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# ON THE EVOLUTION OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT

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**Purpose:** The aim of this article is to show the evolution of the concept of sustainable development from the beginning to its current understanding in ongoing scientific debates. The author focuses on the analysis of the meaning of the title concept in its historic development, putting aside its various practical dimensions.

**Design/methodology/approach**: The article analyzes selected, available literature on the concept of sustainable development. Apart from literature review, the author uses the method of analysis and logical construction.

**Findings:** The concept of sustainable development is a relatively new one. The concept that we are dealing with today has evolved since about the middle of the 20th century. The idea of sustainable development is defined as a multi- and interdisciplinary issue, encompassing the following aspects: environmental, social, and economic. The emergence of the titular concept was preceded by a long process of development of the concepts of progress, environmental ethics and sustainability in both secular and religious traditions. It seems to be the best possible way to organize the modern world, giving a chance for sustainable and equitable development of human society both on a global and local scale.

**Research limitations/implications**: The article refers to a limited number of studies. Sustainable development is a multidimensional issue. This concept is defined in different ways depending on the theoretical adopted perspective.

**Originality/value:** The article refers to selected literature in the field sustainable development. The value of the article is mainly expressed in the approach to the issue of sustainable development in the aspect of the evolution of this concept from its beginning to the present day.

**Keywords:** Sustainable development, progress, environmental ethics, sustainability.

Category of the paper: Conceptual paper.

## 1. Introduction

There are many studies analyzing the concept of sustainable development in its different dimensions. Historically, the concept of sustainable development has its source in the 17th and 18th centuries ideas regarding sustainable forest management. Already in 1662, John Evelyn, in his essay entitled *Sylva*, emphasized the need for sustainable forest management (Caradonna, 2017; McKusick, 2013). In 1713, the German mining administrator Hans Carl von Carlowitz published a work on forestry entitled *Sylvicultura economic*. In this work, he developed the ideas of Evelyn and the French minister Jean-Baptiste Colbert, creating a theory of forest management aimed at obtaining sustainable yields. Von Carlowitz's concept influenced other theorists in various countries. In the 1960s, under the influence of various publications (Carson, 1962; Boulding, 2013; Hardin, 1968)) the developing environmental movement drew attention to the relationship between economic growth and environmental degradation.

The origins of the concept of sustainable development in its modern understanding date back to the early 1970s. An important role was played by the report commissioned by the Club of Rome, prepared by a group of MIT scientists led by Dennis and Donella Meadows, entitled *Limits to Growth* (Meadows et al., 2013). In the following years other works were published in which the idea of sustainable development appeared (Woodell, 1972; World Wildlife Fund, 1980). The concept of sustainable development has become in the twentieth century, due to the emerging threats of environmental degradation, on the one hand, a way of understanding the world, and, on the other, a way to save it (Sachs, 2015).

The breakthrough moment in the development of the discussed concept was *the Brudtland Report*. The Report states: "Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brudtland Report, 3.27). The importance of *the Report* is mainly expressed in the fact that it placed environmental protection problems on the political agenda and treated economic development as inseparably connected with the environment (Andersson, Hatakka, 2023).

Important documents also include *The Earth Charter* published by the United Nations World Commission on Environment and Development in 1992. It was a declaration of construction of the fundamental principles of a just, balanced and peaceful society of the 21st century. In *The Earth Charter* we read the following words setting the goals of the Conference: "The choice is ours: form a global partnership to care for Earth and one another or risk the destruction of ourselves and the diversity of life. Fundamental changes are needed in our values, institutions, and ways of living" (Initiative, 2000). This project was an attempt to make a comprehensive approach to the sustainable development in its all manifestations.

It is worth remembering, however, that the notions of "sustainability" and "development" that make up the title concept have their antecedents and have undergone a long evolution. Thousands of years of human development have led to the emergence of many different positions regarding the relationship between humans and nature. The dominant trend in antiquity was that which granted man a distinguished position in nature and gave him the right to subordinate it. In particular, however, the Ancient Greeks were the ones who decidedly gave humans a leading role in the natural world. This position was later strengthened by Judeo-Christian tradition. It is important to remember that the world of ideas is not a static one. This also applies to the title concept. The discussion on ecology, its understanding and methods of implementation is still ongoing and is an important element of contemporary scientific, philosophical and also theological discourse.

The philosophical reflection essential for the analysis of the title concept is very rich. The considerations of this article are of an overview nature. This is mainly due to the volume of the text. The notions that constitute the antecedents of the concept of sustainable development appear already in ancient Greece and are present in almost all great thinkers of all eras. The purpose of the considerations carried out in this article was to outline this long path of development.

The originality of this article lies in the applied research approach to the analysis of the progress of the concept of sustainable development. The method of literature review and logical text analysis was used to examine the development of notions that are antecedents of the title conception. The aim was to trace the evolution of the sustainable development concept in both Western philosophical thought and the related Judeo-Christian religious tradition.

#### 2. Methods

The article uses a research technique such as literature review to collect, analyze, and synthesize relevant information from a wide range of sources. A literature review is a fully-fledged research method. A well-conducted literature review allows you to get acquainted with the current state of knowledge in a given field and provide reliable answers to research questions (Snyder, 2019). This is an excellent method for analyzing interdisciplinary research. It also allows for the synthesis of research results and the discovery of areas where further research is necessary. The literature review was conducted on the Google Scholar and Science Direct platforms. The databases were searched based on the following keywords: sustainable development, progress, environmental ethics, sustainability.

The table 1 below summarizes the different types of literature review.

**Table 1.** *Types of Literature Review* 

Type	Systematic	Semi-systematic	Integrative
Typical purpose	Synthesize and compare evidence	Overview research area and track development over time	Critique and synthesize
Search strategy	Systematic	May or may not be systematic	Usually not systematic
Research questions	Specific	Broad	Narrow or broad
Analysis and evaluation	Quantitative	Qualitative/quantitative	Qualitative
Sample characteristics	Quantitative articles	Research articles	Research articles, books, and other published texts
Examples of contribution	Evidence of effect Inform policy and practice	State of knowledge Themes in literature Historical overview Research agenda Theoretical model	Taxonomy or classification Theoretical model or framework

Source: own elaboration based on: Snyder, 2019.

The considerations presented in the article also use the method of logical analysis. The essence of this method is the use of logical tools to distinguish correct arguments, i.e. those that are consistent with the laws of logic, from those that violate the rules. Logic and its methods allow us to discover the most general structural aspects of our thinking and actions (Peregrin, Svoboda, 2017). The application of the tools of logical analysis to propositions expressed in natural language is justified by the fact that the rules of such a language are also subject to the laws of logic.

