1. Introduction: Global Politics, Cultural Studies and the Enigma of Russia

Among other things, the post-Soviet situation has marked the intensification of Russia's contacts with her western European neighbours. This is the case especially with the Northwestern regions of the country, which for historical and geographical reasons are the ones to get most attention (alongside with the federal centre of the country) in the policies of the European Union. The areas of interaction and co-operation between these regions and, as is mainly the case today, the Northern regions of the European Union include every possible aspect of human life, stretching from public sector reforms to projects aimed at encouraging private entrepreneurship, from academic and cultural exchange programmes to the development and promotion of tourism.

Partly due to the environmental decay left in the ruins of the Soviet state, environmental issues are among those to attract most attention in the context of the different EU technical assistance (TACIS) projects, and the fulfillment of certain environmental criteria by the target country or region has also become a prerequisite in projects that do not directly deal with these issues. Environmental pollution does not recognise state borders, and therefore it is in the interests of the EU and especially of the parts of it which share a common border with the Russian Federation, that the risk of environmental hazards in Russia is reduced to a minimum. This also increases the interest in a more intense interaction in the issues concerning the environment.

The growth of the role of ecological considerations in bilateral co-operation has happened simultaneously with the 'globalisation' of environmental policy-making. The latter is a process that changes the role of national actors in the environmental decision-making and, at a theoretical level, challenges traditional institutions such as the state sovereignty. It also brings into the environmental agenda problems that are considered genuinely 'global' by their nature. The most prominent global-scale actor is the United Nations with its distinct environmental programmes and expert commissions.

Closely connected with the globalising ecology, *sustainable development* is a concept that, although much contested, has become a key-concept in western[1] environmental

[1] The concepts 'west' and 'western', although being central in this study, are used in a seemingly unproblematised way. This is because of the various difficulties to define the terms. In this study the understanding of them is very loose, but it arises from the use of the terms by authors that have studied extensively the relationship between Russia and 'the

discussion as a model for the development of economy and society in a way that is both economically feasible and ecologically sustainable. The concept has become an international magic word particularly in the western world, to such an extent that it can be properly called 'the western mainstream' in the environmental discourse. Following its centrality and importance in the western discourse, sustainable development is also used as a guideline in the dealings with countries that represent the 'non-western' world. The implications of this are that in many cases intellectual or scientific constructions that are alien to some cultures are imposed on these from the outside with the excuse of having been accepted and consolidated on several international, or 'global' forums.

Despite its role as a global policy guideline, sustainable development is also relevant in the examination of European-Russian relations, since it is a conception that the European Union uses to legitimise certain policies within the framework of different (usually technical) co-operation projects with Russia. Hence (although in this sense Russia makes no exception among other 'non-western' countries), Russia is obliged either to conform to the whole package or fail in its first promising steps towards a closer interaction with its western European neighbours. In the light of the current turns in Russian's foreign policies, the latter alternative seems rather unthinkable, which leaves only one option: to try to adapt to the western requirements as conscientiously as possible.

The problem formulation of the present work arises from the above-mentioned, that is, from what I consider 'a penetration of alien elements' to the Russian cultural space. I think that sustainable development, as a product of a certain (western) culture, despite its popularity in the western discourse, does not naturally conform to the huge and ambiguous complexity of 'Russian culture'. Although global policy guidelines do have direct impact in the countries involved in the form of subsequent domestic policy-lines adopted, there are elements in a culture's memory that are more reluctant to change. In the case of an *environmental* concept these stable elements include such things as man's relationship with nature, his moral comportment towards nature and generally speaking the values that are operative in man's relationship with nature. To conclude with all that has been said so far, the identity of my MA thesis is at least twofold: first of all it is a study of International

---

west'. As a general rule, the terms refer to the western Europe, but depending on the context, they sometimes include also other 'western' cultures. The term itself, I think, is so ambiguous that it is hard to defend its position in scientific texts. This ambiguity becomes emphasised when talking about Russia, which is a country that has been searching for its identity in-between the east and the west. Hence, the opposition of 'Russia vs. the west' is much contestable.

