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Abstract

The world of germs and microbes has received much attention in recent years. But where do microbes fit into the creation account? Were they created along with the rest of the plants and animals in the first week of creation, or were they created later, after the Fall. These are some questions that creation microbiologists have been asking in recent years. Ongoing research, based on the creation paradigm, appears to provide some answers to these puzzling questions. The answers to these questions are not explicit in Scripture, so the answers cannot be dogmatic. However, a reasonable extrapolation from biological data and Scripture can be made about the nature of microbes in a fully mature creation. This article attempts to provide reasonable answers to when microbes were created and is meant to stimulate discussion and further research in this area.

Very little has been written in Bible commentaries or in creation literature on the subject of when microbes were created. Some have postulated that microbes were created on a sinale day of Creation. such as Day Three—when the plants were made. This is partially due to the "seed-like" characteristics that bacteria and fungi have—therefore classifying microbes as plants. In addition, we observe microbes (such as Escherichia coli) isolated in the lab and we tend to think of microbes as individual entities much like birds or fish or animals and, therefore, created on a single day. However, in nature, the vast majority of microbes live in biological partnerships, not in total isolation. The natural symbiosis of microbes with other creatures is the norm. Therefore, we postulate that microbes were created as "biological systems" with plants, animals, and humans on multiple days, as supporting systems in mature plants, animals, and humans. This idea is further supported by the work of Francis (2003). Francis calls microbial symbiotic systems a biomatrix, or organosubstrate. He proposes that microbes were created as a link between macroorganisms and a chemically rich but inert physical environment, providing a surface (i.e., substrate) upon which multicellular creatures can thrive and persist in intricately designed ecosystems. From the beginning, God made His creation fully mature, and complex forms fully formed. This would ensure continuity and stability for the times to come. Although we cannot be certain as to specifically when the Creator made microbes, it is within His character to make entire interwoven, "packaged" systems to sustain and maintain life.

Keywords: microbes, days of creation, symbiosis, biological partnerships, organosubstrate, packaged systems

The world of germs and microbes has received much attention in recent years-and for good reason. We frequently hear the term *microbe* associated with organisms such as Escherichia coli, Salmonella, anthrax bacteria, antibiotic-resistant tuberculosis, MRSA, HIV, malaria, Stachybotrys, and other microscopic creatures. But where do microbes fit into the creation account? Were they created along with the rest of the plants and animals in the first week of creation, or were they created later, after the Fall? Are microbes a result of the Curse? These and other questions are some that a group of professional creation microbiologists have been asking, and their answers may surprise you. Ongoing research based on the creation paradigm appears to provide some answers to these puzzling questions. Although I cannot be dogmatic (beyond the biblical text) about the details of microbe origin during Creation Week, I believe that a reasonable extrapolation from biological data and Scripture can be made about the nature of microbes in a fully mature creation. Past creation scientists such as Leeuwenhoek, Pasteur, and Lister, were blessed by God as He revealed (Psalm 139:17a) to them critical insight into His creation.

So, where do these microbes fit into the very good days of creation? Before answering this question, three terms, *microbe*, *germ*, and *symbiosis*, need to be defined. These are relatively new or "modern" terms. First, the Bible does not use these specific terms. These terms were not commonly used until the end of the nineteenth century. The term microbe was first used in 1878 to describe "extremely minute living beings." Before 1878, scientists including Louis Pasteur, used a variety of terms rather loosely to label the very small organisms that had interested them. It was not clear whether microbes belonged to the animal or plant kingdom, or to a completely different one. The term microbe was given by Charles E. Sedillot to describe bacteria (Bulloch 1938). Later, it would also be used of eukaryotic cells, including algae, fungi, protozoans, and slime molds. Some people refer to viruses as microbes, but others do not because viruses are not cells. Viruses have nonliving, as well as living characteristics.

Today, the term *germ* refers to disease-causing microbes, or pathogens. All germs would have originated after the Fall (Genesis 3). The Edenic Curse would have profoundly influenced all creation,