

## Self-evaluation on the Way to Retardation of Pace Life and Resources Transformation

### Samocena na drodze retardacji tempa życia i przekształcania zasobów

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#### Abstract

It seems that the acceptance of retardation (slowing down) of both pace of life and transforming natural resources can play a positive role in building a sustainable reality. Building this new socio-economic order, in connection with the report on the state of ecosystem services in the Millennium Ecosystem Assessment, is both urgent and difficult, and requires new best practices to be created and used as a model.

This paper shows examples of opportunities allowing for contemplating one's own place in the surrounding reality and a way to make progress creating it.

**Key words:** retardation, sustainable development, education, self-evaluation

#### Streszczenie

Wydaje się, że akceptacja retardacji (spowalniania) tempa życia i przekształcania zasobów przyrody może odegrać pozytywną rolę w budowaniu rzeczywistości zrównoważonego rozwoju. Budowanie tego nowego ładu społeczno-ekonomicznego w związku z Raportem Milenijnym o stanie ekosystemów, jest jednocześnie sprawą pilną i trudną oraz wymaga tworzenia nowych dobrych praktyk (best practices) do wzajemnego naśladowania.

W pracy pokazano przykłady związane z rozważaniem na temat własnego miejsca w otaczającej rzeczywistości i sposób na pójście dalej w jej tworzeniu.

**Słowa kluczowe:** retardacja, zrównoważony rozwój, edukacja, autoprojekcja

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#### Introduction

An open approach to education, acceptance of proposed innovative measures and willingness to continue searching for and creating new examples are the essential elements necessary for establishing the reality for sustainable development. It seems that the comprehensive programme for implementing the objectives of sustainable development should not only present new environmentally oriented techniques and technologies (Woźniak et al., 2008; Wnuk, 2010), or raise awareness of the necessity to regain confidence in ecosystem services (Kostecka, 2011), but also take into account retardation (slowing down) both in pace of life and in transforming natural resources against the widespread trends of consumerism (Kostecka, 2010; Poskrobko, 2010).

Surveys show that we often make sacrifices aimed at improving the quality of the environment if we are aware of its condition (Kostecka, Mazur, 2007), therefore it is a worthwhile effort to use various opportunities for disseminating information and solid facts concerning the degradation of the natural environment in the 21st century (Skubała, 2008; Ogrodnik et al., 2010).

The change involving societies and organizations at the local, regional and global scale may occur by leaps (in a revolutionary manner) or by small steps (which does not necessarily imply excessively slow pace). Yet, the necessity of such change must be acknowledged by as many social groups as possible.

This article describes a method of diagnosing one's own approval of activities performed by those con-

tributing to the reality of sustainable development and highlights the process of slowing down the pace of life and decelerating transformation of natural resources and ecosystem services. Diagnosing one's own attitude to enabling sustainable development may serve as an encouragement for further investigation and progress in accepting sacrifices allowing for decelerating the transformation of the world.

### Understanding of the term *retardation*

The term *retardation* (slowing down) may have various and very broad meanings and applications. In literary rhetoric the term may refer to slowing down the plot to increase the effect of suspense in the audience/readers. In philosophy, Dołęga (2010) links the term with the *Catechism of the Catholic Church*, Aristotle's moderation and the concept of *happy medium*.

Kostecka (2010, 2013), Poskrobko (2010) and Janikowski (2013) make reference to *retardation* as an element of the responsible process of constructing the paradigm for sustainable development.

We can also talk about *slowing down* in the biological sphere where retardation should be considered jointly with the processes of the development of organisms in their habitats, and with regard to humans, e.g. in the contexts of the dynamic growth of mankind. Hence, in the biological sense the term *retardation* will allow for describing behaviours of living populations within their natural environments; behaviours which are also accompanied by other environmental mechanisms regulating the size of specific populations or a delayed development of certain organs by some organisms.

The biological significance of the term *retardation* may be perceived by some people as negative since it indicates some developmental delay, although for the entirety of the ecosystem (the biosphere) in fact it may be *important in a positive way* since the phenomenon hinders the speed of disorganization and destruction, and on the other hand also the evolution, and the accompanying degradation connected with the exploitation of natural resources; that in turn may help ecosystems and ecosystem services to be regenerated in a natural manner.