Relations[2] which aims at discovering something new of the cultural characteristics of a country in order to help to understand better that country's relationship with the outside world. Thus, it presupposes that the foreign policy of a given country is not molded only by some systemic features on the state-level but to a great extent by the country's cultural characteristics. Secondly, it is a study about a culture-bound 'idea' and its journey to Russia and about the form it acquires in the Russian discourse and reality; about culture's mechanisms by which it seeks to protect itself or adapt to elements that are alien to it.

The concrete analysis will be carried out on the basis of a series of Russian environmental texts published by a St. Petersburg research institute *the Scientific Research Centre for Ecological Safety (SRCES)*.[3] This is an institution that was founded in 1991 under the reorganised Russian (former Soviet) Academy of Sciences. Heuristically, the starting point for the empirical part of the thesis is provided by the concept of *ecological safety,* whose popularity in the institute's publications resembles that of sustainable development in the corresponding western texts. Although born in Russia and used by a rather limited circle of people and institutions, the aims and ambitions of the 'ecological safety – approach' are truly global. For instance, it is proposed that the Agenda 21 (an action-programme adopted in the United Nations Rio Conference in 1992) be supplemented with a section titled "Collective Ecological Safety" that would be concerned with ecological integration processes taking place at local to global levels.[4] Judged by the tone that it is spoken for, ecological safety seeks to complement the notion of sustainability, and by making propositions that concern not only Russia but the future of the entire planet, it seems to form a similar kind of universal development paradigm as sustainable development has done during the past decade. What is interesting is that ecological safety appeared and Russian scholars started to participate in international scientific discussions in a time (early 90's) that 'the west' already had its own dominant paradigm in the form of

---

[2]1The abbreviation 'IR' stands for international relations as a discipline whereas 'ir' denotes the cluster of phenomena that go under that heading.

[3] The primary source material for this study has been collected during three trips to St. Petersburg: in September 1998, July 1999 and February 2000. In the last two of these trips this has been possible with the kind assistance of a SRCES research fellow, Mrs. Irina Kalinina who has acted as the contact person for the SRCES research centre. Besides this, I also visited the home-university of Yuri Lotman in Tarttu, Estonia in spring 1999, in order to get acquainted with his earlier. The translitteration of the cyrillic characters in this work is based on the 'non-practice' –practice, which seems to be the most common one in the western research literature. For technical reasons, I could not use the ISO 9-1986(E) standard here, although that was my intention in the first place.

[4] Donchenko 1998, 104.

sustainable development. In this respect ecological safety can be considered a reaction, an answer to the global culture of sustainable development, representing something that in Russia is considered equally important as sustainable development in the west. My interest in Russian environmental thinking arises from my own experiences of reading Russian environmental texts, but there are also some other personal factors that make me interested in this kind of inquiry.[5]

The concept of symbol and its memory-function are central in the methodical application of this study, whose main features are borrowed from Yuri Lotman. The intention is to make visible the symbolic structures behind the concept of ecological safety by first identifying the thought-paradigm behind it, and in the end by identifying primary symbol – or a model image – for each member of the paradigm. An author that will help to frame the paradigm in its first analytical dimensions is Tzvetan Todorov, whose categorisation serves for the purposes of a Lotmanian kind of analysis, facilitating the analysis of scientific texts as opposed to Lotman's own three-part paradigm that is intended for the analysis of poetic and artistic texts. Within this study there is no possibility to analyse sustainable development in its western context. Instead, the analysis of sustainable development will only be taken up in the last section of the study in order to make some comparisons between the two concepts and to reflect upon Berlin's ideas. For this purpose, an article by professor Helena Rytövuori-Apunen and myself is used, in which an analysis of sustainable development is carried out.

The framework for analysis and also a heuristic starting point will be provided by Isaiah Berlin, a historian and a philosopher who has dedicated much efforts to the examination of Russian culture, and especially Russian culture in relation to the 'outside world', western Europe most significantly. Berlin's basic argument is that while Russians have always been very eager to adopt and borrow 'ideas' (philosophical, political and so forth) coming from outside the country, this borrowing has often resulted in a transformation or even "a perversion" of the original ideas. Similar arguments about the Russian culture have been

---

[5] Ecology or environmental sciences is one of those trendy subject-areas that experience a constant change of lexicon. This is of course a very universal phenomenon, but the problem of terminology in Russian scientific-technical publications is no doubt very striking: the amount of imported elements causes that Russian authors use either completely new terms or old terms with a completely new meaning (Marcuk 1992,18.) Being also a student of translation sciences, I consider this kind of study interesting and important also from the point of view of Russian terminology.

displayed also by other authors, for instance by Yuri Lotman and Boris Uspenskii, to mention two of the best known. These will also be taken up.