Logical analysis is helpful in research conducted in social and management sciences. It enables better understanding of their theoretical and conceptual framework (Ngulube et al., 2015). Management sciences, like any other scientific discipline, have their own research methods and are characterized by interdisciplinarity. For this reason, some kind of methodological eclecticism can be attributed to these sciences. It allows to combine methods from various disciplines, paradigms and approaches, ensuring their cognitive and pragmatic efficiency. These are both quantitative and qualitative methods. The research process in management sciences is often accompanied by various types of models, including: theoretical and conceptual, research or statistical. The model, in general, means a hypothetical thought structure, i.e. the arrangement of assumptions, concepts and relationships between them, allowing you to describe some aspect of reality. The role of logic in research is crucial because it allows to draw correct conclusions and avoid errors in reasoning.

Logic is a formal science. Both formal and informal principles of logic can be applied to the analysis of a text in natural language (Ngalande, 2011). The author of this article does not use formalisms. The goal is not to strictly reproduce the conceptual structure of the analyzed field but to capture the most central problems of the concept of sustainable development in the aspect of its evolution. The term "logic" that appears here should not be identified with a priori science. It is rather a specific method of research used in the social sciences (Mahoney, 2021).

# 3. Evolution of the idea of progress

A proper understanding of the concept of sustainable development requires an analysis of its component concepts: development, environmental ethics, and sustainability. This, however, presupposes the study of the concept of progress, which is the antecedent of the concept of development.

R. Nisbet writes: "The essence of the Western idea of progress can be simply stated: mankind has advanced in the past, is now advancing, and may be expected to continue advancing in the future" (Nisbet, 2017, p. 7). This definition, although at first glance consistent with the common understanding of the concept of progress, requires explanation and leads to further questions. First of all, the question of what does "advance" mean? One can also ask what kind of progress is meant: scientific, technological, moral, demographic or some other kind? There is also the question of the measure of this progress.

The concept of progress has a long history. The first ideas about progress were formulated in the classical Greco-Roman period (Burkert, 1997; Du Pisani, 2006). We are dealing here with a certain paradox, because, as M. Asper notes, technical progress in antiquity was, from a modern perspective, quite slow (Asper, 2013). In this article, however, we are interested in the idea of progress as such, not in its specific forms as it appears in reality. It turns out that the Greeks had many ideas about progress, especially when it comes to knowledge (Dodds, 1985; Edelstein, 2019). To sum up, Greek philosophers introduced to the idea of progress the pioneering concept of the natural growth of knowledge over time.

Christian philosophers basically continued the views of Greek thinkers. Like classical philosophers, they emphasized the role of knowledge, art, and science as essential factors of progress. This was the case both in the era of the Church Fathers and in the Middle Ages. The idea of the progress of knowledge and culture in general gained its greatest development thanks to the philosophers of the twelfth and thirteenth centuries. Some researchers note that the idea of progress was shaped by the gradual replacement of the medieval belief in providence (Löwith, 1949) or at least point out the importance of the religious concept for the idea of progress (Cantor, 2012). In its most general aspect, the Judeo-Christian tradition brings three essential points to the idea of progress: (1) the concept of the world created by God; (2) the linear concept of time; (3) belief in the value of work (Marchetti, 1977). The three mentioned motives are the link between the religious concept and the modern idea of progress.

The Reformation, which on the one hand was a criticism of the church, on the other hand revived critical thinking and thus contributed also to reflection on the idea of progress. It is worth noting that M. Luther's doctrine of equality favored the democratization of the church or even of power as such (Cavanaugh, Scott, 2019). From about the middle of the eighteenth century to the beginning of the twentieth century, the idea of progress reached its apogee among Western intellectuals, both in popular and scientific circles. In the West, it became a dominant

idea. Even if one takes into account the growing importance of other ideas raised by the French Revolution, such as freedom, equality, and social justice. As is well known, belief in unlimited progress was one of the characteristics of the Enlightenment (Wagner, 2016). The ultimate goal of progress was seen as an ever-increasing degree of individual freedom. This vision was supported by numerous scientific and technical achievements in the eighteenth and nineteenth centuries. These, in turn, were made possible by the increasing freedom of scientists and philosophers. Interestingly, at the same time when personal freedom was seen as the goal of progress, power was seen as both a necessary means to achieve progress and its goal (Nisbet, 2017).

Many modern philosophers have addressed the issue of progress. An important contribution to the construction of the idea of progress was Kant's *Idea for a Universal History* (Lloyd, 2009). Kant postulates striving to achieve the "cosmopolitan goal", i.e. a world order in which the relations between nations achieve something analogous to the order characterizing a set of individuals that transforms them into an ordered state. More radical versions of progress were postulated by other modern philosophers such as Hegel in his *Phenomenology* and *Lectures on the Philosophy of History* or by K. Marx and F. Engels (Hegel et al., 1977; Hegel, 1861; Sayers, 2020). The idea of historical progress found in Hegel's philosophy, which is relatively independent of nature, enables research on the constantly changing relationships between human and non-human developing forms. Also, the vision of history presented by A. Comte with his concept "the law of three necessary stages" of human development was based on the concepts of order and progress (Comte, Bridges, 2015). Some researchers place the sources of the contemporary concept of progress in the earlier era. F. Fukuyama, for example, sees the appearance of a modern concept of progress in Machiavelli's thought, in his separation of politics and morality (Fukuyama, 1992).

Nowadays, one can meet the view that the idea of progress died with Herbert Spencer's evolutionism, definitely ended with the nineteenth century. Spencer was a nineteenth-century thinker who devoted a lot of attention to the idea of progress. He made a category of progress one of the most important of his whole philosophy (Spencer, 1891). In the twentieth century, faith in the existence and power of progress was shaken by the tragic historical events of two World Wars and all the horrors that accompanied them. It seemed at that time that the faith in progress expressed in previous centuries was only an illusion. Has anything changed in this regard? R. Morgan notes that in the current era of globalization, the idea of progress has been replaced by the idea of sustainable development. Reflecting on the possibility of its implementation, he states: "Is this just a ridiculous utopian dream that has no material referent, no chance of realization, or is it an imperative of human evolution? It all comes down to a matter of choice. If we say we have no dream, then we have no choice—and without choice, who are we? Devoid of choice, humanity has no meaning and no future. We must choose the dream—a vision of the future of humanity— and then we must choose to make it real" (Morgan, 2015, p. 118). Let these words be the answer to the question asked above.

