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## Why Does the Seal Exist? Teleology in the Present-Day Human Relation to Animals

Po co istnieje foka?  
Teleologia we współczesnej relacji  
człowiek–zwierzę

### Abstrakt

Teleologia – wywodzące się od czasów starożytnych przekonanie, że wszystkie gatunki istnieją w określonym celu (Stwórca powołał je do życia, nadając im rolę), ma się zdumiewająco dobrze we współczesnej szkolnej edukacji i praktyce zarządzania środowiskiem. Prowadzi to do przyjęcia założenia o człowieku jako „dobrym ogrodniku”, który wybiera gatunki pożyteczne i usuwa szkodliwe, planując i egzekwując ich liczebność oraz obszar występowania. Tego rodzaju podejście jest w sprzeczności ze współczesną wiedzą o plastyczności gatunków i ekosystemów, które zmieniają się na skutek złożonych zjawisk przyrodniczych. W efekcie powstaje konflikt pomiędzy tymi, którzy chcą chronić wybrane gatunki z powodu tego, że spełniają one określoną funkcję, którą my lub Stwórca im nadaliśmy (dostarczają dobra lub usługi ekosystemowe), oraz tymi, którzy chcą chronić Przyrodę dla niej samej.

**Słowa kluczowe:** ochrona środowiska, aksjologia, głęboka ekologia, eksploatacja przyrody

Зачем существует тюлень?  
Телеология в современных отношениях  
человека и животного

### Абстракт

Телеология – древняя убеждение, что существование всех существ служит определенной цели (Бог создал их по какой-то причине), удивительно вездесуще в современной школьной образовательной практике и практике управления окружающей средой. Это приводит к утверждению, что человек является «хорошим садовником», который отбирает полезные виды и удаляет вредные путем планирования и обеспечения соблюдения их численности и площади распространения. Такой подход противоречит современным знаниям о пластичности видов и экосистем, которые изменяются в результате сложных природных явлений. В результате возникает конфликт между теми, кто хочет защитить отдельные виды, потому что они выполняют определенную роль, и теми, кто хочет защитить Природу ради нее самой, видя ее собственную ценность.

**Ключевые слова:** охрана окружающей среды, аксиология, глубокая экология, эксплуатация природы

The question posed in the title was actually directed to me during an official meeting of fishermen's union activists with marine scientists in Gdynia in 2018. The representative of fishermen, a literate and outspoken delegate, wanted to hear the "hard scientific arguments for keeping seals in the Baltic Sea." According to his words, "the role of the seal in nature is the reduction of sick and weak fish, while actual seals are consuming healthy fish, which is not right." This statement is a clear example of deep teleology in thinking about Nature.

In relation to animals teleology is a belief that every creature has its purpose in existence – a role in Nature to perform.<sup>1</sup> In its classical form from the time of Aristotle's<sup>2</sup> argument about the final cause of each being, it was developed throughout the Christian era by Augustine and Thomas Aquinas as a paradigm assuming that God had created all the living beings for the benefit and use of man. The common interpretation of God's will was a belief that grass was made for the cow who will consume it, and in turn the cow's role was to give milk and meat to man. It was Darwin who first demonstrated in his evolution theory that the origin of species and development of life on Earth is not purpose-oriented, but it is an effect of natural selection and a multitude of minor differences among organisms that allow survival of the fittest in given conditions.<sup>3</sup> Still, the classical evolutionary tree drawn from Darwin's books is being presented by schools as the process of unidirectional growth from simple to more and more complicated forms, with man as the outmost and highest branch of the life growth (see Fig. 1). Such a model of evolution was also widely accepted by Christianity, as long as the "crown of creation" was man. The modern visualization of the tree of life is still not widely publicized or present in school curricula, as it presents the evolution of life as a bush structure, with a density of parallel branches, and all the higher animals being just a small twig on one of the sub-branches (see Fig. 1).