Now a pair of questions that most probably has occurred to the reader so far. First of all: since this is a study about Russian culture, the connection between 'culture' and scientific environmental texts might have been left unclear. The answer is that culture has become the trendy word to account for almost anything, including the sphere of ecology. The conclusion for my purposes is that what there is behind environmental discourse is also a culture: the discourse arises from a certain cultural context, and no matter how 'scientific' it is, within the confines of its memory-function it reproduces something archaic in the culture, "emissaries from other cultural epochs"[6], related for instance to the above-mentioned moral relationship with nature.

A second question is whether the cultural characteristics of a country really tell something about it as an international actor and if this is the case, what. This the point that connects this Thesis most tightly to a wider debate inside IR, and that I may only seek to answer partially in the course of this work. It is bound to the theoretical and ontological grounds of this paper, which forward the argument that politics, also at the international level, do have cultural grounds, or in the words of Martin Wight, that international relations is about "the habitual intercourse" between different groups of people rather than a system of faceless units, states, that can be explained by laws of power-politics, game-theories and so forth. The argument favouring Wight and other authors of his kind remains the most important contribution of this work to the disciplinary discussion. Besides this, the study will touch the complex subject-area of globalisation versus localisation and the impact of these two simultaneously proceeding processes from the point of view of ir and IR.

***

The Russian diplomat and poet *Fedor Ivanovich Tyutchev* (1803-1873) wrote in his world-famous poem that "you cannot understand Russia – you can only believe in her." Before and after him several attempts have been made by Russian and foreign authors to explain and understand the *zagadochnaya russkaya dusha,* "the mysterious Russian soul". Although this work is first and foremost a study in International Relations, it is ultimately a continuation to the long line of attempts to learn more about a culture that in crucial

[6] Lotman 1990, 103.

points has proofed to be different from ours but that is also similar enough in order to cause confusion and argument about the position of Russia on the world map. A case in point is the historical quarrel between the 'slavophiles' and 'westernisers' in Russian history. It was one of Russia's early westernisers, *Pyotr Chaadaev*, who is said to have opened Russia as a philosophical problem and made the comment that Russia does not belong to any of the known civilisations, that "Russia has no past, no future…" In the end, both slavophiles and westernisers have based their views on the exact same argument about Russia being exceptional among all cultures of the world. So, it must be true that Russia is very exceptional – or maybe not? Before jumping into such conclusion let it suffice to ask a silly-sounding and simple question that I encountered as the title of an article in a famous western political magazine. It is here to raise the appetite for this type of study and guide the inquiry all the way through: "Is Russia different?"[7]. Such a simple question it is.

[7] *The Economist,* June 15th 1996.

2. Background to the Research Problems

2.1. A History of the Russian 'Local' and the UN 'Global'

In the journey towards an understanding of the mechanisms of Russian culture, a starting point is provided with an overview of how Russian conservationist and environmentalist thinking has evolved over the last 150 years, the beginning of modern environmental thought. Basic knowledge about the specific features of sustainable development as a part of an internationally accepted *global development paradigm* will be also discussed. As a history in a nutshell, this section will serve as a basis for the whole Thesis to unfold on. It will also provide a historical framework for the interpretation of the results of the concrete analysis.

2.1.1. Environmental Thought in Russia

> 9Scientists must show society that the light which is generated by scientific creation is not the cold, passionless light of electricity, but a warming ray of the sun, which even has the power to call the dying back to life…
>
> *Professor V. I. Taliev in his inauguration speech of the Harkov Society of Naturalists, 17.10.1911*

Proto-conservationist thinking in Russia can be traced back to the Muscovite rule when increasing scarcity of natural riches made it necessary for those in power to protect their hunting grounds. Conservationist concerns were in some forms expressed also by the czars, for instance by Peter the Great, who is considered the first Russian emperor to raise a concern for the well-being of the *whole* Russian state instead of merely his proper estate. He issued forest protection decrees which divided forests into "exploitable" and "protected",[8] thus clearly advocating for the protection of some, strictly defined territories.

