



**Elżbieta D. Ryńska\***

## *Ethics in practice – a sustainable design process*

The majority of structures designed in our times and erected according to the conventional principles of design and realization have little in common with maintaining the natural environment standard – and directly – sustainable development. In their entirety, the buildings constitute an example of high-expenditure investments and their owners have to have access to a significant capital stock. The conventional structures use a lot of energy, produce enormous amounts of waste – during realization as well as at the usage phase – and sometimes they have a negative impact on their users. Therefore, all ‘other’ attitudes towards the whole living cycle of buildings ought to be the subject of in-depth research and ethical consideration, on the one hand connected with the development of our culture and civilization, while on the other hand, with the necessity to preserve the natural environment for humankind.

Sustainable design process is by no means a single occurrence. It is rather a constant process that is subject to continuous improvement and broadening the knowledge of the persons involved in the building industry. This issue constitutes the topic of this article.

The contemporary man spends almost 90% of time in the developed environment. A given lifestyle – apart from positive effects – also gives rise to producing enormous amounts of waste, emission of harmful substances and finally disappearance of agricultural areas and woodlands. Therefore, it is somehow surprising that there are no ethical canons which deal with moral aspects of the architectural creative activity in the context of preservation of the natural environment and raw materials. First of all, we must pose several questions. What does a pro-environmental design process mean? Which participant of the investment process is ethically responsible for the final shape of the realised structure? In what way the assumptions of pro-environmental ethics can be taken into account in the architectural design process?

According to the Preamble to the Code of Professional Ethics of Architects: *Architects, independently of the fact who employs them and on what conditions they are employed [...], attach great importance to meeting the highest standards of independence, impartiality [...], competence and professionalism [...], in this way offering the society their special and exceptional knowledge, skills and talents, which are necessary to develop social culture and the quality of the existing environment. Moreover, architects in their creative activity respect the existing values, natural and cultural heritage and make efforts to preserve and develop them. They aim at improving the quality of life and residing in a given place and the quality of the environment in a way which does not disturb their mutual balance [...].* Architects are educated mainly in the technical and artistic informational trend, directly connected with an enormous amount of design knowledge that is to be acquired. In many attitudes to designing, the existing and tested stereotypes are in frequent use. Today, a new ground of further activities constitutes widely understood pro-environmental principles for which there are no existing solutions; as a result, this direction in design is rejected as a changing ‘fashion’. Quite often, in the Polish architectural environment we can also hear opinions that the notion of ‘sustainable environment’ is already ‘out of time’ and therefore this topic is not worth paying attention to.

Along with their activities in the creative domain, designers function in the sphere of professional ethics which is not to be mistaken for morality. The purpose of ethics, including professional ethics of architects, is to search for basic philosophical premises on the basis of which it would be possible to arrive at rational sets of moral orders. Pro-environmental ethics constitutes a part of environmental philosophical thought in which the traditional borders of ethics were extended to include elements pertaining to an extra-anthropomorphic world.

Decisions made by architects and designers during the design process are influenced by the aesthetic, technical, financial, ethical and social values they assume. However, architects are not always under the influence of the same circumstances and their inten-

\* Faculty of Architecture, Warsaw University of Technology.

tions as well as trains of thoughts can also be different. The accepted assumptions and ethical attitudes depend on the school of architecture according to which designers were educated and on an individual approach to the manner of solving design problems, which often results from their experience.

The rapid development of architectural and technological solutions, which has taken place in the last 150 years, has brought about an aesthetical and stylistic diversity. Nevertheless, we can distinguish several characteristic design attitudes that influence the guiding ethical principle contained in designs. They are as follows:

- artistic attitude – based on the conviction about an enormous value of individual expression and internal intuition, which are indispensable in the design process. It is also an expression of personal creative liberty;

- designing in accordance with ‘the spirit of time’ – assuming that each epoch is characterised by a set of features that can be used in designing. This set of values points to the importance of intellectual and cultural ‘climate’ of the chosen time area;

- constructional, functional and material reliability (sincerity) of design values – in accordance with the concept that a construction should not constitute a decorative element. Moreover, structures must be designed according to the following assumption: ‘form after function’. Physical and technical features of materials directly influence the form and the intended use;