The concept of retardation, defined as a delay aimed at retaining balance and harmony in the environment, may lead to the rise of new concepts contributing to increased awareness and cultivation of sustainable development, yet only up to a certain limit and within identified environmental, social and economic conditions. The application of retardation will mean a consent to imitate nature by using man-made rules (adjusted by culture and awareness), and in a way *getting ahead of* the responses of nature which in fact has its own mechanisms unconditionally enforcing retardation, including enforced extinction events.

Hence, the practical application of retardation should be researched carefully due to the fact that, just like in some cases of biological conditioning, retardation may decrease the flexibility of organisms and entire populations of a given species in order to rapidly and adequately adjust to sudden changes in their living conditions in the environment. When it comes to the relation to the social and cultural organization of the life of *Homo sapiens* it may lead to disorganization and hazardous turbulences.

While promoting retardation in both the pace of life and adverse changes in services provided to humans by ecosystems, we should pay attention to the double-edged character of biological and social retardation processes and take into account the cultural dimension of the human race, which is able to manipulate *this phenomenon* in an intelligent way without losing adaptive flexibility.

The standards and values constituting the core of sustainable development seem to be historically inherent in human culture, yet it is believed that education for sustainable development (including retardation) continues to be necessary. Furthermore, the assimilation of up-to-date knowledge of sustainability will be enabled by appropriate policies adopted by local, regional and national authorities and by the widespread involvement of society in the processes aimed at organizing reality and in co-governance. Other dilemmas related to the concept of retardation of both lifestyles and resource transformation are discussed by Kistowki (2010) and Kostecka (2013).

### Human beings in the reality of the 21st century

Just like the entire life of contemporary humans, their education takes place more rapidly and superficially. Educational standards develop less and less effective foundations for socially and environmentally oriented behaviours of the young generation. Yet in fact these foundations should combine young people's knowledge, world view, sensitivity, emotions and abilities to act. Youngsters should be able to recognize them within themselves and in their surroundings, as well as counteract alienation from both Nature, and society as well as self-estrangement.

The essential function of education is to prepare young people for adult life in accordance with binding rules and principles governing society. In modern times there is a need to acquire adequate knowledge and skills which allow for coping with daily life and for refusing to conform slavishly to various social trends, such as ever growing consumerism.

The modern society is diagnosed by Fromm (1996) who claims that it is characterized by a lack of respect for the laws of nature that mankind is part of. He also says that many people operate and feel as if they were machines losing touch with human

attributes such as pain and suffering. We do not experience pain because we dissociate from it by using numerous pharmaceutical agents; we work focusing on expected profits rather than on circumstances supporting growth of interests, friendships and the possibilities of joint fascination with the work we are creating. Relationships with other people, established in a hurry, are in fact a surrogate for truly being with someone (Kulik, 2012). Moreover, it seems that in spite of the growing focus on one's body, contemporary people have a decreasing ability to recognize their organisms' needs and limitations. It has been commonly assumed that a beautiful body is to provide services for our enjoyment as long as possible, therefore we want to gain control over it enhancing its selected functions without end. We consume stimulating substances, apply cosmetics to excess yet we neglect that which our body really needs (e.g. movement and exercise, harmony with our psyche for the acceptance of wrinkles as the symptoms of the natural process of aging).

Does such contact with the outer world provide us with real peace and happiness? Apparently people today are happier than in the past since they can afford more comfort and pleasures.

The main hypothesis of *Growth Fetish*, a book by Hamilton (2003) is that for years we have been made to believe various things. We are told that the greater our income the happier we will feel, and therefore economic growth means better life for us. Yet, after years of consistent growth we find ourselves less happy than years ago, and roots of most pathologies occurring in wealthy societies can in fact be found in affluence.

According to Toffler (1999) the recently increased pace of civilization growth greatly contributes to immense adaptive difficulties faced by people, and the tragic effects of excessively burdened human organism are manifested by frequently experienced irritation, exhaustion, disorientation, loss of ability to take decisions, as well as aggressiveness or deep apathy. The massive incidence of such phenomena shows that these are not merely isolated disorders experienced by individuals but a gradually progressing illness of the entire society.