Mid-nineteenth century marked the beginning of modern environmental thought. It was an era when the thinking classes in several European countries woke up to realize that man's relationship with the nature is not nearly as unproblematic as it was earlier thought to have been.[9] In Russia this intellectual awakening became manifested especially in the belief that humans could finally become responsible for their own lives through scientific means, hence making it possible for the ordinary people to emancipate from the aegis of power of the czar and the church.[10] The development of 'eco-sciences' in Russia took place in the years 1861-1917, at the same time as Russian sciences in general grew with a remarkable speed, borrowing influences from abroad and combining them with the Russian imagination.[11]

By the turn of the century a modest conservation movement existed in Russia. Among the supporters of environmental protection there were three contending approaches as to *why* nature should be protected: *utilitarian*, *cultural-aesthetic-ethical* (or *pastoralist*) and *scientific* (or *ecological*). While the utilitarian approach which was most vigorously expressed by the czarist government followed the instrumental logic of Peter the Great, the cultural-aesthetic-ethical view emphasized aesthetic and moral considerations when arguing in favour of nature protection. According to the pastoralist view, nature had value as such, irrespective to its usefulness for man, and all species had equal rights to existence, and natural harmony ought to be seen as a model for humna action. Man, by abandoning his natural position, had turned against nature and his mere existence had become a burden to other biological beings. This rather romanticist view was of German and Swiss origin.[12]

---

[8] Weiner 1988, 7.
[9] Bramwell 1989, 3.
[10] Weiner 1988, 8. See also Susiluoto 1982, 27.
[11] Susiluoto 1982, 25.
[12] Weiner 1988, 229.

The third, so called *scientific conservationism* or the *ecological view* was genuinely a Russian approach that had its roots in the Russian study of vegetational communities (*phytosociology)*[13] and being influenced by the ancient Russian *sobornost'*.[14] It entailed a holistic view of the nature, making no utilitarian distinction between "useful" and "harmful" or "exploitable" and "protected". Instead it underlined the importance of all species to the *natural equilibrium* of nature. Complex natural processes were given scientific explanations. The ecological view was a compromise between utilitarianism and pastoralism, emphasizing the natural balance of the nature on one hand, and the danger that a collapse of this system might cause to humans, on the other. According to this ultimately anthropocentric view the civilization was going towards its destruction because it was continuously altering the conceived natural equilibrium.[15]

A prominent representative of the scientific ecologism was *Grigorii Kozhevnikov* who, in the mid-1890's, was the first to raise the problem of nature protection in Russia. One of his main arguments was that rationality in economic activities could not be achieved without a prior scientific study of "virgin nature". Inspired by the experiences gathered during his trips to the United States and Germany, he started promoting the idea of *zapovedniki,* Russian style natural conservation areas that would serve as models of healthy nature.[16] Kozhevnikov's ideas fascinated Russian biologists, even those with pastoralist viewpoints, and in 1898 the first *zapovednik* was established. Besides the establishment of *zapovedniki* a notable achievement in the pre-war period was the establishment of the *Permanent Conservation* under the Imperial Russian Geographical Society.[17]

A single external factor that had a great impact on Russian pre-war conservationist movement was the First International Conference for the Protection of Nature held in

---

[13] Phytosociology studied communities of plants making structural and functional analogies between them and human societies (Weiner 1988, 253.)

[14] Ibid., 12. *Sobornost'* denotes a special sense of community and belonging that has historically been valued highly in the Russian culture. It is an interesting conception since it is one of the relatively few things that have ever been considered to represent 'true Russianness'. Knowing its literal translation does not help much, as it is a conception loaded with ambiguity and mysticism. This is discernible also from the following extract by Russian researcher Boris Groys: "[…] *sobornost'* denotes the victory of the great divide between faith and atheism, between russianness and europeanness, between consciousness and sub-consciousness, and that is why its place is at the outpost of any space, including the space of theological thought." (Groys 1993, 250)

[15] Weiner 1988, 15, 230.

[16] Weiner 1988, 14. *Zapovedniki* is the plural form of the Russian word for natural conservation areas, *zapovednik.*

[17] Weiner 1988, 16.

