

The idea of *landscape cultivation* by Adam Wodziczko

Idea uprawy krajobrazu Adama Wodziczki

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Abstract

The article presents the concept of *landscape cultivation* of Adam Wodziczko, a Polish naturalist and propagator of environmental protection in Poland in the 1920s and 1940s. It demonstrates the importance of his idea of the contemporary trend of *landscape ecology*; his merits in the field of building the basics of the science of nature conservation; and the role he played in nature conservation in Poland.

Key words: history of Polish ecological thought, *landscape cultivation*, landscape ecology, nature protection, the science of nature conservation, Adam Wodziczko

Streszczenie

Artykuł prezentuje koncepcję *uprawy krajobrazu* Adama Wodziczki, polskiego przyrodnika i propagatora ochrony środowiska naturalnego w Polsce w latach 20-40 XX stulecia. Ukazuje znaczenie jego idei dla współcześnie popularnego nurtu *ekologii krajobrazu*; zasługi, jakie położył w zakresie budowy podstaw nauki o ochronie przyrody; oraz rolę, jaką odegrał w Polsce na gruncie ochrony przyrody.

Słowa kluczowe: ekologia krajobrazu, historia polskiej myśli ekologicznej, nauka o ochronie przyrody, ochrona przyrody, *uprawa krajobrazu*, Adam Wodziczko

The beginnings of the Polish thought concerning care for the natural environment date back to the end of the 19th century. They are related to the creation of numerous organisations and associations in Cracow and Lviv at that time whose objective was to popularise the idea of environmental protection. At the beginning of the 20th century, the first theoretical concepts in this respect were formulated. Their authors were Marian Raciborski and Jan Gwalbert Pawlikowski (Gawor, 2018). From that moment on,

the state of nature subjected to pressure from man became the object of reflection for many Polish naturalists and those who were passionate about providing special care to nature. Eminent thinkers and activists in this field included Walery Goetel (Gawor, 2013), and subsequently Julian Aleksandrowicz (Gawor, 2016) or Henryk Skolimowski (Gawor, 2012). Undoubtedly, a prominent place among these persons was occupied by Adam Wodziczko¹, a naturalist and a professor of botany at the University of

¹ Adam Wodziczko (1887-1948) attended gymnasiums in Sanok, Tarnów, Cracow and Jasło. Later, in the years 1906-1910, he studied natural sciences at the Jagiellonian University. In 1912, he became an assistant professor in the Chair of Plant Anatomy and Physiology at the Jagiellonian University, where he taught general botany. In 1916, he was awarded a doctoral degree in botany. In the years 1915-1918, he served in the Austrian army as a microbiologist. In December 1919, he took up the position of a deputy professor of plant anatomy and physiology at the Agricultural University in Bydgoszcz. In autumn 1920, he became a deputy professor and the head of the Institute of Botany at the University of Poznań. In 1921, he was

awarded the habilitation degree at the Faculty of Philosophy at the Jagiellonian University. Between 1924 and 1948 (excluding the period of the Second World War), he performed the function of the director of the Botanical Garden in Poznań. In 1925, he was appointed to the position of an associate professor at the Faculty of Mathematics and Natural Sciences at the University of Poznań. In 1936, he was awarded the title of full professor of plant anatomy and physiology. In 1938, he initiated the activities of the Interfaculty Seminar in Biocenology and Environmental Protection. After the Second World War broke out, he was deported to the General Government with his family. In March 1945, he came back to Poznań. Thanks to his ef-

Poznań. In Poland of the interwar period and the years right after the war, he was a scientist of great and uncontested authority as an expert on nature conservation (Szafer, 1973; Leńkowa, 1986; Skowroński, 2005).

In 1946, Wodziczko published a short book entitled *Na straży przyrody* (*Guarding nature*; Wodziczko, 1967). It was a summary of the ideas concerning environmental protection, which constituted one of the main areas of his academic activities, apart from botany, in the years preceding the Second World War (Wodziczko, 1924-1939).