Physicists on their own were discussing the "anthropic principle" which tells us that all the physical variables in the universe are set in such a way that life – and eventually man – could evolve. This was a purely teleological belief – yet one describing and explaining astrophysical phenomena before the moment of life's appearance. The anthropic principle is known in its "weak" and "strong" versions, depending on how close to the evolution of man the arguments were presented.<sup>4</sup>

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<sup>1</sup> <https://en.wikipedia.org/wiki/Teleology>, accessed October, 12, 2019.

<sup>2</sup> Arystoteles, *Metafizyka* (Warszawa: PWN, 2019).

<sup>3</sup> Charles Darwin, *On the Origin of Species by Means of Natural Selection* (London: John Murray, 1859).

<sup>4</sup> John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological principle* (Oxford–New York: Oxford University Press, 1988).

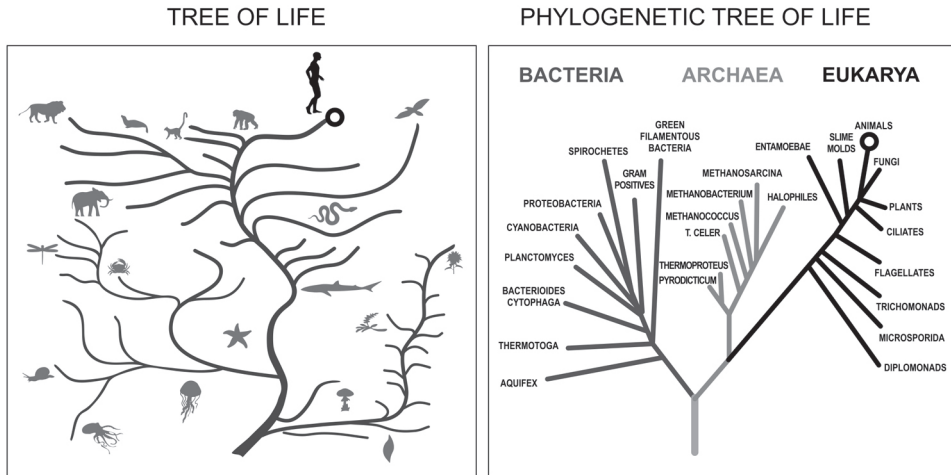


Figure 1. The classical tree of life based on the 19th-century Darwin's original concept and modern version based on the molecular biology defined affinities among organisms. Drawn and published by courtesy of Stanisław Węśławski

In modern times (after the Second World War) teleology was officially absent in scientific disputes among biologists and evolution scientists. The individual selection (the “selfish gene”<sup>5</sup>) and the survival for its own sake were commonly accepted, with well explained exceptions originating from the social life of some organisms (altruism paradigm, kinship selection, etc.<sup>6</sup>).

Teleology in a new form appeared with the Gaia theory forwarded by James Lovelock.<sup>6</sup> This chemist and award-winning space scientist came up with the notion that life on Earth constitutes a homeostatic system that can control and sustain physical conditions necessary to keep the life going. Lovelock sees a variety of life as a set of organs of the superorganism, with specific roles assigned to each of the elements. There are organisms that are able to produce oxygen – for the others, there are also organisms able to control the air humidity and cloudiness by emitting chemical particles. Earth Surface is permanently in a state of chemical/physical unequilibrium, and it is only the biosphere that maintains this unique state. In the Gaia theory it is clear that all the species are performing their specific roles and all are needed for the preservation of life. The scientific and philosophical dispute after the publication of Lovelock's book is still going on,<sup>7</sup> and researchers generally agree with it in one respect: yes, the organisms may have a meaningful impact on their physical environment (most typical is the example of blue-green algae in Precambrian time that were extracting oxygen which eventually became a life supporting gas for the majority

<sup>5</sup> Richard Dawkins, *The Selfish Gene* (Oxford: Oxford University Press, 1976).

<sup>6</sup> Edward O. Wilson, *Social Conquest of Earth* (New York: 2012).

