

## Teleology and the Meaning of Life

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The “units of selection” debate in philosophy of biology addresses which entity benefits from natural selection. Nanay has tried to explain why we are obsessed with the question about the meaning of life, using the notion of group selection, although he is skeptical about answering the question from a biological point of view. The aim of this paper is to give a biological explanation to the meaning of life. I argue that the meaning of life is survival and reproduction, appealing to the teleological notion of function in philosophy of biology.

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The “units of selection” debate has been influential in philosophy of biology. It addresses which entity benefits from natural selection. Is it individuals, groups, or genes that compete with one another for survival? Nanay (2010) is skeptical about any attempt to explain the meaning of life from a biological point of view. But he tries to explain our obsession with the question about the meaning of life, using the notion of group selection, according to which groups compete with one another for survival (Sober and Wilson, 1998; Wade, 1978; Wilson and Sober, 1994). Nanay gives the following explanation. Humans lived in isolated group societies during the Pleistocene era.<sup>1</sup> Even when we did something that decreased our own fitness, the fitness of the group could increase. The meaning of our life was to increase the fitness of the group. Although isolated group societies have disappeared, we are still born with a disposition to serve such a group. We can be said to be biologically disposed to question the meaning of our life: what group we are supposed to serve.

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<sup>1</sup>“Isolated” means that members of a group are genetically similar enough, while members of different groups are genetically different enough.

Taking groups to be the units of selection in this way, we can ask what groups are supposed to do where they compete with one another for survival. Also, suppose that genes are the units of selection (Dawkins, 1976; Hull, 1980, 1988; Williams, 1966). If we do something that decreases our own fitness but increases the fitness of our relatives, the genes that we and our relatives share will benefit. Altruistic behavior is beneficial for genes. Where genes compete with one another for replication, again, we can ask what they are supposed to do. Now, suppose that individuals are the units of selection (cf. Sober, 1984; Williams, 1966). If we do things that decrease our own fitness but increase one another's fitness, our own fitness will increase. Altruism is beneficial for individuals if it is reciprocal. Where individuals compete with one another for survival and reproduction, what are they supposed to do? In other words, what is the meaning of their life?

We can answer these questions by appeal to the teleological notion of function in philosophy of biology. The notion of function is essential in biology (cf. Allen, Bekoff, and Lauder, 1998; Ariew, Cummins, and Perlman, 2002; Buller, 1999; Krohs and Kroes, 2009). According to the causal role notion of function (Amundson and Lauder, 1994; Cummins, 1975; Davies, 2001), the function of  $X$  is  $X$ 's capacity which contributes to a capacity of  $X$ 's containing system. My heart has a capacity to pump blood, which contributes to my survival. My heart has a capacity to produce sounds too, which also contributes to my survival through auscultation. It seems necessary for the heart to pump blood, whereas, although useful, it doesn't seem necessary for the heart to produce sounds. The purpose of a thing, that is, what it is supposed to do is beyond the scope of the causal role notion.<sup>2</sup> According to the teleological notion of function (Godfrey-Smith, 1994; Griffiths, 1993; Millikan, 1984, 1989; Neander, 1991a, 1991b), the function of  $X$  is what  $X$  is supposed to do. The notion of "supposed to" can be defined as follows:  $X$  is supposed to do  $F$  if and only if  $X$ 's performance of  $F$  contributed to the production of  $Y$ , which in turn contributed to either new generation or maintenance of  $X$ .<sup>3</sup> The heart is supposed to pump blood, since its pumping blood contributed to the survival of our ancestors, and this survival in turn contributed to the replication of a gene responsible for the heart.

By appeal to the teleological notion of function, we can explain what individuals, groups, or genes are supposed to do in the following way. Consider the case of genes. The replication of a gene contributed to the survival or reproduction of an individual with the gene, and this survival or reproduction in

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<sup>2</sup>Hardcastle (2002) has attempted to show that the causal role notion of function can also capture what a thing is supposed to do.

<sup>3</sup>This definition is equivalent to the *weak* version of the "etiological" definition of function discussed before (Kiritani, 2011a, 2011b). Buller (1998) has distinguished between the *strong* and *weak* versions of the etiological notion of function. The strong version requires that  $X$ 's performance of  $F$  contributed to the production of  $Y$ s *more than* non- $Y$ s, which in turn contributed to the generation of  $X$ s *more than* non- $X$ s, resulting in "selection for"  $X$ s (see Sober, 1984, pp. 97–102).

turn contributed to the replication of the gene. It follows that genes are supposed to replicate where they compete with one another for replication. Genes are also supposed to code for a RNA chain or a type of protein, and responsible for an organ or behavior of an individual. Genes have more than one purpose. But the *final* purpose of a gene is replication. Similar arguments can be made for groups and individuals. Consider the case of groups. The survival of a group contributed to the replication of a gene that members of the group shared, and this replication in turn contributed to the survival of the group. Thus, groups are supposed to survive where they compete with one another for survival. Consider the case of individuals. The survival or reproduction of an individual contributed to the replication of a gene of the individual, and this replication in turn contributed to the survival or reproduction of the individual.<sup>4</sup> It follows that individuals are supposed to survive and reproduce where they compete with one another for survival and reproduction. The meaning of their life is survival and reproduction.<sup>5</sup>

From a teleological point of view in philosophy of biology, the meaning of life is survival and reproduction. By contrast, as mentioned in the beginning of this paper, Nanay has suggested that during the Pleistocene era, the meaning of our life was to increase the fitness of the group. Altruism could increase the fitness of the group while decreasing our own fitness. Also, the meaning of our life might be to contribute to the replication of our genes.<sup>6</sup> Altruism can increase the fitness of our relatives while decreasing our own fitness. My suggestion is the following. While we are supposed to survive and reproduce, altruism is supposed to serve our relatives or the group: altruistic behavior contributed to the replication of a gene that our relatives or members of the group shared, and this replication contributed to the manifestation of the behavior again. There is a conflict between the meaning of our life and the purpose of altruism.

Another influential candidate for the unit of selection has been a life cycle (Griffiths and Gray, 1994, 1997; Oyama, 1985; Oyama, Griffiths, and Gray, 2001). It has been argued that *genetic* and *developmental environmental* factors cannot be separated clearly in a life cycle. Not only genes but also developmental resources can be thought to replicate themselves, heritably contributing to a new round of a life cycle (see Griffiths and Gray, 1994, pp. 298–300). Taking life cycles to be the units of selection, we can ask what life cycles in lineages are supposed to do where

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<sup>4</sup>“Reproduction” is meant as a transitive relation here, which might sound unusual. It is possible that *x*’s reproduction contributed to the replication of *x*’s gene, which in turn contributed to *x*’s *reproduction*, resulting in the birth of *x*’s grandchild.

<sup>5</sup>Worker bees or ants do not produce offspring. But their proliferation contributed to the survival or reproduction of their queen, which in turn contributed to their proliferation. Workers are supposed to proliferate.

<sup>6</sup>Nanay (2010, p. 78) presents some problems with this view.

they compete with one another for a new round. That is, we can ask what the meaning of life cycles is. The round of a life cycle contributed to the production of a new stage of the cycle, which contributed to the next round of the cycle. Thus, life cycles are supposed to turn round. In other words, the meaning of life cycles is to cycle. This is consistent with the claim that the meaning of life is survival and reproduction.

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