Another question arises about the future of the idea of progress in the West. It seems that the real and most comprehensive answer to this question is, so far, the concept of sustainable development. This is for several reasons:

- It is an idea based on interdisciplinary scientific research showing that "that any progress through learning could never be only contemplative in nature" (Mouzakitis, 2017, p. 4). The idea of sustainable development is no longer a purely theoretical concept discussed in academic circles but has become part of political, economic and social activities.
- As a concept, on the one hand, that is the result of a centuries-old philosophical, ethical, scientific but also theological tradition, on the other hand, as based on the practices of people living in changing realities of social, economic, geographical and cultural life meets the requirement of a universal concept exceeding cultural barriers. As such, it has become just a pan-human concept.
- The concept of sustainable development can be understood as the transfer of the idea of progress in the field of philosophical reflection to the field of policy shaping the real environment of human life.
- There is also another reason that can be described as methodological in nature. A more effective and complementary conception of human development has not yet been developed.

Of course there are also critics of the concept of sustainable development (Daly, 1995; Blühdorn, Welsh, 2013). This criticism comes from various sources. Part of it stems from a simple lack of understanding of the concept (Shi et al., 2019). Factors of various kinds should be involved in explaining the idea of sustainable development and promoting it: organizational, cultural, religious at various levels, both government and local government. A completely separate issue, but also the future, especially when it comes to implementing the concept of sustainable development, is the use of AI tools.

# 4. Evolution of the concepts of environmental ethics and sustainability

The concept of sustainability appears for the first time in the 17th and 18th centuries in the context of forest resources management (Wilderer, 2007). It seems that there have always been two opposing views on the relationship between man and nature and the resources he uses. One of them emphasized the need for harmonious coexistence with nature, the other postulated its conquest and considered man as the lord and master of nature. All Western ancient civilizations were agrarian (Attfield, 2021). Describing the contemporary understanding of Sustainability F. Weder states: "Sustainability is not only a principle of action. Sustainability is a norm of regenerative practices and resource restoration, manifested in and supported by the United Nations in their 17 Sustainability Development Goals" (Weder, 2023, p. 228).

Sustainability is a multidimensional concept. The idea of sustainable development as a universally recognized model of human development did not appear until 1987 with the publication of "Our Common Future" released by the World Commission on Environment and Development (WCED) (Hajian, Kashani, 2021). This document applies to the tension that arises between the economic development of humanity and limited resources of nature (Kuhlman, Farrington, 2010). There are some similarities between the concepts of sustainability or sustainable development and business ethics. Both combine elements of humanistic culture and economics (Orbik, 2016).

The issue of the ancient Greeks' attitude towards the environment and ecology is not clear. Some scholars trace the origins of ecological thought to Aristotle and his student and successor Theophrastus (Coates, 2013). However, already Plato in the dialogue *Timaeus* proposes a holistic view of the world as a living creature (Ti. 30c). It is worth noting that the term "ecology" comes from the Greek oikos and means household. Both of the aforementioned thinkers tried to understand reality and the relationships between its components. R. Post, characterizing the Greeks' interest in the problem of the relationship between humans and nature, rightly notes the following: "The origins of interest in the relationship between humans and the environment in the ancient Greek world can be traced back to diverse 19th- and 20th-century intellectual movements, such as Romanticism in the German-speaking countries, human geography in the English-speaking world and the Annales School in France. The study of the environment in the ancient world only assumed a form recognizable today, however, with the rise of the environmentalist movement in the 1960s" (Post, 2022, p. 318). It is therefore difficult to speak of an ecological movement in the strict sense in antiquity. However, just as Greek thought created the foundations for scientific reflection about the world, the Greeks played a similar role in the case of ecological awareness. However, both individual and social awareness awakens slowly. The one that interests us here fully developed only in the twentieth century.

It is worth noting that the relationship between people and nature is based on an ontological assumption concerning the distinction between two orders: culture and nature. The Greeks were the first to distinguish these orders. The concept of nature itself was also subject to evolution in Greek philosophy (Habash, 2016). Greek discussions of nature began as attempts to answer the question: should nature or customs determine the way of human life? More generally, this issue can be framed as a question about the nature of just law regulating social life. Various answers have been given to this question. Importantly, there is a reflection in Greek thought on the organization of community life. It is a matter of debate to what extent the reflections of ancient philosophers took into account issues concerning the relationship of people to the environment.

S. Erck, for example, proposes an ecological interpretation of Plato's *Republic*. She writes: "The *Republic's* political discussion begins with the construction of two contrasting cities: a 'healthy' city and a 'city with a fever'; one defined by environmentally sustainable substance practices and the other by 'luxurious' over consumption that exceeds the carrying capacity of its

land" (Erck, 2022, p. 213). M. Chemhuru, in turn, tries to justify the thesis about the existence of environmental ethical thinking in Greek philosophy (Chemhuru, 2017). The said author states: "The question concerning the ethical relationship that ought to exist between human beings and other non-human beings and their surrounding remains at the core of Western environmental ethics and African environmental ethics as well" (Chemhuru, 2017). Greek ethics was mainly anthropocentric. This is an issue that exceeds the framework of this article, however, it is worth noting that the non-anthropocentric thinkers can also be found among Greek philosophers (Coman, 2006). Traces of such thinking can be found, among others, in Thales, Plato or Aristotle.

A clear distinction between humans, animals and plants appears in Aristotle. We read: "In like manner we may infer that, after the birth of animals, plants exist for their sake, and that the other animals exist for the sake of man, the tame for use and food, the wild, if not all, at least the greater part of them, for food, and for the provision of clothing and various instruments. Now, if nature makes nothing incomplete, and nothing in vain, the inference must be that she has made all animals for the sake of man" (Aristotle, 2001, 1256b, 15-22). Aristotle was obviously not an ecological thinker in today's understanding. In his time there was also no crisis in terms of environmental state. He was, like all Presocratics, a philosopher with anthropocentric attitude. However, in his writings you can see motives that are attractive to modern ecological thought (Cooper, 2001).

The next step in ancient Greece towards an ecological way of understanding the world was taken by the Stoics. Stoicism was a philosophical school of the Hellenistic period founded by Zeno of Citium around 300 BCE. Zeno's teachings were influenced by the philosophy of the Cynics, Socrates and Plato. Prominent Stoics of the Roman period included Seneca, Epictetus, and Marcus Aurelius. The Stoics taught that a happy life consisted in living in harmony with nature. The Stoics identified life understood in this way with the "virtuous" life. The revolutionary nature of their views was expressed in the belief that the ability to act virtuously was independent of social status, level of education, gender, or material wellbeing. The Stoics taught that all people are equal according to the laws of the eternal *Logos* permeating nature. The Stoic student is called to "follow nature" or study physics. This resulted from the belief that human life is a part of nature.