According to the Polish scientist, the environmental protection movement is of dynamic character; its objectives and tasks have been evolving since the moment of its creation in the mid-19th century, giving rise to various concepts. From this point of view, he distinguished three stages in the development of thought concerning nature protection to date, with their particular distinctive theoretical constructions. The Polish scientist dates the first stage at the first 25 years of the 20th century. It is characterised by understanding environmental protection as an activity which is limited only to the remnants of pristine nature, referred to as natural monuments. The guiding idea of this stage of nature conservation thought is natural conservation or natural monuments studies (Wodziczko, 1967, p. 8), based on an analogy to historical monuments. Just as souvenirs and monuments of the past are cherished, precious testimonies of pristine nature should be treated the same, as they are a value in themselves. With respect to his, attention was mainly drawn to larger natural areas, unaffected by human intervention and protected by creating nature reserves and national parks. But most of all, protection should be given to all rare elements of nature (unusual rock formations, picturesque waterfalls, old tree specimens). What is striking at this stage of environmental protection is the lack of an appeal for repairing the damages inflicted on nature by humans; no emphasis is placed on active restitution of the areas of nature which have already been destroyed. Therefore, *nature conservation* is quite an accurate name for this stage of development of the idea of environmental protection. The leading representatives of *natural museology* in Europe at that time included the Prussian natural scientist, a promoter of the idea of national parks, the creator of the first European Office of Nature Conservationist, established in 1906 in Gdańsk, Hugo Conventz; while in Poland – the pioneer of the idea of protecting native nature, the most prominent Polish scientist in bi-

ology of the end of the 19th and the beginning of the 20th century, a botany professor at the University of Lviv and the Jagiellonian University, Marian Raciborski.

The second stage of shaping the nature protection thought concerns the interwar period. In this period, which Wodziczko calls *biocenologic* (*life, in Greek: bio + ceno-, from Greek koinosis = community*), *scientists' attention and concern in implementing the plans of protective activities are focused around the communities of plants and animals existing in nature. In this case, it is no longer just about protecting small remnants of wild nature, but mostly about preserving entire organised systems. (...) In the light of research it was demonstrated that the methods of farming, forest and water management to date, impoverishing original biocenoses and upsetting their natural balance, are detrimental in the long term* (Wodziczko, 1967, p. 8). What the Polish scientist has in mind, then, is the emergence in protective activities of the awareness of the fact that nature functions within homeostatic ecosystems. They are exemplified by nature reserves, national parks or protected areas. Moreover, he believes that there is a growing perception of the detrimental effect that unreasonable human economic activities have on nature, though for utilitarian reasons it is unavoidable. Thus, he writes that practical environmental protection in this period *mainly amounts to economic-protective activities which through the use of economic methods referring to the functioning of natural biological factors, or more 'biological' methods, strive to preserve the wealth and variety of forest, meadow, soil and water biocenoses, and to retain their ability to self-regulate, so that the forces operating within these biocenoses can be used for human benefit* (Wodziczko, 1967, p. 9). It is worth pointing out here that in the above-mentioned context Wodziczko was the first naturalist in the country who drew attention to the economic significance of environmental protection. He was convinced that nature will always provide sustenance for people, but under the condition that its balance will not be upset and human economic activity in this sphere will be rational. Such a perspective is nowadays called *green economy*. According to Wodziczko, the way to achieve the objectives of this stage of environmental protection are all those activities which are intended to change people's attitude towards nature. Among them, he includes e.g. the promotion of the biocenologic concept (by Liga Ochrony Przyrody, or the League for the Preservation of Nature, created in 1927, as well

forts, the first independent Department of Environmental Protection and Landscape Cultivation in Poland was established in 1945 at the Chair of General Botany at the University of Poznań. Wodziczko was the leading populariser of the idea of environmental protection in the interwar period. For his achievements in scientific research in botany, his name was given to a newly-discovered fungus *Protomyces wodziczkoii*. Wodziczko's significant contribution to

the Polish environmental thought is the idea of *landscape cultivation*. He was the first person in Poland to give academic lectures in environmental protection referred to as *physiotactics* – a new branch of science he postulated, concerned with shaping man's appropriate attitude to the natural environment. He was the author of over 200 scientific papers and articles on conservation. (Łobarzewska A., 1981).

as by tourist and sightseeing associations), disseminating the idea of environmental protection in primary school education (this idea was present in the education system since 1933), as well as teaching about the principles of *Nature Protection Act*, passed on 10 March 1934 and innovative on a European scale. The most important representative of the biocenologic direction in environmental protection in Poland was, according to him, Jan Gwalbert Pawlikowski, a social animator and a co-creator of the above-mentioned act.