Switzerland in 1913. Especially the observations made by the Swiss zoologist *Paul Sarasin* made a great impact on the two Russian representatives to the conference, Kozhevnikov and the pastoralist thinker *Ivan Borodin.* Sarasin brought up the question of the interconnection between technology, capitalism and natural degradation thus making the two Russians supporters of the Bolshevik Revolution and one of the most enthusiastic supporters of the new regime.[18] While the aesthetic and utilitarian approaches had been most prominent in the pre revolutionary period, the ecological view would see its heyday during the first years of the Soviet rule.

The first years of the new political regime were, in fact, favourable to conservationist thinking, especially the NEP-period. The teaching of natural sciences was extensive during the NEP, and the scientific ecologism seemed best suited for the generally scientific world-view of the new regime.[19] However, the economic priorities brought up by the First Five-year Plan soon outweighed the ecological ones that had never been quite properly established. Pressure was slowly mounting on scholars and professors that promoted conservationism because they were seen as representing something from the old regime, something "bourgeois". The beginning of the Stalinist era at the end of 1920's finally put an end to the mystification of nature in all forms. It denounced the view that it was necessary for humans to study and obey *nature's laws* in order to be able to control the nature. Quite the contrary, the Stalinist man as a unique and superb creation would submit nature under *human laws* without ever having to know anything about the ways in which the laws of nature functioned. In Stalinist thinking, nature was seen completely apart from human beings, having hostile features that should be tamed. This is why it seemed to many that it were people that were in danger from nature rather than the other way around, and the interest in nature protection was undermined. Likewise, the brutal policies of the 1930's made it sure that the vast majority of Soviet citizens would have too much to worry about in their own lives in order to be concerned for the survival of threatened ecological communities or some esoteric life forms.[20] By 1933, the conservatonists had come to such a big disagreements with the economic state-organs that the movement almost seized to exist. *Zapovedniki* were widely liquidated by 1951. In the meanwhile, the conservationist movements in the United States and Germany were flourishing.[21]

---

[18] Ibid., 18.
[19] Weiner 1988, 231.
[20] Weiner 1988, 234.
[21] Ibid., 235.

In the two and half decades preceding the Gorbachev era the environmentalists in Russia could be found primarily in the *Society for Nature Protection* founded already in 1924 and in student nature protection patrols, *druzhiny,* founded in the mid-1960's. The late 1980's saw a mushrooming of environmental non-governmental organizations in Russia, the most prominent of which was the Socio-Ecological Union (SEU). The organisations founded in those times were very quick to adopt the habits of the corresponding Western organisations as regards fund raising and lobbying.[22] Many sources agree on that the environmental catastrophe caused by the Chernobyl explosion and the environmental movements activated by it were one of the main catalysts of the democratic developments in the Soviet Union before its collapse.

Despite the positive developments of the last decade, it is today an undisputed fact that the country has to cope with severe environmental problems. According to a leading Russian expert on environmental law over 20% of Russian territory is today in a state of "ecological crisis", and over 70 million Russians breathe air that contains at least five times more harmful substances than the norms allow.[23] In the western discourse this overwhelming degradation has generally been attributed to the communist, or Stalinist, dogma on the conquest of nature or to the humiliated and passive *Homo Sovieticus.* Furthermore, it is often claimed that Russians themselves do not know or understand the true state of the country's environment. Regardless these western stereotypes and the critical state of the nature in today's Russia, a more truthful picture seems to be that Russians do understand the seriousness of the situation. Ecology has been well represented in the state and region-level administrative apparatuses (although the abolishment of the State Committee on Environmental Issues by a Decree of president Putin at the end of this May is considered to mark a big leap backwards)[24], and the legislation on that field is quite advanced. The real problem in today's Russia seems to be on one hand that the laws are contradictory and that the enterprises are unwilling to follow the norms defined by laws, on the other.[25] However, contrary to what is often the western stereotype, a profound respect for nature ought to be a prominent feature of Russianness, and the fact that those values

[22] Garb 1995, 688, 693.
[23] Bäckman 1996, 54.
[24] Aamulehti 31.5.2000.
[25] Susiluoto cit. in Bäckman 1996, 53-54.