In subsequent centuries of philosophy, ecological issues gained more and more interest among philosophers. The role of philosophy boiled down to providing a comprehensive understanding of nature and place of man in it (Gare, 2018). C. Glacken in his published in 1967 but still important book points out that ecological ideas appearing in European philosophy since ancient times mainly concerned three issues: the idea of a designed earth, the idea of environmental influence, and the idea of man as a geographic agent (Glacken, 1967). The ideas developed by philosophers of different eras concerned, in the most general sense, the relationship of culture to the environment. Getting rid of the anthropocentric way of thinking was not easy even for the brilliant minds like Descartes or Leibniz. This leads to the thesis that

the decisive factor here was not so much the genius of a given individual but the spirit of the era. In short, the development of ecological thought was rather evolutionary than revolutionary.

Modern science, which emerged from philosophy during the Renaissance, and the direction of technological development that modern societies underwent was done with the specific goal of conquering nature. At that time, the anthropocentrism of classical Greek humanism, whose main representatives were Plato and Aristotle, had already been absorbed by Christian doctrine. However, technological development caused people to start paying attention to the impact they had on the surrounding environment. Ecological awareness was born, on the one hand, under the influence of certain evolving philosophical and theological views, and on the other hand, it was the result of scientific and technological progress.

**Table 2.** *Philosophical perspectives of wellbeing and their insights into sustainable development* 

School/	Type of	Wellbeing Obtained Through	Contribution to the concept of
Perspective	Wellbeing		sustainable development
Aristotle	Eudaimonic	Virtue is a necessary but not	Virtue is the most important element to
		sufficient element of a happy life	achieve balanced ideals. It is acquired
		(eudaimonia). In addition to virtue,	through knowledge. Everyone is
		material goods, health, and	obligated to build a social order based on
		education are also necessary.	virtue.
Stoicism	Eudaimonic	Virtue is the only necessary and	Zeno's Republic of Sages, as an ideal
		sufficient means by which one can	Stoic city represents a collective vision
		experience eudaimonia. Everyone	of eudaimonia. It had "Communistic"
		has the capacity to achieve virtue.	elements, derived from his philosophical
		Material goods are good or bad	view of belonging to the community as
		depending on how they are used.	a whole and the moral obligation one has
		Virtue is an end in itself.	within it to behave virtuously.
Epicurean	Hedonic	The basic principle is the rational	A happy life is a life of rationally
		maximization of pleasure and	experiencing pleasure. This involves
		minimization of pain. The way to	social isolation and a focus on simple
		achieve this is social isolation,	pleasures, which is consistent with the
		austerity, and avoidance of public	principles of sustainable development.
		life.	
Cyrenaic	Hedonic	Pleasures of the past, present and	The Cyrenaic view is the antithesis of
		future. Pain is to be avoided.	sustainable development. If every
		One should strive to achieve the	individual were to seek to maximize
		greatest possible pleasure.	their own well-being through the
		The Cyrenaics reject the dominant	unfettered accumulation of material
		Greek concept of eudaimonia,	goods without concern for what truly
		which is the ultimate goal of life.	constitutes well-being, humanity could
			not survive.
Platonic/	Ascetic	Union with Divine Consciousness,	The Platonic and Neoplatonic traditions
Neoplatonic		eudaimonia identified with	see the path to true happiness in
		deification.	a philosophical life and an arduous effort
			at moral improvement. The call to
			an ascetic lifestyle assumes, among other
			things, limiting material needs and
			a consumerist lifestyle.
Materialistic	Material	The acquisition of money,	Strong focus on materialistic aims,
		possessions, and status.	quality of life and self-actualization.

Source: own elaboration based on: Whiting et al., 2018.

The views of the main trends in European philosophy presented in the table above show that elements of reflection that can be called ecological occur in various philosophical traditions since ancient times. Although environmental destruction is a relatively new problem facing humanity, it turns out that many centuries earlier one can observe manifestations of rational reflection on possible threats (Pereira, Funtowicz, 2015). To some extent one can say that theoretical reflection has outpaced the real effects of human activity related to environmental exploitation. Ecological motives were manifested in philosophical reflection, especially in ethical systems.

# 5. Ecological movement in Christianity

The issue of the influence of Christianity on the ecological movement is the subject of many analyses (Hampton, Hedley, 2022; Lea, 1994; Poungpet, 2023; Purwanto, Silalahi, 2024; Tabalaka, 2023). Christian beliefs and practices in the discussed topic are based on the concept of stewardship. This concept includes responsibility for the natural environment and sustainable use of its resources. This results from the biblical teaching about the creation of the world by God, who entrusted man with the role of steward: "The Lord God took the man and put him in the Garden of Eden to work it and take care of it" (Genesis, 2:15). Ecological themes appear throughout the Bible. In the Old Testament, we can point to Psalm 104, where we find a description of the natural world created by God, or Prov. 12:10, where we read: "A righteous man regards the life of his beast". There are, of course, more similar passages in the Old Testament. In the New Testament, we can point to some of Jesus' statements in which He points to the beauty of nature or the superior role of man (Mt. 6:26-29). The Apostle Paul, perhaps under the influence of Stoic anthropocentrism, includes the whole of creation in God's plan of salvation (Rom. 8.21-23).

B. Poungpet notes that stewardship is an important concept in Christianity, especially in relation to the environment (Poungpet, 2023). In Christian theology, stewardship refers to the responsibility God has given humans to care for the natural world and all its living things, and has its roots in the Bible's creation story. Stewardship means managing and conserving natural resources, promoting biodiversity, and protecting the environment from pollution and other forms of degradation" (Poungpet, 2023, pp. 76-77). Some point to the Church Fathers as the forerunners of ecological thinking. In Irenaeus, for example, there is the idea of the entire cosmos as renewed at the end of time. Ecological threads can be found, among others, in the writings of Basil the Great, Chrysostom, Ambrose, or Theodoret (Stander, 2000). The themes outlined above have been developed throughout the long history of Christianity. The problem of the relationship of man as a steward to the natural environment is also a theological issue. However, it is a separate problem for many reasons and cannot be analyzed in this text.

