

Views from the Pews: Theology and Life

What is the most basic difference between life and nonlife? One answer is that only living entities contain information that can be passed on to others. Under that definition, the history of life has advanced in a series of eight transitions, each one making the transfer of information easier. The story holds literal truth for biologists, and, more important for us, metaphorical truth for Christians. When we cooperate more whole-heartedly, and care for each other more deeply, we may place others before self, but achieve more wonderful new things together than we could alone.

The very first form of life appeared soon after the Big Bang, 13.7 billion years ago, in the form of (1) chemical molecules grouped into distinct units, capable of copying themselves. In due course they found advantages in collecting together as (2) strings of heritable information, the chromosomes. These offered the templates for (3) the evolution of the genetic code, which happened only once, so is shared by all living things, from animals and plants to bacteria and the Covid-19 virus.

Chromosomes found protection within (4) single-celled creatures, which were and still are found throughout the world. They were the only form of life until (5) a remarkable marriage when independent single-celled entities absorbed formerly free-living bacteria. Together, they formed cells with nuclei, as now found in all multicellular life. The advantages to both partners were huge, because whereas the only previous form of reproduction of single cells was by cloning off identical copies, now new forms of cell division within cell nuclei permitted the mixing of lineages in sexual reproduction. New combinations of genes contributed by each partner transformed the whole business of passing information between generations.

These first five transitions were unknown until last century, because they are not preserved in the fossil record. But the last three transitions are visible to the naked eye: (6) from simple to complex large bodies; (7) from solitary individuals to colonies; and (8) from social primates to human societies, complete with language, law and ethics.

At every transition, a profound change in the way information was transmitted required separate units to trade private benefit for cooperation with each other, at the cost of their former independence. This selfless cooperation released huge bursts of new diversity in form and complexity, so advancing the complexity of life.

Just watch our Cathedral choir, every one listening to all the others and blending their voices into breath-taking harmony.

Kim King