Many people prove that happiness only to a degree is conditioned by external factors. If we take into account for instance the level of income or material affluence it turns out that the sense of happiness grows with increasing income only to a certain point. Individuals living in extreme poverty usually feel significantly less happy and with an increase in income their happiness grows. However, this continues only to the point when the person's essential needs are met (related to physiology, safety, love and belonging, respect and recognition, fulfilment). When income continues to grow the sense of happiness does not increase. This correlation clearly shows that money is important to us, yet our sense

of well-being is mainly affected by its lack or clearly insufficient amount of it (Ogrodnik et al., 2010). We can develop the sense of happiness and well-being by changing priorities from the main trend to the deceleration trend (Table 1). Indeed, ancient sages claimed that happiness does not belong to the one that owns more but to the one that needs less.

Table 1. The characteristics of the currently dominant system and the alternative ecology-oriented trend of decelerating resource transformation. Adapted from Ogrodnik et al., 2010.

Characteristics of the <i>main trend</i>	Elements of the <i>deceleration trend</i>
Independence.	Dependence on other people and the environment.
Affluence – unrestrained consumption.	Moderation.
Personal growth by all means.	Well-being without material growth.
Modern technologies.	Simple and modest means, trust towards nature and ecosystem services.
Individualism.	Common good (communitarianism), civic attitude.
Competition.	Cooperation.
Minimization of suffering, maximization of pleasure.	Acceptance of life that is good enough.
Dissatisfaction with that which is.	Satisfaction with that which is.
Mobility.	Acceptance for staying in one place.
Anthropocentrism.	Biocentrism.

At this point, it is a good idea to remember the organization of the closed Amish community (following the rules of Protestantism and living in the USA for centuries), for whom time seemingly has stopped: they do not use electricity, cars, computers or telephones. They work in agriculture and crafts and are able to retain economic independence from the external world. They are a living proof for the existence of such principles of social life which are not burdened with the dogma of the continuous material growth. Yet, are they happy leading this kind of life? Interestingly, they are the only group in America without growing incidence of unipolar depression, which seems to be a disorder typically related to living in a toxic society.

Are there any other reasons for slowing down the pace of life and decelerating transformation of natural resources? Given the fact that according to the *Synthetic Millennium Ecosystem Assessment 2/3* of functions (services) performed by the world's ecosystems have been degraded and the remaining ecosystems are not used in conformity with the criteria of sustainable development, it seems that the primary challenge for the nearest future involves deceleration in both the pace of life and transforming biodiversity, as well as protection of their services for humans.

### Encouraging self-evaluation and approval for slowing down the pace of life and ecosystem transformation

Do we think about elements of our world view, our responses and our philosophy of life on a daily basis? What is our attitude to those whose opinions differ from the generally accepted views? The latter question may be posed for instance to a group of students during a discussion based on the article entitled *Ecoists*, which was published in the Polish edition of *Newsweek* in 2007. The text presented during classes in ecophilosophy initially is met with negative response. Students mostly do not relate to ecoists at all, and to a degree perceive their behaviour as aggressive.

Before the discussion students read the text individually, and then work in groups consisting of 3 or 4 people and look for possibly most detailed examples of activities accepted by ecoists (Table 2). The students working in each group take turns reading aloud each identified activity, and allow others to supplement/add elements which they have failed to notice. This is a very important stage and it is essential that everyone names as many initiatives undertaken by ecoists as possible. This part may be organized as a competition for the groups to identify the largest number of elements in ecoists' life. This is like climbing up the stairs – the higher we go the more we can see along the way and the further we can proceed taking the effort to contribute others idea (of our own) aimed at decelerating the transformation of ecosystem services.

The next task for those working in the groups is to perform an assessment individually, by assigning + or – to each of the listed behaviours. Plus (+) is assigned by those who could adopt a similar behaviour, and minus (–) means that a proposal is impossible for them to accept. In course of a free discussion the students sum up the pluses and minuses assigned by the members of the group and they make a list of the most and the least acceptable ecoists' choices. Where the timing of the classes allows it is possible to establish a detailed ranking of all the specified ecoists' proposals aimed at slowing down the pace of life and the transformations in the social, economic and ecological environment (Table 2).

Which element of this exercise is the most important from the point of view of our personal efforts aimed at building the reality of sustainable development and looking for ideas to decelerate the pace of life and transformation of ecosystems and biodiversity?