In the Middle Ages, just as in the first centuries, Christian ecological views were based on the belief that nature, as created by God, is good and that humans have a duty to steward and care for it (Carl, 2020). This view, typical for Christian thought, reflects an understanding of stewardship as a divine command. There is no consensus among scholars as to the contribution of the most outstanding medieval Christian philosopher Thomas Aguinas to the development of ecological thought. Some accuse Aquinas of extreme anthropocentrism (Singer, 2004; Linzey, 2016). They claim that Thomas did not grant animals any rights and people no moral responsibility towards them. There are also defenders of Aquinas' ecological sensitivity (French, 1993). Leaving aside the detailed discussions, the essence of Thomas's thought is the view that animals are not moral subjects because they do not possess a rational soul and are therefore incapable of achieving the happiness that Aquinas identifies with the contemplation of God. It seems that Thomas Aguinas's position is accurately summarized by R. McLaughlin who states: "In short, for Aquinas, moral concern must be directed to human welfare, which is ultimately directed toward God. Any attempt either to ascribe direct moral concern to nonhuman animals or unhinge what is ultimately an eco-theological ethics of anthropocentric conservation would render central claims of Aquinas' theological framework incoherent. Ultimately, Aguinas provides a powerful resource to expand our concern for the welfare of the nonhuman creation within the borders of an anthropocentric conservation in which indirect moral concern grounds this expansion. If one seeks to move beyond these borders, however, one will have to move beyond Aquinas to other voices in the Christian tradition" (McLaughlin, 2012, p. 97).

In modern times, the attitude of Christianity towards ecological issues has become much more complicated. This was influenced by the fact that, especially after the rise of Protestantism, various trends appeared in Christian theology and ethics, but also by significant changes caused by the ongoing development of science and technology. The problem with an unambiguous assessment of the attitude of Protestantism towards ecology stems from the fact that it is not a monolithic movement (Cobb, 2003). In general, it should be recognized that Protestantism, like all Western Christianity, is anthropocentric. As in Christianity as a whole, an evolution of views on environmental ethics and attitudes towards sustainable development can also be observed within Protestant churches. Research conducted by twentieth-century Protestant theologians, historians and ethicists emphasizes that the notion of grace and the models of gifting implied by it play an important role in the shaping of the idea of ecology. Grace gives rise to a sense of gratitude towards all those creatures to whom we owe something (Keller, 2016).

Ecological motives play an important role in the teaching of recent popes. John Paul II wrote: "In our day, there is a growing awareness that world peace is threatened not only by the arms race, regional conflicts and continued injustices among peoples and nations, but also by a lack of due respect for nature, by the plundering of natural resources and by a progressive decline in the quality of life (...) Faced with the widespread destruction of the environment,

people everywhere are coming to understand that we cannot continue to use the goods of the earth as we have in the past" (Pope John Paul II, p. 230). Currently, Christianity even calls for spiritual, anthropological and ecological conversion. An important step towards environmental ethics was the encyclical entitled *Laudatio Si*, published by Pope Francis in 2015. We read in the encyclical: "The urgent challenge to protect our common home includes a concern to bring the hole human family together to seek a sustainable and integral development, for we know that things can change" (Francis, 2015, no. 13). Due to the influence of the Pope's teaching on Christians around the world, this document should be considered an important contribution to the development of the concept of sustainable development and ecological awareness (Francis, 2022).

It can be stated that now Christianity is part of the ecological current dominating in the West. Evidence of the ecological commitment of contemporary Christianity can also be found in new concepts such as eco-theology or animal-theology (Bauman, 2011). M. Eaton points out that the trend called eco-theology has its source in the writings of Christian Neoplatonists such as Nicholas of Cusa and Giordano Bruno (Eaton, 2024). It is worth remembering that much of the development of Christian philosophy, ethics and theology overlaps in scope with the philosophical tradition of the West as such. In other words, it is its integral part.

### 6. Results and Discussion

After tracing the concept of sustainable development in its historical evolution, the question arises: do we now fully realize the true meaning of this concept and its implications? Historical research can also provide answers to another important question: what caused the emergence of this concept. There are various ways of presenting the history of humanity. One of them is the description of the relations between humans and the environment in which they live. The origins of this approach can be found in the history of the West already in Greek thought. Of course, Greek thinking about nature was completely different from modern one, especially when it comes to understanding the mechanisms of nature (Gregory, 2020). Ecological thinking and reflection on the relationship of humans to the environment in which they live has changed in much the same way as scientific views on the nature of the world have changed.

One of the concepts preceding the ecological movement that saw the need or even necessity for sustainable development was the concept of progress. The idea of progress is multidimensional and raises many questions. From the point of view of the subject considered in this article, the most important seems to be scientific progress. Its most common version is the cumulative conception of progress according to which, as scientific research is conducted, the amount of knowledge increases. The cumulative concept of progress found its critics in the twentieth century. One of them was T. Kuhn, according to whom scientific progress is made

not through evolution but through a change of paradigm (Kuhn, 1997). This concept is today more of a history of science than a seriously discussed idea. However, it has played an important role as one of the attempts to understand the nature and mechanisms of scientific progress (Ogundele, Ogunyomi, 2020). In the twentieth century there were also other concepts trying to explain the essence and development of science formulated by K. Popper, I. Lakatos or P. Feyerabend (Popper, 2005; Lakatos, Feyerabend, 2019). Scientific progress is, of course, accompanied by technological one. Both of these factors affect people's lives. A prerequisite for everyone to benefit from the development of scientific knowledge, however, is access to technological achievements.

The analysis of the development of the idea of progress entitles you to state that the difference between the idea of progress or at least the vision of history between the ancient and the modern people is that they placed their "golden age" in the past, while our thinking is focused on the future (Inge, 2023). Since the 1970s, the idea of progress has found its exemplification in the concept of sustainable development. The contemporary concept of sustainable development is therefore an embodiment of the idea of progress understood as such a relationship between man and various elements of the natural environment that realizes or even enables development in various areas of human activity.

Philosophy is, as we know, one of the pillars of European culture. Many concepts in the field of science, art, economics, and politics have their source in philosophical reflection. The same applies to the concept of sustainable development. Although this was not the purpose of the considerations contained in this article, it is worth noting that the title concept is based on some philosophical assumptions. One of them, for example, is the assumption of the ethical importance of the entire biosphere. An attempt to understand the roots of the title concept forces us to trace its philosophical antecedents. On the other hand, the concept of sustainable development itself can be treated as a kind of "holistic philosophy" (Molotokienė, 2024). The latter term should be understood in both a historical and systematic aspect. It is therefore about examining, on the one hand, the history of philosophical concepts that create the idea of sustainable development and, on the other, the metaphysical or axiological assumptions that constitute it.