<sup>7</sup> James Lovelock, *Novacene: The Coming Age of Hyperintelligence* (Oxford: Allen Lane, 2019).

of higher organisms). Although Lovelock in his later works did not call for the teleological interpretation of his theory – the logical implications “something exists for the purpose of another being’s existence” – are purely teleological.

Quite surprisingly, this sort of teleology, absent in its open form in the scientific discussions, is still doing well in school handbooks and basic curricula. In most traditional paper books, as well as web-based instructions for schools, ecology is presented as a logical chain of cause-and-effect sequences.<sup>8</sup> The most typical examples are explanations of the carnivore’s role in the system: “The wolf’s role in the forest is to remove the sick and weak animals, so that the population of the deer remains fit and healthy.”<sup>9</sup> The specific roles assigned to different species are also linked with the management label of being “beneficial” or “pest.” An animal is “beneficial” as long as it performs its role – so the wolf which takes the sheep instead of a lame deer becomes “pest.” Together with the above-mentioned simplified presentation of the tree of life, the arbitrary distribution of roles to the animals keeps reinforcing the teleological belief.

Teleology is alive also among administrators and managers dealing with nature protection. The regulations introduced to protect species, habitats, and ecosystems are always based on the explanation why the protection of a given element is crucial. The “why” means what the purpose of such protection is. A modern approach to the environmental management with its concept of “goods and services” provided by the ecosystem gives the teleological explanations as well. If the value of bumblebees is calculated on the basis of the volume of fruits they have pollinated – it means that the reason to value and protect the bumblebee is for this very specific role. When the golden warbler in Costa Rica was highly valued for its role as the caterpillars’ consumer on coffee plantations, the value (and the role) of this species dropped suddenly when the price of coffee went down on the global market. This example shows the dangers inherent in the teleological approach to nature conservation. If we assign a specific role to a species, and the species is not able to perform it, it is out of place in the organized garden-like system we have created in our minds.

The problem, as we are now well aware, is that species are not narrowly and permanently role-oriented. A great majority of species are very flexible, which is the main reason behind their survival in the changing environment. The wolf will eat caterpillars, or deer, sheep, or beavers – depending on the actual situation. The pine will grow 25 metres high and wide when alone on the flat plain, while its twin sister will be a shrub on a windy mountain slope.

Humanity is now facing a vital decision concerning the mode of the natural ecosystem exploitation – and our relations to the animals.

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<sup>8</sup> Lovelock, *Gaia, passim*.

<sup>9</sup> Lovelock, *Gaia, passim*.

One approach – represented for example by the European Union Common Fishery Policy, is the ecosystem-based approach.<sup>10</sup> It tells us that while observing a given water body – for example, Eastern part of the Baltic Sea – we shall take into consideration the natural processes of primary and secondary production, natural mortality, parasitism, etc.; and calculate how much fish we can remove from the basin without disturbing the whole system. In other words, we observe the dinner table of Nature, and calculate how many fish can be removed without destroying the meal for all the others (see Fig. 2).

Another approach – widely represented by all the industry lobbyists - tells us the opposite story: it indicates how much of a given resource we may remove without destroying the resource. In such an approach we do not care for the ecosystem, other creatures that are not directly our goal. All that counts is the specific catch – for example, the salmon. In this mode of thinking we shall know only the reproductive potential of the fish, and all organisms that may diminish our resource become an enemy. Here every single carnivore (e.g. seal), food competitor (minor fish), not to mention parasites, are becoming pests that shall be removed, in order to secure the maximum yield of our target species (Fig. 2).