This may be the next task given to the students: while working together and sharing ideas (brainstorming) they consider the effects of ecoists' measures which are least acceptable to them (as well as the most acceptable ones if time allows). In order to consolidate the understanding of the con-

cept of sustainable development the evaluation of effects should take into account social, ecological and economic aspects. The following Tables (Table 3A-C and Table 4) show sample responses provided by students.

Table 2. Task sheet: measures used by ecoists and identified in the text entitled *Ecoists* by a sample group consisting of 3 students, and self-evaluated acceptance for the measures. Source: Author's own work.

Measure	Acceptance		
Using an ecological (e.g. linen) bag	+	–	+
Waste sorting	+	+	+
Reducing water consumption	+	–	+
Saving electricity	+	+	+
Reusing bottles, containers (e.g. made of glass)	+	–	+
Acquiring consumer knowledge of a product	+	–	+
Informed shopping, e.g. in conformity with fair trade rules	+	–	+
Using public means of transport rather than car	+	–	+
Consistent refusal for getting a lift by car (I'd rather wait for a bus or a subway train)	+	–	–
Purchasing food from local producers	+	–	+
Buying fewer exotic fruit in conformity with the food miles rule, which says that products should travel the shortest possible distance from producer to consumer	+	–	–
Reduced heating at home in winter and wearing warmer clothes instead	+	–	+
Purchasing hybrid vehicles	–	–	–
Eco-driving (e.g. downshifting)	+	–	+
Using recycled paper	+	–	+
Buying fewer clothes	+	–	–
Exchange party	+	–	–
Storing food in root cellars rather than in refrigerators	–	–	–
Using cloth diapers	+	–	–
Choosing products in recyclable packaging	+	+	–
Refraining from using toothpaste with fluoride	+	–	–
Cold shower	+	–	–
Using empty beverage cans as decorations	+	–	–
Getting rid of unnecessary load in car boot	+	–	–
Opting for sustainable fashion	+	–	–
Avoiding disposable products	+	+	+
Selecting ecological cycle in the washing machine	–	–	–
<i>Walking bus</i>	+	–	–
Purchasing products with <i>organic</i> or <i>bio</i> label	+	–	–
Carpooling to work	+	–	+

self-evaluation by assigning + or – to each behaviour; plus is assigned by those who could adopt a similar behaviour, and minus means the proposal is impossible to accept

Table 3. Examples of students' assessment of the least acceptable measures used by ecoists in terms of their impact on decelerating the transformation of resources. Source: Author's own work.

<i>Best practice A: Change party (an event aimed at exchanging clothes)</i>			
	Ecological effects	Social effects	Economic effects
+	using clothes for a long time allows for saving ecosystem services, reducing consumption of raw materials and decelerating environmental pollution	social meetings and contacts; discussions and sharing ideas and experiences; changing the conviction that evaluation of my person depends on what I am wearing; on a deeper level a sense of participation in a phenomenon decelerating the loss of biodiversity	decreased expenditure related to clothing; possibility to designate the savings to another purpose, e.g. culture
-	-	consequences related to unsettling the market and decreasing employment by apparel retailers; hazard of disease transmission	necessity to balance lower turnover obtained by apparel manufacturers and retailers
<i>Best practice B: Selecting ecological cycle in the washing machine</i>			
	Ecological effects	Social effects	Economic effects
+	decreased consumption of electricity, detergents, water; lower pollution of reservoirs receiving sewage; support for ecosystem services	savings	quicker exchange of clothes into new ones
-	-	perhaps inadequately washed clothes?	-

<i>Best practice C: Giving up refrigerators (using root cellars)</i>			
	Ecological effects	Social effects	Economic effects
+	energy savings; no freon emissions to the atmosphere; support for ecosystem services	return to the taste of food from grandmother's times and to natural methods of food preservation; perhaps also return to less heavily processed food ?	savings on purchasing refrigerator; this might be an attractive element of agritourist services?
-	-	such cellar is not available for everyone; more time-consuming; decreased employment by refrigerator manufacturers	stale food? a need to repurchase the goods?; lower sales of refrigerators

Table 4. Assessment of impacts caused by one of the most frequently accepted ecoists' measures; *Best practice: Waste sorting*. Source: Author's own work.