The third stage of environmental protection began, according to Wodziczko, after the Second World War. It is characterised by two fundamental features. Firstly, the main object of protective activities was the landscape. In the understanding of the Polish botanist, the landscape is not a geographical, spatial view of the area; he gave this term a connotation mainly related to nature. *It turned out that the natural landscape is an organic whole richer than biocenosis; that thanks to self-regulatory processes, balance is maintained within it between its main elements: soil, plants and climate. (...) This whole comprising biocenosis and habitat (biotope) is called physiocenosis (Greek physis = nature + Greek koinosis = community)* (Wodziczko, 1967, p. 10). In this perspective, the landscape is viewed as the synonym of holistically conceptualised nature, which is treated as a single organism. Therefore, concern for an unaffected shape of the landscape definitely transcends activities protecting nature on a scale of a reserve or a national park; its object is the whole of man's natural environment.

Secondly, Wodziczko takes into consideration the intervention of human operations into the landscape, mainly in terms of economic activities. It results in any disturbance of a component of this organism (e.g. cutting down forests) affecting the remaining structure of the landscape (e.g. steppe formation, disturbances in water economy or extinction of forest species of animals). Therefore, Wodziczko calls for introducing clear rules of land use planning, *which would take into account all the interrelated elements of the landscape which is being transformed for various purposes. Such a plan decides the fate of the landscape, whether its innate qualities are preserved and enhanced; thus, the current period in the movement of environmental protection is known as the planning period* (Wodziczko 1967, p. 10).

It was this phase of the evolution of nature protection thought, emphasising the need for humans' active and dedicated protection of nature, that the Polish scientist most fully identified himself with, at the same time appreciating its former stages. An expression of that was formulating the concept of *landscape cultivation*.

Specifying the understanding of the key term of his project, Wodziczko describes landscape as: *The whole of nature on a given fragment of the Earth's surface (...) in which balance is kept between its*

main elements (...); this balance is a condition for maintaining the health of the landscape and its productive forces (Wodziczko, 1946). At this point, the Polish scientist introduces a significant distinction: *Landscape created by nature, with no permanent traces of human influence, is called 'primeval' by the author, while landscape used by humans which has not lost the main features of its original character is referred to as a natural landscape. When changes go deeper and the natural balance of landscape is upset so much that it can only be maintained by permanent measures of human economy, a cultivated or exploited landscape is formed, known as a cultural landscape* (Szyszkiewicz, 2018). This distinction also serves the purpose of determining one more scope of environmental balance; this time not between the elements of a given landscape, but between the natural and the cultural landscape; between pristine nature and the extent to which humans are present in it. Such balance, in his view, should take into account the vital interests of both sides: preserving the Earth's natural landscape to the greatest extent possible, while simultaneously exploiting natural resources which ensure human welfare. This proposal forms the most general framework of *landscape cultivation*. It should be pointed out here, and not as a marginal note, that this proposal clearly anticipates the idea of sustainable development.

An active human attitude towards landscape, according to Wodziczko, is its cultivation, or *measures aimed at preserving its value, regenerating it or healing it. Therefore, landscape cultivation has mainly biological, and not only aesthetical purposes, on which the main emphasis was placed before in relation to the so-called landscape architecture* (Wodziczko, 1967, p. 151). Therefore, an accurate term for describing such works can be *landscape engineering*. It should encompass, as the professor from Poznań strongly stresses, activities in three fundamental, closely connected areas: **landscape protection, maintenance and shaping**.

1. Landscape protection is aimed at preserving pristine and natural conditions as well as natural values to the greatest extent possible. It mainly concerns non-built-up areas, unaffected by excessive human intervention (e.g. through technical infrastructure – energy or railway networks). In this case, it is manifested through protective activities, creating national parks and nature reserves. However, landscape protection is also obligatory in built-up areas, especially in relation to urban green and water management, which should be subjected to the principles of environmental protection. On this plane, according to Wodziczko, close cooperation should take place with urban planning (in this respect, he was a promoter of obligatory green belts in cities, which also attests to his visionary perception of the problems and tasks of contemporary urban planning). He saw the special role of landscape protection with respect to industrialised areas, which should be planned in

such a way that they upset the original biological balance of these places to the smallest extent possible. What deserves particular attention is the fact that Wodziczko placed the question of the health of the population within the area of landscape protection. Namely, he claims, clearly referring to Pawlikowski's reflections, that *our physical and spiritual health also depends on the character and state of the landscape* (Wodziczko, 1967, p. 151-152). The thread relating the state of nature and human health was later extensively and originally developed in Poland in the 1960-80s by a professor of Cracow Medical University, Julian Aleksandrowicz.