- simplicity and minimalism of a design value – meaning that simple forms (geometrical elements, plain surfaces, etc.) represent natural forms more accurately and at the same time they are more acceptable for users;

- environmental and organic design values – connected with the assumption that nature (i.e. all living organisms) can be an inspiration to create functional forms in the design process. Structures designed according to this concept represent a style that reflects the following parameter: ‘form follows the shape of line’;

- classical, traditional and modelled on local solutions design values – they indicate that a building ought to be designed according to the local construction principles which have been worked out throughout centuries. This design value is also connected with regional diversity, i.e. climatic differences, native culture, which create characteristic aesthetic effects;

- social design values – they often include aesthetic potential, nevertheless, they might be in conflict with the remaining design values. Within social design values we can distinguish the following characteristic sub-groups:

- design values connected with social changes – by means of the selected solutions, they are supposed to raise the existing social standards. They are created as a secondary effect of the political attitudes that accompany the building programs,

- design values connected with the parties participating in the investment process – they refer to the conviction that the information obtained from the participants constitute a significant contribution to the design process, indicating the real social needs and allowing for the most effective usage of the existing resources,

- design values which prevent criminogenic effects from occurring – they are realised by creating spaces that are safe in use,

- design values connected with the Third World countries – as supporting the developing countries (by, inter alia, responding to the needs of the poorest social classes). The economic and social conditions which are characteristic for these countries often lead to the necessity to create ‘special solutions’ that differ from those suggested by designers and architects for the residents of highly industrialised countries.

- environmental design values – which are a characteristic feature of the mid-20<sup>th</sup> century and constitute the area of interest of the residents of highly developed countries. Protection of the environment is not a new topic as such and it is mentioned in other historical epochs; however, in our times, it is closely connected with other fields of human activity, including ecosystems management, attempt to preserve non-renewable resources (sustainable development) and also the concept that everything in the environment has its value (necessity to protect and preserve all natural environment resources). Environmental values have also found their place in architects’ considerations. In the building investment process, they constitute an example of connecting two extreme solutions: often forgotten building skills and the most modern technologies. These two diverse attitudes denote a parallel development of the high-tech architecture and the ‘traditional’ environmental trend of ecological origins. The environmental issues are not limited merely to the level of energy consumption, but they refer to many other domains which are more often reflected in the design practice. Here, we can distinguish three important sub-groups, including:

- pro-environmental design value and sustainable development – representing the conviction that sustainable and/or environment-friendly structures have a positive influence on present and future users. The basic assumptions refer to limiting energy consumption, non-renewable resources management, recycling of materials, promoting the investments that meet the assumption of the policy: ‘cradle to cradle’, etc.,

- design value of the reuse and modification – assuming recycling of certain materials built into the existing structures. Within this value, we can indicate two separate trends: the first one, referring to ‘setting’ the recycled materials into a new substance of the structure and the second one, assuming ‘the aesthetic contrast’ between the new and the old,

- design value connected with health – assuming that the developed environment may constitute a valuable contribution in maintaining appropriate parameters indispensable for the users’ health.

- economic design values – these values are probably the most frequent in modern architectural solutions, they have origins in rules of financing and achieving better profits, which is often done by employing new design solutions that are cheaper than the standard ones.

These various design, aesthetic and ethical values – often mixed up with one another – constituted a background for an environmental ethics concept that emerged as a response to the researchers’ findings and the events such as the first

Day of Earth (1970) when the persons who were aware of the ecological crisis pointed to the necessity of emphasizing philosophical aspects of the natural environment<sup>1</sup>.

Anthropocentrism places mankind in the centre of the whole universe. Consequently, in the dominating developmental trends of European civilisation only people were taken into account in the reflections upon ethics of the environment. According to this assumption, everything ought to be assessed only with regard to its usefulness for man. What the anthropocentric concepts do not take into consideration is the fact that the theories derived from this viewpoint do not have to be fully correct as humankind is not necessarily the centre of the real world. The philosopher Baruch Spinoza even stated that people are in the habit of an incorrect assessment of usefulness of the particular things. Had we perceived things in an objective way, he suggested, we would have discovered that everything in the universe is of a unique value.