The concept of sustainable development is multidimensional. In this article, we have focused on its evolution, omitting other important threads such as the principles of this development or the political, economic and social challenges associated with its implementation. In light of the conducted literature review, it turns out that the contemporary understanding of this concept was shaped in a long process of creation of concepts, both in secular and religious grounds. As Hariram et al. (2023) write: "The world's ancient cultures combine worship and religious convictions with environmental preservation, which calls on people to take care of the planet and keep it in good condition" (p. 1).

An important aspect of the development of ecological issues is also the issue of human rights. The concept of human rights is essentially a product of European culture and especially democracy (Orbik, 2019). The relationship between human rights and development has long been the subject of discussion (Arts, 2017). However, there is even no need to justify the thesis that it is difficult to talk about sustainable development in the case when basic human rights are violated. The issue of human rights itself can be treated as an important indicator of civilizational progress.

Reflections on environmental ethics can also be found in Christianity from its beginnings. In general, it should be stated, however, that the attitude of Christianity or, more broadly, the Judeo-Christian tradition towards ecological issues is complicated. In the sense that, despite the clearly outlined biblical anthropocentrism, we also find many passages in the Bible that can be considered groundbreaking in relation to the contemporary perspective of environmental ethics. It is worth mentioning that there are also views criticizing Christianity for supporting the massive exploitation of natural resources (Abdi, Pardamean, 2019; White, 1967; Rodd, 2001). An area particularly susceptible to ecological issues is Christian ethics. The problem of the relationship of man as a steward to the natural environment also concerns theology. However, this is a separate issue concerning doctrinal matters.

The contribution of Christianity to ecological thought is aptly summed up by Purwanto and Silalahi who write: "Historical perspectives on Christianity and ecology reveal a complex and evolving relationship that is both controversial and collaborative. Historically, Christianity has often been accused of contributing to ecological degradation, as seen in the debate sparked by Lynn White Jr.'s 1967 article, which criticized Western Christianity for its role in the modern ecological crisis (Abdi, Pardamean, 2019). However, this view is challenged by the recognition that within the Christian tradition, there are rich resources for ecological thought and practice" (Purwanto, Silalahi, 2024, p. 163). Taking into account the Judeo-Christian tradition in all its historically rich development, it should be stated that it constitutes a valuable contribution to the development of the concept, the culmination of which is the idea of sustainable development and which sees man as a responsible steward. Of course, an accurate reconstruction of the development of ecological ideas in the Judeo-Christian tradition requires further research.

In the most general terms, it should be noted that ecological thinking and reflection on the relationship of man to the environment in which he lives have changed in a similar way to the changes in scientific views on the nature of the world. The ecological movement should not be treated as some isolated set of views. It is rather an integral part of the rational attitude of humanity towards the world and human place in it. C. Harper, discussing the relationship between religion, science and ecology, notes:" The relationship between religion and environmentalism surely emerged as a subset of the relationship between religion and science" (Harper, 2008, p. 6). One should remember that all these areas are a product of humans and reflect human awareness of both themselves and the environment in which they live.

# 7. Summary

The concept of sustainable development is a complex construct that has undergone some evolution. The idea of sustainable development as we understand it today arose in the nineteenth century and was fully developed in the twentieth century. The beginning of ecological thinking underlying this concept can be traced back in Western tradition to ancient Greek philosophy.

Judaism and Christianity also played an important role in shaping the relationship between man and nature. Although the considerations contained in this text are limited to Western culture, it is worth mentioning that ecological motives also appear in many Eastern religions such as Buddhism, Hinduism and Islam. In general, the great religions raise the issue of the relationship between man and nature.

The attempt to take a historical look at the evolution of the concept of sustainable development also results from the fact that concepts and notions are subject to an evolution analogous to that which concerns material objects. The term "sustainable development" appeared for the very first time in the seventeenth century. This concept was developed in the following centuries. However, it was only in the 1970s that it gained a global dimension.

The antecedents of the title concept are the notions of progress and environmental ethics. These concepts have source in philosophical reflection but also in theological disputes. They are also present, as mentioned above, in all world religions. In Western culture, ecological consciousness on the one hand, under the influence of certain evolving philosophical and theological views, and on the other, it was the result of scientific and technological progress.

The formation of the idea of sustainable development occurred, as stated above, as a result of centuries of evolution. The emergence and development of science and the accompanying technological progress aimed at conquering nature and making it subservient to man which have led over time to the degradation of the biosphere. In modern times, the concept of sustainable development has replaced the idea of progress that has been developed over the centuries in various understandings. The concept of sustainable development is not only the result of theoretical reflection on the development of humanity, but has also become a necessity and a condition for any further progress of humanity.

# References

- 1. Abdi, M.R., Pardamean, F.G. (2019). Christianity and Ecology a Critical Study on the Contribution of Sda Theology Toward Ecology. *Jurnal Kawistara*, *8*(*3*), 275. https://doi.org/10.22146/kawistara.29789.
- 2. Andersson, A., Hatakka, M. (2023). ICT4D and the sustainable development goals: A road well-traveled. *Information Technology for Development, 29(1)*, pp. 1-8.
- 3. Aristotle (2001). *Politics*. In: R. McKeon (ed.), *The Basic Works of Aristotle* (pp. 1127-1324). New York: The Modern Library.
- 4. Arts, K. (2017). Inclusive sustainable development: a human rights perspective. *Current Opinion in Environmental Sustainability*, 24, pp. 58-62.
- 5. Asper, M. (2013). Making Up Progress—in Ancient Greek Science Writing. In: M. Asper (ed.), *Writing Science. Mathematical and Medical Authorship in Ancient Greece* (pp. 411-430). Berlin: de Gruyter.
- 6. Attfield, R. (2019). Some ancient philosophical and religious roots of modern environmentalism. *Ecology and Theology in the Ancient World*, pp. 75-90.
- 7. Attfield, R. (2021). Environmental thought: a short history. John Wiley & Sons.
- 8. Bauman, W. (2011). Ecology and Contemporary Christian Theology. *Religion compass*, *5*(8), pp. 376-388.
- 9. Blühdorn, I., Welsh, I. (2013). Eco-politics beyond the paradigm of sustainability: A conceptual framework and research agenda. *The Politics of Unsustainability*, pp. 1-21.
- 10. Borlik, T.A. (2022). Renaissance Literature and the Environment. In: *Oxford Research Encyclopedia of Literature*. https://doi.org/10.1093/acrefore/9780190201098.013.1311
- 11. Boulding, K.E. (2013). The economics of the coming spaceship earth. In: *Environmental quality in a growing economy* (pp. 3-14). RFF Press.
- 12. Brudtland Report of the World Commission on Environment and Development: Our Common Future. http://un-documents.net/our-common-future.
- 13. Burkert, W. (1997). Impact and limits of the idea of progress in antiquity. In: A. Burgen, P. McLaughhlin, J. Mittelstraβ (eds.), *The idea of progress* (pp. 19-46). Berlin: Walter de Gruyter.
- 14. Cantor, G. (2012). Science, providence, and progress at the Great Exhibition. *Isis*, 103(3), pp. 439-459.
- 15. Caradonna, J.L. (Ed.) (2017). *Routledge handbook of the history of sustainability*. London: Routledge.
- 16. Carl, B.T. (2020). Thomas Aquinas on the Proportionate Causes of Living Species. *Scientia et Fides*, 8(2), pp. 223-248.
- 17. Carson, R. (1962). Silent spring III. New Yorker, 23.