	Ecological Effects	Social effects	Economic effects
+	no need to expand landfills and acquire new land for that purpose; reduced environmental pollution, decreased risk of its degradation, reduced consumption of raw materials; support for ecosystem services	building ecological awareness and attitudes; satisfaction caused by supporting nature; prospects for less polluted environment for ourselves and the future generation	possibility to reuse materials without the costly process of obtaining primary resources; savings resulting from preventive measures aimed at protecting ecosystem services, savings due to indirect protection of human health
-	-	-	sometimes additional costs related to purifying recyclable waste; development of new technologies

Clearly, they are not very sophisticated. In fact some responses may even indicate the lack of familiarity with the topic, yet it should be emphasized that knowledge which could be helpful in performing the evaluation is currently subject to extensive remodelling. To document this, another issue *what should we eat to save the Earth* may be considered (Focus, 2008).

Research conducted in the USA has shown that food products consumed in an average household leave *carbon footprint* equal to 8.1 tons of carbon dioxide per year. This is nearly twice as much as CO<sub>2</sub> emissions from cars amounting to 4.4 tons (with the assumed average annual driving distance of 19,000 km and fuel consumption of 9 l/100 km). Due to this, scientists started calculating emissions of greenhouse gases generated by food production. Owing to their findings we can make an attempt to decide what to eat, so that we can protect our Planet. Yet, the calculation of the *carbon footprint* of consumed food is not easy. The analysis should include each joule of energy, taking into account everything, from the farming field to the fork used during a meal, summing up all greenhouse gases emitted at each stage of production and consumption.

In the case of meat and dairy products we should also take into account methane and nitrogen oxide, remembering also that methane remains in the atmosphere for 9 to 15 years and retains heat 21 times more effectively than carbon dioxide (Focus, 2008). In order to examine the environmental impact of chicken breast lying on our plate and originating from an industrial poultry farm we must consider various factors: feed production (i.e. cost of fertilizers, cultivating and harvesting grain and processing it into a form in which it is served to chickens staying in halls housing up to a quarter of a million birds), costs of heating the building as well as fuel used while transporting the chickens to the abattoir, greenhouse gases generated by the processing plant and packaging manufacture. It is necessary to add the costs of transport to a warehouse, cold storage of meat, delivery to the shop, and costs of chilling the product inside meat counters. A carbon footprint is also generated by the consumer who must reach the store to buy the chicken, then travel back home and cook it.

Chicken is a relatively trivial and simple example – it is much more difficult to calculate CO<sub>2</sub> production during more complex manufacturing processes. Yet, it is not impossible. In his book entitled *Ecological Intelligence*, Goleman (2009) writes about the rise of a new discipline called industrial ecology. It exists at the cusp where chemistry, physics and engineering meet ecology and integrates those fields to quantify the impacts of manmade things on nature. This science focuses on topics as diverse as estimating CO<sub>2</sub> emissions resulting from every industrial process, analyzing the global flow of

phosphorous, the possibility to streamline recycling of waste as a result of electronic tagging of goods, and the ecological consequences of a trend for designer bathrooms in Denmark.

The end of the classes is usually satisfying for the teacher, since it turns out that what was previously unfamiliar, therefore rejected by the students, after a closer look turns out important and useful, and that leads to a conclusions that *perhaps I could also try and climb some stairs towards sustainable development? Actually, I do have an idea how ecosystem services could be preserved in some other way* (Fig. 1).

The following exemplary ideas for specific steps towards sustainability were provided by students:

#### *along the social stairs*

- organization of volunteers to work on encouraging neglected children to decelerate the pace of life;
- organizing occasions for three generations (grandparents, parents and grandchildren) to stay together for leisure time, e.g. at weekends;
- organizing occasions for further discussions concerning the topic of retardation;
- slowing down one's own pace of life and organizing volunteers to provide aid for elderly people.

#### *along the ecological stairs*

- organizing occasions for showing the state of ecosystems to family and friends;
- giving up one TV set at home and donating it to people in need;
- organization of carpooling to university for a group of students;
- organization of a discussion club.

#### *along the economic stairs*

- organizing neighbourhood groups aimed at providing free-of-charge support (joint rental of washing machine, shopping for the whole group, based on shopping list and using one car, etc.);
- designing a project aimed at raising funds for the installation of bicycle stands in front of the university.