2. In turn, landscape maintenance *consists in employing permanent measures which remove the damages inflicted on the landscape, as well as prevent upsetting the biological balance* (Wodziczko, 1967, p. 153). Human activities in this area should focus, according to Wodziczko, on two matters. Firstly, since all the elements of landscape (soil, climate, plants, animals and humans) are united in a single whole, we should strive to preserve the harmony ensuing from this connection. What is necessary to achieve it is the awareness of the homeostatic functioning of nature. Human activities should be aimed at repairing the damages brought about by the development of civilisation, such as the erosion of soil or water and air pollution. Secondly, a wide range of economic-protective measures should be employed, aimed for example at *restoring and preserving natural tree species composition in forests, as well as varied biocenosis; adapting agriculture to habitat conditions, restoring natural grass and herb species composition to meadows and pastures, adapting plant and livestock farming to particular habitats* (Wodziczko, 1967, p. 153). In general, it should result in - to the extent to which it is possible - restoring biologically varied landscape, respecting biodiversity and giving careful attention to preserving its relatively natural form for the future.

3. Finally, shaping landscape constitutes the most difficult and at the same time the most important task. It consists in the reconstruction of landscapes destroyed by humans, based on respect for the laws governing nature. At the same time, such reconstruction has to take into consideration local natural conditions. These activities are to result in *the possibility of exploiting all forces of nature for human purposes without violating its rights. Just the opposite; imitating its patterns will lead to creating a new, natural habitat for organic life. Such measures will bring us closer to nature not in the sense of the ideals of J. J. Rousseau, but in the sense of reconciliation with nature which has so far been undervalued* (Wodziczko, 1967, p. 154). What is especially notable in this point is the Polish scientist's special emphasis placed on the existential significance for humans of the explo-

itation of natural resources, but in a way which is respectful for nature, causing the least damage possible and not intervening in its self-regulatory mechanisms. In essence, it is a call for a symbiotic and mutually symmetric shape of the relationship between humans and nature.

Landscape shaping has yet another dimension, particularly emphasised by Wodziczko. It concerns the connection between environmental protection and patriotism, which had earlier been described in Poland by Raciborski and Pawlikowski. They addressed the special significance of contact with native nature as the simplest way to build a sense of national identity in the awareness of the young generation (Gawor, 2018, p. 89-91). According to the professor from Poznań, the relationship between the Polish national community and native nature, just as his predecessors believed, should consist in the nation cultivating nature and in constantly caring for it in order to preserve its possibly most pristine appearance. (Wodziczko, 1967, p. 154).

Wodziczko's concept of *landscape cultivation* is of clearly programmatic and utilitarian character. It focuses on setting out tasks of nature protection; it is based on the knowledge of the functioning of nature, but it attaches less importance to presenting as much as a framework of the manners of practical implementation of its recommendations. On the other hand, the Polish author outlines in his considerations such a model of environmental protection which, taking care of its well-being, should most of all contribute to human welfare. People's benefits derived from well-functioning nature, which is a value in itself, constitute the dominating perspective. It is discussed in the above-mentioned quotations and such phrases as *economic and protective activities or exploiting all forces of nature for human purposes*. As far as this meaning is concerned, the idea of the Polish author should be situated within the current of modern environmental thought known as anthropocentric and exemplified, among others, by the views of J. Passmore (Tyburski, 2006).

But most of all, Adam Wodziczko's idea of *landscape cultivation* constitutes an important link in the construction of theoretical foundations of environmental protection. It should be recognised as a pioneering contribution of the Polish naturalist to the contemporary scientific discipline which is only being shaped - landscape ecology². It is suggested in the very terminology of the concept of the scientist from Poznań and that of the project of the new ecological science. Above all, however, the contents of the project of *landscape cultivation* formulated in the 1940s are surprisingly analogous to the substantive contents of the idea of *landscape ecology*. Wodziczko's descriptions of *landscape cultivation* mentioned above are especially similar to those concern-

² The term was introduced in 1939 by the German scientist C. Troll; other names are *landscape studies* or *geoecology*.