18. Cavanaugh, W.T., Scott, P.M. (Eds.) (2019). Wiley Blackwell companion to political theology. John Wiley & Sons.

- 19. Chemhuru, M. (2017). Elements of environmental ethics in ancient Greek philosophy. *Phronimon*, 18(1), 15-30.
- 20. Coates, P. (2013). Nature: Western attitudes since ancient times. John Wiley & Sons.
- 21. Cobb, J.B. (2003). Protestant theology and deep ecology. In: *This Sacred Earth* (pp. 248-261). Routledge.
- 22. Coman, B. (2006). Whose Environment is it? Some Reflections on Modern Environmental Philosophy. *National Observer, no. 68, Autumn.* Melbourne: Council of the National Interest, pp. 55-62.
- 23. Comte, A., Bridges, J.H. (2015). A general view of positivism. Routledge.
- 24. Cooper, D.E. (2001). Aristotle 384-322 BCE. In: J.A. Palmer (ed.), *Fifty Key Thinkers on the Environment* (pp. 12-17). London/New York: Routledge.
- 25. Daly, H.E. (1995). On Wilfred Beckerman's critique of sustainable development. *Environmental Values*, *4*(1), pp. 49-55.
- 26. Dodds, E.R. (1985). *The ancient concept of progress and other essays on Greek literature and belief.* Clarendon Press.
- 27. Du Pisani, J.A. (2006). Sustainable development–historical roots of the concept. *Environmental sciences*, *3*(2), pp. 83-96.
- 28. Eaton, M. (2024). Christian Neoplatonism and Deep Incarnation: Nicholas of Cusa and Giordano Bruno as Inspirations for Contemporary Ecotheology. *Religions*, *15*(3), 374.
- 29. Edelstein, L. (2019). The idea of progress in classical antiquity. JHU Press.
- 30. Erck, S. (2022). The ecological sustainability of Plato's Republic. *Polis: The Journal for Ancient Greek and Roman Political Thought, 39(2)*, pp. 213-236.
- 31. Francis, Encyclical Laudatio Si (2015). http://w2.vatican.va/content/francesco/en/encyclicaLS/documents/papa francesco 20150524 enciclicalaudato-si.html
- 32. Francis, P. (2022). Laudato Si: on care for our common home. Energy Law Journal, 37, 79.
- 33. French, W. (1993). Beast Machines and the Technocratic Reduction of Life. In: Ch. Pinches, J.B. McDaniel (eds.), *Good News for Animals? Christian Approaches to Animal Well-Being* (pp. 24-43), New York: Orbis.
- 34. Fukuyama, F. (1992). The end of history and the last man. New York: The Free Press.
- 35. Gare, A. (2018). Ethics, philosophy and the environment. *Cosmos and History: The Journal of Natural and Social Philosophy, vol. 14, no. 3,* pp. 219-240.
- 36. Glacken, C.J. (1967). Traces on the Rhodian shore: Nature and culture in Western thought from ancient times to the end of the eighteenth century (Vol. 170). University of California Press.
- 37. Gregory, A. (2020). Early Greek Philosophies of Nature. London: Bloomsbury.
- 38. Habash, J. (2016). *Early Greek philosophy and the discovery of nature*. PhD Dissertation. USA: Duquesne University.

- 39. Hajian, M., Kashani, S.J. (2021). Evolution of the concept of sustainability. From Brundtland Report to sustainable development goals. *Sustainable resource management*. Elsevier, pp. 1-24.
- 40. Hampton, A.J., Hedley, D. (Eds.) (2022). *The Cambridge Companion to Christianity and the Environment*. Cambridge University Press.
- 41. Hardin, G. (1968). The tragedy of the commons: the population problem has no technical solution; it requires a fundamental extension in morality. *Science*, *162*(*3859*), pp. 1243-1248.
- 42. Hariram, N.P., Mekha, K.B., Suganthan, V., Sudhakar, K. (2023). Sustainalism: An integrated socio-economic-environmental model to address sustainable development and sustainability. *Sustainability*, *15(13)*, 10682.
- 43. Harper, C.L. (2008). Religion and environmentalism. Supplement. *Journal of Religion & Society, 3*, pp. 5-26.
- 44. Hegel, G.W.F. (1861). Lectures on the Philosophy of History. G. Bell and Sons.
- 45. Hegel, G.W.F., Miller, A.V., Findlay, J.N. (1977). *Phenomenology of spirit (Vol. 632)*. Oxford: Oxford University Press.
- 46. Inge, W.R. (2023). The Idea of Progress. Oxford University Press.
- 47. Initiative, E.C. (2000). *The earth charter*. Retrieved from: https://www.lucistrust.org/content/download/2217/26957/file/earth charter.pdf, May 6, 2006.
- 48. Keller, C. (2016). *Toward a 'Better Worldliness': Ecology, Economy and the Protestant Tradition*. Doctoral dissertation. Drew University. https://digitalcollections.drew.edu/UniversityArchives/ThesesAndDissertations/CSGS/PhD/2016/Rowe/openaccess/TTSRow e.pdf
- 49. Kuhlman, T., Farrington, J. (2010). What is sustainability? *Sustainability*, *2(11)*, pp. 3436-3448.
- 50. Kuhn, T.S. (1997). *The structure of scientific revolutions (Vol. 962)*. Chicago: University of Chicago press.
- 51. Lakatos, I., Feyerabend, P. (2019). For and against method: including Lakatos's lectures on scientific method and the Lakatos-Feyerabend correspondence. University of Chicago Press.
- 52. Lea, D.R. (1994). Christianity and Western attitudes towards the natural environment. *History of European ideas, 18(4),* 513-524.
- 53. Linzey, A. (2016). Christianity and the Rights of Animals. Wipf and Stock Publishers.
- 54. Lloyd, G. (2009). Providence as progress: Kant's variations on a tale of origins. In: *Kant's Idea for a Universal History with a Cosmopolitan Aim: A Critical Guide* (pp. 200-215). Cambridge University Press (CUP).
- 55. Löwith, K. (1949). Meaning in History. Chicago/London: The University of Chicago Press.
- 56. Mahoney, J. (2021). The logic of social science. Princeton University Press.