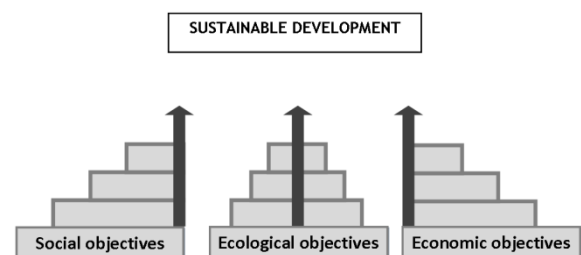


Figure 1. The road towards sustainability (compiled by the author).

The presented exercise may evolve from the introductory phase of the idea, as described here, to include more complex elements of a well-designed programme, verified by daily practice and experience. Interestingly, on this occasion young people *discover* and accept the significance and pleasure of volunteering and involvement in community work, as well as taking a break on one's own or in a group to appreciate the beauty of the nearby ecosystems. Some ideas are classified in a few categories: along the social as well as ecological and economic stairs. Indeed, it is easy to identify the three planes of interaction, e.g. when rather than spend time at a quad track one chooses a bike trip with friends. This sport is more beneficial for both the biker's health and the natural environment (so it is possible to identify social, ecological and economic advantages). Similarly, joint effects may be identified in an idea: *let's organize facilities for exercising along the trail in the nearby park.*

#### **Auto-projection of future with the decelerated pace of life and transformation of ecosystems**

Slowing down the pace of life and decelerating transformation of resources seems to be an important tool for the implementation of a new approach to the still existing natural assets and services of the environment. Aimed at implementing retardation, environmental education should apply activity-based methods and be understood broadly (as related to the natural, social and economic environment); it should serve the participatory society which is in need of regained holistic perception of itself and the world (Kostecka, 2013).

Education is a process of adapting to the broadly understood environment. In this case the concept of the environment, in addition to the natural also comprises the hierarchical social environment (family, school, local community, etc.) as well as the cultural and economic environment. Occasions for auto-projection of one's own better life in the future are also provided by other events. One of these is the tradition of Christmas Eve which involves doing something good, in a better and more efficient way, as well as making a promise to ourselves that we will stand up and fight with the daily routine. We make a promise to ourselves and we believe for instance that if we get up earlier on that day, pay back all debts, and smile to one another then we will manage to get up early throughout the year, we will not live beyond our means and will have a peaceful attitude towards the whole world. Some of these resolutions come true, therefore it is worth planning a lot and hoping that many of such plans will be achieved. Perhaps it would be possible to come up with resolutions which would facilitate the process of building a reality of sustainable development through decelerating both pace of our life and ecosystem transformation?

Other authors propose similar ideas. Kulik (2011) claims that true wealth means the ability to be happy with that which one has, and he continues to say that once we cross the threshold of objective poverty (400 USD monthly per person) we have ensured conditions allowing us to attain the maximum level of happiness. This standard of life is good both for us and for the natural environment. Kronenberg and Lida (2011) indicate that introducing sustainable development may support simple life and suggest that philosophical reflection is the essential element of simple life. Deliberations focusing on slowing down the pace of life and decelerating transformation of ecosystem services, as well as concerning related limitations, dilemmas and methods of implementation may enrich the current debate on sustainable consumption (Kostecka 2013).

The exercise described earlier can be based on different texts. One of the possible choices is the following fragment, which is a part of a longer text written by Ryszard Kulik (2011).

These tips provide an encouragement to gradually adopt specific behaviours, starting with the easiest and most accessible at a given time and leading to those which require greater sacrifices, and are aimed at slowing down the transformation of ecosystem services.

That is what we can do in order to express in practice our concern for ourselves, other people and the Earth:

- ✓ Choose a simple lifestyle. Reduce your expenses by giving up things which you do not need.
- ✓ Make a list of essential expenses, crossing out the unnecessary ones.
- ✓ Avoid visits to supermarkets as a means to kill time or a source of entertainment; just spend time with family and friends and talk about important issues.
- ✓ Buy small quantities, buy local; identify local manufacturers and suppliers, contact them, and learn how they process products which find their way to your table.
- ✓ Choose a job which is an affirmation of life. Follow your values which are based on thinking about our common good, about the Earth and sustainable development.
- ✓ Avoid work which destroys you and others physically and emotionally.
- ✓ Be interested in your local community, its problems and issues. Read local and alternative newspapers and magazines, and treat corporate mass media with reserve.
- ✓ Deposit your money in a local bank or credit union which works for the benefit of your community.
- ✓ Develop a system of time banking in your community and settle accounts with various people without using money.

