



The History of Nutrition: Part 1



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News

Once upon a time matter existed. It did nothing. It existed. It was the size of a pebble. However, it had components. These components had a high attraction to one another. At some point one of these components became unstable. It no longer was attracted to the other components, but, was repelled by them. There was release of energy and matter divided. In that instant the pebble expanded to astronomical scope. This is currently named the "Big Bang Theory" of the origins of the universe. Expansion of the universe continues today, but Hawking & Hertog [1] have presented evidence that constant inflation into multiverses is not our future. They conclude that the exit from eternal inflation is finite and reasonably smooth for a system that is 13.8 billion years old.

Within that expansion over the past 13.8 billion years a number of planets have been created that could support life. Earth is one of those planets. There are many theories of how life on this planet began. Most scientific evidence supports the development of single cell organisms about 3 billion years ago. The Miller-Urey experiment conducted in 1953 [2] attempted to replicate conditions that existed in the early Earth. An electrical spark simulating lightning was introduced into system containing water and basic organic components: carbon, hydrogen, oxygen and nitrogen. Within one day their system contained several amino acids, the building blocks of protein, and simple carbohydrates. Abiogenesis is the process by which these nonliving components are thought to have developed into living cells. It is the predominant theory in biology today.

The development of multicellular organisms through cooperation among cells according to Anderson [3] has one universal requirement, the emergence of primordial life cycles. Without this cheat cells cause the system to fragment into chaos. However, cheating cells (ones that do not contribute to

the integrity of the group) allow groups to change, i.e. evolution to take place. Multicellular systems without cheats weaken and die. The first multicellular organisms seem to have developed about 600 million years ago.

Plants were multicellular organisms that got established on Earth in the sea and eventually on land. The origin of plants came from green algae that lived in damp areas 420 million years ago. Basic to plant life was the development of photosynthesis that utilized radiant energy from the Sun. That provided a food source for herbivorous animals, but, it isn't clear that the first animals were necessarily herbivorous. Among the unicellular living things were cells that consumed other cells, i.e. carnivores. Obviously, particularly in the sea, life preceded photosynthesis. It was a living system of carnivores and, eventually, omnivores.

Among the omnivores, Homo sapiens evolved on land and came to occupy the top of the food chain. The oldest fossil of a human ancestor dates from 3.2 million years ago and was found at a site called Aramis in the Middle Awash region of the Afar desert in Ethiopia. Since the development of Anthropology as a field of study in the early 19th Century scholars have disagreed about different theories of human development. Regardless of how humans developed they fed themselves in two ways:

- a. Hunting and gathering
- b. Agriculture

When hunting and gathering predominated a mobile lifestyle not easily confined within borders also predominated. Urban living could only be achieved at the expense of others. Slavery was a common practice and wars were often fought to obtain slaves. Hunting and gathering has also led to cannibalism when food supplies were low. Feldman [4] has described the Native American tribal system before the arrival of European

colonists. Headhunting, cannibalism and human sacrifice were practiced in North America. Hunting and gathering has seldom led to humane practices.

Agriculture has been the predominant way that human society has fed itself since 10,000 BCE. This imposed a new set of problems. Borders and possession of land became a major cause of warfare. Slavery was still rampant, but, slaves were seldom eaten. People developed special skills as they stayed in one place. Eventually, animal power began to replace slaves. The development of the horse collar in the 12th Century became one of the most important advances during the Middle Ages [5]. It was originally invented in China during the 5th Century and allowed the use of horses in place of oxen. The full power of the horse could be used without cutting off the air supply to the animal. Food production increased and slavery was no

longer necessary for productive farming. Once the food supply was adequate people became more concerned about the kind of food they were eating. Nutrition was born as an academic field.

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