57. Marchetti, C. (1977). *On Progress and Providence*. https://pure.iiasa.ac.at/id/eprint/745/1/PP-77-010.pdf

- 58. McKusick, J.C. (2013). John Evelyn: the forestry of imagination. *The Wordsworth Circle*, *44(2-3)*, pp. 110-114.
- 59. McLaughlin, R.P. (2012). Thomas Aquinas' eco-theological ethics of anthropocentric conservation. *Horizons*, *39*(1), pp. 69-97.
- 60. Meadows, D.H., Randers, J., Meadows, D.L. (2013). The limits to growth (1972). In: *The future of nature* (pp. 101-116). Yale University Press.
- 61. Molotokienė, E. (2020). A Philosophical Analysis of the Concept of Sustainable Development. *Regional Formation & Development Studies*, 31(2).
- 62. Morgan, D.R. (2015). The dialectic of utopian images of the future within the idea of progress. *Futures*, 66, pp. 106-119.
- 63. Mouzakitis, A. (2017). Modernity and the Idea of Progress. Frontiers in Sociology, 2, 3.
- 64. Ngalande, S. (2011). A logical analysis of selected texts in Nyanja. *African Study Monographs*, 32(3), pp. 91-109.
- 65. Ngulube, P., Mathipa, E.R., Gumbo, M.T. (2015). Theoretical and conceptual frameworks in the social and management sciences. In: E.R. Mathipa, M.T. Gumbo (eds.), *Addressing Research Challenges: Making Headway for Developing Researchers* (pp. 43-66). Noordwyk, South Africa: Mosala-MASEDI.
- 66. Nisbet, R. (2017). History of the Idea of Progress. Routledge.
- 67. Ogundele, E.A., Ogunyomi, A.I. (2020). A Critical Assessment of Thomas Kuhn's Understanding of Scientific Progress.
- 68. Orbik, Z. (2016). Humanistic dimension of business ethics. Business Ethics and Sustainable Development. *Interdisciplinary Theoretical and Empirical Studies*, *2*, pp. 93-103.
- 69. Orbik, Z. (2019). Human rights in the light of the concepts of natural law. *Scientific Papers of Silesian University of Technology. Organization and Management Series, no. 140*, pp. 275-284.
- 70. Peregrin, J., Svoboda, V. (2017). Reflective equilibrium and the principles of logical analysis: Understanding the laws of logic. Taylor & Francis.
- 71. Pereira, A.G., Funtowicz, S. (2015). *Science, Philosophy and Sustainability. The End of the Cartesian dream*. London.
- 72. Plato, P. (2019). Timaeus. BoD-Books on Demand.
- 73. Pope John Paul II. (1996). The ecological crisis: a common responsibility. In: R. Gottlieb (ed.), *This sacred Earth: religion, nature, and environment* (pp. 230-237). New York: Routledge.
- 74. Popper, K. (2005). The logic of scientific discovery. Routledge.
- 75. Post, R. (2022). Environment, sustainability, and Hellenic studies. *The Journal of Hellenic Studies*, *142*, pp. 317-333. https://doi.org/10.1017/S0075426922000143.

- 76. Poungpet, B. (2023). Comparative Studies on the Concept of Environment in Buddhism and Christianity.
- 77. Purwanto, E., Silalahi, F.H. (2024). Christianity and Ecology in Historical and Ethical Contexts. *TELEIOS: Jurnal Teologi dan Pendidikan Agama Kristen, 4(2),* pp. 160-171.
- 78. Rodd, C.S. (2001). Glimpses of a Strange Land: Studies in Old Testament Ethics. Edinburgh: T.&T. Clark.
- 79. Sachs, J.D. (2015). The age of sustainable development. Columbia University Press.
- 80. Sayers, S. (2020). Marx and progress. *International Critical Thought*, 10(1), 18-33.
- 81. Shi, L., Han, L., Yang, F., Gao, L. (2019). The evolution of sustainable development theory: Types, goals, and research prospects. *Sustainability*, *11*(24), 7158.
- 82. Singer, P. (2004). Animal liberation. In: *Ethics: Contemporary Readings* (pp. 284-292). Routledge.
- 83. Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of business research*, *104*, pp. 333-339. https://doi.org/10.1016/j.jbusres.2019.07.039.
- 84. Spencer, H. (1891). Progress: its law and cause. In: *Essays: scientific, political, and speculative, Vol. I* (pp. 8-62). London: Williams and Norgate. https://nbn-resolving.org/urn:nbn:de:0168-ssoar-59887-6
- 85. Stander, H.F. (2000). Ecology and the church fathers. *Acta patristica et byzantina*, 11(1), pp. 167-176.
- 86. Tabalaka, A. (2023). Christianity and Ecology. *Religion and Development, 2(1),* pp. 149-154.
- 87. Wagner, P. (2016). *Progress: A Reconstruction*. John Wiley & Sons.
- 88. Weder, F. (2023). The evolution of the sustainability story: Strategic sustainability communication as niche construction. *International Journal Of Strategic Communication*, 17(3), pp. 228-244.
- 89. White, L. Jr. (1967). The Historical Roots of our Ecologic Crisis. *Science*, 155, pp. 120-307.
- 90. Whiting, K., Konstantakos, L., Carrasco, A., Carmona, L.G. (2018). Sustainable development, wellbeing and material consumption: A stoic perspective. *Sustainability*, 10(2), 474.
- 91. Wilderer, P.A. (2007). Sustainable water resource management: the science behind the scene. *Sustainability Science*, *2*(1), pp. 1-4. https://doi.org/10.1007/s11625-007-0022-0
- 92. Woodell, S.R.J. (1972). Blueprint for survival. *Nature*, 235(5334), p. 179.
- 93. World Wildlife Fund (1980). World conservation strategy: Living resource conservation for sustainable development. Gland, Switzerland: IUCN.