- ✓ Reduce your dependence on your car. While choosing places to live and work check if the distance between them can be covered on foot, by bike or by means of public transport. Follow the same policy with regard to shopping and leisure activities.
- ✓ Choose sustainable forms of leisure: take walks, go jogging, and organize bike trips to visit the nearby area.
- ✓ Find out about local authors and artists; contribute to organizing events for them and support their work.
- ✓ Share your artistic abilities with your local community; organize a photography exhibition, poetry reading or music concert.
- ✓ Establish an association working for your local community or the local natural environment.
- ✓ Rather than spend hours in front of a TV set or online, meet your neighbours.
- ✓ Balance the time of work with the time of leisure (possibly – active recreation in the company of your family).
- ✓ Stay close to your loved ones, keep up friendships.
- ✓ Do not hurry, eat slowly and enjoy each moment (Kulik 2012).

We all experience a lot of first (new) phases in our lives. If we are unsure which way to go we feel anxious, worried or we experience internal conflicts. Yet, if we want to follow the path towards sustainability we must make an effort and take risk. More and more people notice that in highly industrialized countries energy dissipation has reached such level that costs of non-productive operations (maintenance, management, treatment, etc.) consume a bigger and bigger part of GDP. It is believed the way out of this trap will be a low-entropy world where economy is based on entirely different principles than today. Low-entropy civilization makes use of dispersed solar energy. Yet, its application is significantly more difficult than in the case of solar energy concentrated in traditional resources. Therefore it is assumed that the new world will consist of small communities, which to a great extent will be self-sufficient and where work performed by human hands will be the essential value. Possibly, the sophisticated technologies will pass away along with the old world and people will have to learn to live a slow-paced, more modest, economical and simple life resulting in less chaos and allowing to protect the still existing ecosystem services (Ogrodnik et al., 2010).

In the new phase of development, called *humanism for tomorrow* human growth will no longer involve activities which lead to breaking the bond with or dominating/conquering Nature, but will require diligent process of redefining the pact with Nature, and that may be enabled by sustainable and balanced development (Piątek, 2011).

One of its elements should involve retardation of resource transformation. This issue should not remain at the periphery of the educational process, but on the contrary it should constitute its underlying principle and provide support for educators, teachers of history and sciences, as well as psychologists.

Our planet cannot bear the load of our whimsies and demand for luxurious life. Psychological mechanisms related to the sense of happiness show that majority of those living in affluent countries, have already acquired everything necessary for life that is sufficiently rewarding and happy. If our personal feeling says otherwise, it means that we have been pulled into a dangerous game which adds impetus to spiralling expectations and ultimately leads to personal and global disaster (Kulik, 2011).

Because nature has developed mechanisms for eliminating negative phenomena, including harmful effects of most chemical compounds occurring within it, and performs this function through ecosystem services, people must urgently consider measures to protect these services. Even though as a result of developments in techniques and technologies, particularly environmental engineering, it is possible to eliminate many hazards originating from pollution (by intensifying natural self-purification processes which are an integral part of natural carbon and nitrogen cycles), due to high costs, as well as lack of willingness, degradation of ecosystems continues and some areas approach the state of irreversible devastation (Pawłowski, Pawłowski, 2008).

Hence, it is necessary to design and initiate measures aimed at shaping attitudes which will ensure the implementation of sustainable development and protection of ecosystem services (e.g. by slowing down the pace of life and decelerating transformation of nature).

## Conclusions

The teaching method described here may be applied in educational practice. By providing an aid in identifying one's place in creating fragments of one's reality it can encourage participants **to take further steps towards sustainability** and slowing down the pace of life. It can be used during classes in social studies in middle and secondary schools, as well as during classes in eco-philosophy, sustainable development and responsible business at university level.

The presented idea should be used jointly with activity-based methods of education: case study, discussion or brainstorming. Activating methods by themselves are attractive and participants are more willing to get involved in such tasks. We can hope that it will allow for deeper understanding of the rules of sustainable development, including acceptance for the difficult, controversial and multi-



faceted concept of retardation of pace of life and slowing down the transformations in natural resources.

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