ chose to teach the truths of the Bible during meals. These scenes frequently appear in the Gospels.</p> <p>An interesting result related to this characteristic has become clear from my recent research using mice. Animals, including mice, generally instinctively prefer to ingest sweet substances as a sign of carbohydrates. Mice, which lose their body weight by food restriction, then tend to consume more caloric sweeteners.</p> <p>However, immediately after they regain their body weight, the excessive consumption of sweet substances is suppressed. Mice instinctively know the optimal quantity of sweet substances to survive and proliferate, suggesting that animals faithfully obey God's command to "be fruitful, multiply and fill the earth." However, humans are unable to control their desires, leading to overeating, obesity, and health impairment. This is evidence that God has given the freedom of choice to humans only (Genesis 2:16, 17).</p> <p>But mankind has been making wrong choices from Adam's day until today. Therefore, Jesus Christ had to come as the last Adam (1 Cor. 15:45) to rescue us from the consequences of our bad choices that disqualify us from eternal life.</p>	
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Author's organization and appointment	Creation research Japan (Vice chairman); Japan Women's University Faculty of Sciences (Professor Emeritus)

Curriculum Vitae

Birthday: December 20, 1952. Baptism: June 22, 1983.

Church of Affiliation: Sagamihara Grace Chapel (Evangelical Congregational Church Japan), Pastoral Leader, Board Member

Missionary Organization: Creation Research Japan, Vice chairman, Board member

Education and Degrees: Ph.D., Faculty of Science, Hokkaido University, Sapporo, Japan, March 25, 1985, Zoology

Major Fields of Interest:

Transduction Mechanism of Taste Receptor Cell;

Synaptic Transmission from Taste Receptor Cell to Gustatory Nerve;

Neural Basis of conditioned taste aversion and conditioned taste preference learning

Job Experience:

Post Doctoral Fellow (1981-1983), Department of Neurophysiology, Mitsubishi-Kasei Institute of Life Science, Tokyo, Japan

Research Associate (2002-2003), Division of Integrative Sensory Physiology, Nagasaki University Graduate School of Medical Sciences, Nagasaki, Japan

Research Fellow (1988-1990), Monell Chemical Senses Center, Philadelphia, USA

Associate Professor (2003-2004), Department of Chemical and Biological Sciences, Faculty of Sciences, Japan Women's University, Tokyo, Japan

Professor (2005-2021) Department of Chemical and Biological Sciences, Faculty of Sciences, Japan Women's University, Tokyo, Japan

Professor Emeritus & Visiting researcher (2021-present) Department of Chemical and Biological Sciences, Faculty of Sciences, Japan Women's University, Tokyo, Japan

Administrative experience

Division chair (2005-2006) Division of Material and Biological Sciences, Graduate School of Science, Japan Women's University

Department chair (2009-2010) Department of Chemical and Biological Sciences, Faculty of Sciences, Japan Women's University

President (2012-2014) Japanese Association of Taste and Smell (JASTS)

Chair of Local Committee (2013-2016) 17th International Symposium on Olfaction and Taste (ISOT2016)

Dean (2014-present) Division of Material and Biological Sciences, Graduate School of Science, Japan Women's University

Board member (2014) Japan Women's University

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