ing landscape ecology: *Landscape ecology is a sub-discipline of ecology concerned with studying interdependencies between the ecosystems comprising a landscape. It provides a basis for rational management of natural resources* (Landscape ecology – *Leksykon* 2018); or: *it is a discipline concerned with analysing the components of the landscape and the relations between them (...) it provides a theoretical foundation for formulating guidelines for the purposes of rationally shaping and exploiting the environment in landscape architecture, environmental protection, agriculture and land use planning* (Richling, Solon, 2011). These definitions and objectives of landscape ecology to a large extent coincide with the understanding of the subject matter and the tasks of the concept of *landscape cultivation* suggested by Wodziczko (Richling, 2009). Therefore, the idea of the Polish naturalist is an expression of his mental acuity and the pioneering character of the theory of environmental protection he put forward. It is especially highlighted by Polish environmentalists (*Ochrona środowiska*, 1994; Richling, Solon, 2011; Szyszkiwicz, 2018; Pietrzak, 2018).

Wodziczko's views concerning landscape engineering were innovative in his time not only in relation to landscape ecology. They also carried a more general message. At its core lay the conviction that environmental protection is not incidental to the development of human civilisation, but just the opposite - it is closely related to it (Grąbecka, 1991). For Wodziczko, it meant a reevaluation of the traditional dominating position of the human in the relation with nature. Man should renounce an essentially disrespectful treatment of nature and become its equal partner. Therefore, *instead of busying ourselves with details and saving this or that, removing slight disharmonies in the process of 'overcoming nature', the time has come to reach deeper and, employing scientific methods: 1. make an accurate diagnosis of the diseases of the contemporary civilisation, ensuing from an erroneous attitude to nature; 2. examine in detail devastation and damages which nature – as well as humans as its element – has suffered and is still suffering as a result; 3. devise a plan of thorough causal treatment; in particular, determine the hierarchy and order of medical treatments. These are the main premises of this new area of scientific knowledge, which wishes to optimally shape man's attitude to nature* (Wodziczko, 1935b). Today, this suggestion comes as no surprise, but it needs to be borne in mind that when it was first formulated in the 1930s, or when nobody even thought about an ecological perception of the world, it was truly revolutionary. And this is where lies the meaning of Wodziczko's reflection for the development and formation of the contemporary thinking about the protection of humans' natural environment.

What deserves special mention in Adam Wodziczko's achievements concerning environmental protection

are his teaching and popularising activities in this area. They had their source in two convictions. The first one concerned the adequate attitude to nature as the basis of current and especially future human existence; if humans fail to develop an adequate attitude to nature, they will sooner or later deprive themselves of the natural surroundings of their lives and simply disappear as a species. An adequate approach to nature is simply practical respect and an attitude of care and protection towards it. This issue in the considerations of the Polish scientist was called *physiotactics* and was presented in *Ochrona Przyrody* magazine in 1932 in an article entitled *Environmental protection as a new branch of knowledge (Ochrona przyrody nową gałęzią wiedzy)*. In the article, Wodziczko wrote: *Every organism is subject to the influences of its surroundings and occupies a determined position in relation to the stimuli affecting it. Humans' position in relation to nature can be defined with the term known to every naturalist: physiotaxis (physis – nature, taxis – arrangement, order, attitude) (...). Thus, physiotaxis literally signifies: occupying a certain position in relation to nature, orientating oneself in relation to nature, taking a position on nature. We are clearly discussing human attitude to nature here, and the science concerned with it could be most generally called physiotactics (the science concerned with physiotaxis)* (Wodziczko, 1932a). For the purposes of *physiotactics*, this new scientific discipline still in the process of being designed, Wodziczko distinguished and described its particular subdisciplines, such as the science of balance in nature, the science concerned with shaping nature and landscape harmoniously, practical environmental protection, the science concerned with the influence of wild nature on the human, *physiotactical pedagogy* (Wodziczko, 1934a; 1939). According to him, *physiotactics* should be an independent natural-social science, though of interdisciplinary nature, among other branches of science, and it should be introduced as a separate teaching subject. Wodziczko tried to implement this project as a part of his classes at the University of Poznań, conducting a practical seminar on the subject. The crowning achievement of his nature protection activities, as far as the academic context is concerned, was creating in 1945 the first independent Department of Environmental Protection and Landscape Cultivation in Poland at the Chair of General Botany at the University of Poznań. Moreover, Wodziczko believed that shaping an adequate attitude toward nature should begin already in childhood, in nursery school. Therefore, basing on this conviction, he spared no efforts to popularise this idea (Wójcik, 1992). In 1932, in a multi-author publication *Skarby przyrody i ich ochrona (Treasures of nature and their protection)*, he published an article entitled *Environmental protection at school (Ochrona przyrody w szkole; Wodziczko, 1932b)*,