Peter Vardy distinguished two types of anthropocentrism: strong, with mankind in the centre of the universe, and weak, according to which the world can be interpreted from a human point of view.

Another approach was described by Bryan Norton, one of the leading thinkers in environmental ethics – the creator of environmental pragmatics<sup>2</sup>. He came up with a statement that only the extended anthropocentrism is a domain that sufficiently comprises a full instrumental value that mankind can obtain from the natural environment.

There are a few ethical theories concerning the natural environment. They include bio-centric and eco-holistic theories as well as Michael Smith's humanistic theory which determines the moral status and ethical values. This field of study also comprises works of Peter Singer who postulates the values corresponding to the Aristotelian ones and proposes the preservation of 'world heritage areas' – intact terrains which, as they fade away, acquire a *scarcity value*. Their preservation is indispensable for the future generations so that they could have the right to decide whether they want to leave the countryside intact.

We need to remember that the contemporary people have an impact on the future generations that is much greater than we usually think. Roads, tunnels and bridges which are realised now are supposed to serve mankind for some one 100 years, while nuclear power plants will have an influence on the environment for at least 500 thousand years to come.

Hence, we can imagine that we have a few possible solutions of how to use the disappearing energy resources. One of them is the situation in which we impoverish the non-renewable resources up to the level of their disappearance. As a result, for the next few hundred years, mankind shall enjoy a

high standard of living, followed by a significant and permanent decrease of its level. The alternative policy points to the necessity to protect and preserve the resources, which entails a lower standard of living in comparison with the previously outlined path of development, however, still relatively high during the first one hundred years. This also means that a relatively high level of living shall be maintained possibly for many centuries to come. Comparing these assumptions, it becomes obvious that humanity should follow the route of 'preservation', as the one that is ethically preferred.

John Passmore interpreted damage that is done to the eco-system by people as damage inflicted on the particular persons and placed it in the group of basic moral violations. Passmore argues that there is no need to introduce new principles of ethics – it is enough to extend the classical assumptions. A. Leopold in his essay *The Land Ethic* [3, pp. 201–18] declares that the Earth is not only soil, but a bio-ethical pyramid of forms of life that depend upon one another, humankind included. The Land Ethic requires uniformity and dynamic stability of a bioethical society. This concept was extended by H. Rolston [5, pp. 93–109], who concluded that a moral law (recycling must be used) results from a law of ecology (recycling preserves ecosystem). The preceding moral law (man should preserve uniformity of the ecosystem) is a derivative of the assumption concerning the values of the sustainable ecosystem. Ethics connected with ecology is a domain of perceiving values contained in our observation of the world, therefore, recognition of facts and establishment of values are two combined processes. In reflections upon ethics and ecology it was indicated that valuable issues are placed in the hierarchy higher than those which are devoid of value. Moreover, within the ecological scope, there is no need to create any additional criteria of assessment because the value of the ecological domain is encoded in the human mind and gradation takes place intuitively. This way of valuating was presented by, *inter alia*, Thomas McGinn [4, pp. 149–60]: *Intuitive estimation 'positions life' as more valuable than 'lack of life'*. Special value is also attached to unique things, especially to beautiful structures. Also, placed high in the hierarchy are those values which are recognized by large groups of people.

The only problem that appears is the impossibility to preserve several things which, according to popular belief, possess analogous value. In each ethical system a similar problem is encountered, in particular it refers to economic development, including building investment processes.

At the same time, we must take into consideration the fact that each of the participants of the investment process (designers, developers, financial and public institutions) has his priorities which are not necessarily in compliance with the objectives of the sustainable environment. In the practice of the sustainable design process, it shall be really possible to follow ethical assumptions only after each of the aforementioned groups has analogous aspirations. To this end, it is necessary to increase the level of environmental awareness in all age and professional groups and to create framework principles of a popular program of environmental education that would include an ethical domain. Only then will designers be able to achieve real goals by employing the existing techniques of the design activity such as:

<sup>1</sup> The following two books had an influence on this: *The Historical roots of our Ecological Crisis* by Lynn White (March 1967) and *The Tragedy of the Commons* by Garret Hardin (December 1968), and also the essay by Garret Hardin *Exploring New Ethics for Survival* and essay by Aldo Leopold *The Land Ethic*, in which philosophical origins of the ecological crisis were explicitly described.