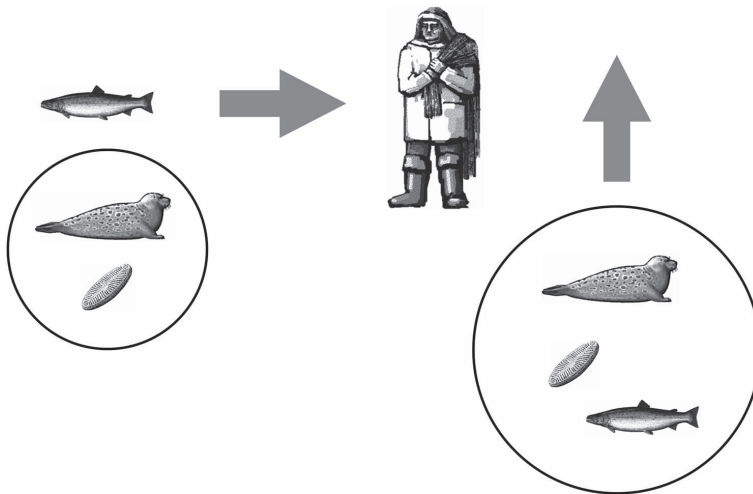


Figure 2. Two types of approach to the exploitation of natural ecosystems. Right arrow – ecosystem-based approach, where the target species (fish) is a part of natural system, and can be partially removed considering the integrity of the system. Left arrow – the “gardener” approach, where fish is exploited (or partly protected) without considering the ecosystem integrity. Drawn and published by courtesy of Stanisław Węśławski

<sup>10</sup> David Langelet and Rosemary Rayfuse, eds., *The Ecosystem Approach in Ocean Planning and Governance* (Leiden–Boston: Brill Nijhoff, 2018), *passim*.

The first approach secures the right of existence of all creatures forming the ecosystem. In this way of thinking, the concept of very large natural parks is important, or according to Edward O. Wilson – giving to Nature half of the globe.<sup>11</sup> We, the humans, shall not decide which species are meant to live or to die, we are part of natural world, and the limits of our growth are set by the Earth's natural ecosystem performance (in such a scenario, the population of eight billion of humans is probably the apex of growth – see <https://www.science.org.au/curious/earth-environment/how-many-people-can-earth-actually-support>).

The second approach secures only those organisms which are directly performing a priori assigned beneficial roles (to be a source of food, pet, decoration). This is very much the gardener – farmer mode of thinking. The farmer is organizing semi-natural world on his own field, he is able to control and exploit it in a sustainable way. In this case, the limit for growth and expansion is only technology – not Nature. Technology will provide a better selection of genetically modified species, higher production at smaller energy and space use. However, this will work only at the expense of other organisms that are not directly useful to us – as those will be our competitors. Such a modern version of teleology is represented by Peter Kareiva and Michelle Marvier<sup>12</sup> who state that humanity's prime goal is to protect an expanding human population. Nature is to serve humans, and the place for large, charismatic species is in zoological gardens. Such a vision of post-natural Earth is shared by many, for example, Douglas McCulay and others,<sup>13</sup> or James Lovelock.<sup>14</sup> The Earth surface will be replaced by a massive, biotechnology based, techno-farmland working on the microbes that is able to feed an almost unlimited number of humans (estimates are from 32 to 64 billion<sup>15</sup>).

Humanity will have to decide soon, which of the contrasting strategies we shall take. Are we going to live in Nature, the system that works on its own, considering all its necessary limitations, or do we wish to build a new Post-Nature, with a full responsibility for the structure and function of the man-made ecosystem? In the second case, teleology will be a ruling paradigm, with deep consequences for the new world view.

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<sup>11</sup> Wilson, *Half Earth*, *passim*.

<sup>12</sup> Peter Kareiva and Michelle Marvier, "Conservation for the People: Pitting Nature and Biodiversity Against People Makes Little Sense," *Scientific American*, vol. 297, no. 4 (2007): *passim*.

<sup>13</sup> Douglas McCulay et al., "Marine Defaunation: Animal Loss in the Global Ocean," *Science*, vol. 347, no. 6219 (2015): *passim*.

<sup>14</sup> Lovelock, *Novacene*, *passim*.

<sup>15</sup> Stephen Dovers and Collin Butler: "How Many People Can Earth Actually Support?," <https://www.science.org.au/curious/earth-environment/how-many-people-can-earth-actually-support>.

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