addressed to teachers. In the article, he wrote about the need for preparing a textbook in the methodology of teaching environmental protection in educational institutions of different levels, as well as the need for familiarising children and adolescents with the rules of respecting nature and caring for it. In another text (Wodziczko, 1934b), he offered guidelines concerning working with adolescents in terms of familiarising them with the idea of environmental protection: how to come into contact with nature without destroying it and being cruel to animals, how to observe the living nature; how to inspire interest in nature and an emotional attitude towards the natural environment; or how to set up and cultivate school botanical gardens. The professor from Poznań wrote quite a lot of such works (e.g.: Wodziczko, 1935a, 1937), and all of them include one of his fundamental messages: in order for the idea of environmental protection to be implemented, it has to be an important element present in the processes of teaching and educating. The activities of the Polish scientist, as well as his merits in the field of propagating environmental protection in the period of the Second Polish Republic were invaluable.

Wodziczko also holds a special place in the history of environmental protection activities in the interwar Poland as a social animator and organiser of many national parks of the country. The idea of protecting areas of great natural value, with the qualities of natural or even primeval landscapes, was particularly close to him and he was strongly committed to its implementation. He was the initiator of establishing the Wielkopolski National Park in the Voivodeship of Poznań (functioning since 1933, though officially since 1957); he worked on the creation of the following National Parks: Tatra (which after many years of efforts was finally established in 1954), Pieniny (1930) and Babia Góra (1934). He also planned the demarcation of other protected areas of natural environment, which became national parks after the war: the Wolin (1960) and Słowiński National Park (1967). His activities in this field attested to his ability to accurately select areas which should be protected in terms of their natural features. The subsequent implementations of his ideas in this area demonstrated that it was justified to make efforts to preserve to the greatest extent possible the pristine character of these lands (Dzięczkowski, 1985; Wysokiński, 2011). He was also active in the field of environmental protection on a national scale: he was an active member of the Temporary Commission for Nature Conservation, established in 1919, and subsequently, from 1926 to his death, of the State Council for Environmental Protection.

Wodziczko's activities in the area of environmental protection live on in the memories of the subsequent generations and were symbolically honoured by making him the patron of two strictly protected areas: Prof. Adam Wodziczko Hornbeam Forest Protected Area in the Wielkopolski National Park, and

Prof. Adam Wodziczko Protected Area in the Wolin National Park. Moreover, a memorial stone was set up in his honour in the Wielkopolski National Park, and two commemorative plaques were placed in the executive building and the Museum and Didactic Centre of the same Park in Jeziorki. Wodziczko is also the patron of numerous schools (Adam Wodziczko, 2018).

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In the interwar period and in the years after the war, Adam Wodziczko was one of the leading Polish naturalists. His research in botany brought him recognition in the world of science. However, his true passion was environmental protection. In this area, he had remarkable organisational, popularising, and, most of all, programmatic achievements. His commitment to establishing nature reserves was significant. What was also very valuable was the contribution of his writings in the interwar period to popularising the idea of protecting nature and shaping human ecological sensitivity, especially of the young generation, to nature. His projects of phytotactics and landscape cultivation (engineering) were original notions and useful conceptualisations of ideas of environmental protection, whose innovative character was a few decades ahead of other advocates of the protection of the natural environment. It is particularly noticeable in relation to one of the contemporary ecological sciences – landscape ecology; in this respect, his views are still acknowledged. Moreover, what deserves a special mention are also these threads of his reflections which fit well the current manner of environmental thinking in the categories of sustainable development. To conclude, the activities and the thought of the scientist from Poznań fully justified the fact that, as the editors of the reprint of his book *Na straży przyrody (Guarding Nature)* wrote, he was called *one of our most prominent pioneers of the modernly conceptualised movement of environmental protection* (Wodziczko, 1967, p. 5).

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