<sup>2</sup> Representatives of this trend refuse to take a stand in the debate between ethicists of anthropomorphism and ethicists who do not profess their recognition of these points of view.

- inclusion of local communities in the design process already at the initial concept planning stage and afterwards taking into account the obtained comments and needs of users;

- determining, in accordance with the expectations of a developer or users, the parameters of internal environment – energy category of the structure – and consequently, selecting appropriate and plausible sustainable solutions;

- within the design framework, creating specifications which determine an acceptable level of emission of harmful substances; in order to achieve this, cooperation of producers of materials and building elements as well as contractors and developers is necessary;

- pro-environmental management during the process of erecting a building, namely, accepting the particular rules of conduct by constructing companies with inclusion of the appropriate guidelines in contractual clauses;

- cooperation with a conscious user of the structure – it is not enough to design and realize a structure; usage and modernization must also be conducted in accordance with pro-environmental assumptions.

Additionally, a designer is bound to take into account some specific activities at the particular design stages:

- at the level of the initial information about a design – a designer ought to inform the customer about obligations and rights connected with pro-environmental guidelines and consider their scope and influence on the initially proposed investment program;

- at the level of recording the land investment possibilities – a designer ought to indicate environmental consequences of choices and check whether it is possible to apply the procedures characteristic of an environmentally friendly structure;

- at the level of the initial design assumptions – a designer ought to provide pro-environmental strategies which constitute an integral part of the design process;

- at the level of the design conception – a designer ought to finally allow for the plausible pro-environmental solutions and check the selected design strategy along with costs of realization;

- at the level of the architectural & building design – he ought to obtain final permissions for employing pro-environmental solutions, check the influence of the proposed building materials on the environment (including the level of internal energy) and check the cycle of life of the designed structure;

- at the level of realization of the structure – he ought to check whether pro-environmental costs are taken into consideration in building works estimations and pro-environmental strategies in specifications provided by the contractors as well as the investment realization and its conformity with the selected strategy;

- at the level of using the structure – he ought to monitor environmental functioning of the building and provide a written record (book) of the structure usage for owners and users.

Legal conditions and technical requirements introduced by the EU formulate the future development of the European Architecture. They direct the designing process towards the solutions which employ the so called ‘soft technologies’, material and building solutions which are more friendly for users, changing artificial components used in the building industry to organic materials as well as making the most of daylight and natural ventilation systems. Designers again shall start designing from checking how to take advantage of the natural land form so that the local conditions could be optimally used for appropriate formation of the shape and function of a building.

The design process shall differ more and more from the standard solutions for the good of the parameters that are individually conditioned by the particular location.

*Translated by B. Setkiewicz*

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## Etyka w praktyce proekologicznego procesu projektowego

Większość obiektów współcześnie projektowanych i wznoszonych zgodnie z konwencjonalnymi zasadami projektowania i realizacji ma niewiele wspólnego z utrzymaniem standardu środowiska naturalnego – a bezpośrednio – zrównoważonego rozwoju. Ogólnie rzecz biorąc, budynki stanowią przykład wysokonakładowych inwestycji, a ich właściciele muszą mieć dostęp do znacznych zasobów kapitałowych. Konwencjonalne obiekty wykorzystują wysokie nakłady energii, produkują potężne ilości odpadów – w trakcie realizacji oraz w fazie użytkowania, a czasem mają negatywny wpływ na

użytkowników. W związku z powyższym, wszelkie „inne” podejście do całego cyklu życia budynków powinno być przedmiotem dokładnych badań oraz rozważań etycznych – z jednej strony związanych z rozwojem naszej kultury i cywilizacji, z drugiej – koniecznością zachowania naturalnego środowiska dla ludzkości. Proekologiczny proces projektowy nie jest bynajmniej pojedynczym zdarzeniem. Jest raczej stałym procesem, podlegającym ciągłemu usprawnianiu i poszerzaniu wiedzy osób z budownictwem związanych – i właśnie temu zagadnieniu jest poświęcony niniejszy referat.

**Key words:** design attitudes and values, sustainability and environmental ethics

**Słowa kluczowe:** postawy i wartości projektowe, projektowanie zrównoważone i etyka środowiskowa