have never been totally forgotten facilitates the adoption of new environmental ideas in Russia.[26]

2.1.2. The Global Culture of Sustainability

Following the model set by the traditional nation-state, the natural environment with its problems used to belong to the internal sphere of a state, and it was earlier considered that such problems did not presuppose actions at the international level. It was during the 1980's that environmental issues started to acquire an international nature and the world saw a rise in global environmental consciousness.[27] It was widely understood that pollution does not respect national boundaries nor is it possible for a country to fight pollution alone. Furthermore, the 1980's brought into light for the first time problems that are genuinely global by their nature, such as global warming, ozone depletion or the pollution of international waters. All this marked a significant change in the way in which environmental problems would be understood and addressed in the future, and it also started an era of disputes about the pre-eminence of global problems over local ones. More recently, these issues have acquired a more complex nature as they have been linked with Third World development problems, world economy and questions of justice and domination in the international system. The most prominent international actors to find solutions to these problems have become United Nation's Environmental Programme (UNEP), International Union for the Conservation of Nature and Natural Reserves (IUCN) and the European Union.[28]

Following a decade of discussion on human environment started notably by the United Nations Stockholm Conference on the Human Environment in 1972, a *World Commission on Environment and Development* was established in December 1983 at the request of the Secretary-General of the United Nations, Javier Perez de Cueillar. What was expected from the commission was something like a long-term environmental rehabilitation programme that would take into account economic, social and populational demands. In 1987 the Commission published a report under the heading *Our Common Future*, which soon was

[26] Susiluoto cit. in Bäckman 1996, 51-53.
[27] See e.g. Garner 1996, 110; Sachs 1993, 12.
[28] Garner 1996, 110-111.

named *Brundtland Report* in honour of the chair-woman of the commission, the Norwegian Prime-Minister Gro Harlem Brundtland.[29] This report, for the first time, introduced the concept of *sustainable development* to the international public, although sustainability as a term had been discussed in several occasions already long before the Brundtland Commission. According to the famous formulation designed by the Commission sustainability in one sentence means "meeting the needs of the present without compromising the ability of the future generations to meet their own needs."[30] The concept of sustainable development is revolutionary in its attempt to reconcile two things that would at first sight look incompatible: the economic development of countries and the well-being of natural environment. Due to the political arena on which it was established and the tone in which it was spoken for, sustainable development can be considered as the *true* beginning of government-level *global ecology -thinking*. In the report the following priorities are identified in the environmental protection:

- Slow population growth
- Reduce poverty, inequality and third world debt
- Make agriculture sustainable
- Protect forests and habitats
- Protect freshwater quality
- Increase energy efficiency
- Develop renewable sources of energy
- Limit air pollutants
- Reduce waste generation and increase recycling
- Protect ocean and coastal resources
- Shift military spending to sustainable development[31]

A prominent international forum to further develop and enforce sustainable thinking was the *United Nations Conference on Environment and Development (UNCED)* also known as *The Earth Summit* organised in Rio de Janeiro in June 1992 where the assembled leaders of over 100 states endorsed the *Rio Declaration on Environment and Development* and adopted *Agenda 21*, a plan for the sustainable development of the 21st century. The

---

[29] World Commission on Environment and Development 1987, IX. The commission included one representative from the Soviet Union (ibid.) The establishment of the UNEP was the most significant achievement of the Stockholm Conference in 1972. Its task is to co-ordinate environment-related activities inside the UN and to consolidate environmental co-operation at international, national and regional levels (Rion Konferenssin taustaa, 1998 [WWW-document].)

[30] World Commission on Environment and Development 1987, 8.

[31] World Commission on Environment and Development 1987.

Commission on Sustainable Development (CSD) was created in the aftermath of the Conference in order to follow, monitor and report on the agreements signed in Rio.[32]

The Rio Conference was the first international forum to adopt action programmes and recommendations corresponding to the principle of sustainable development.[33] Each signatory of the Rio Declaration engaged to make a national plan indicating how it will implement Agenda 21. However, a major weakness of the Declaration is that there is no high authority to supervise the implementation of the recommendations nor any real sanctions in the case a country chooses to ignore some of the recommendations.[34] In this respect the EU is exceptional, being the only international organisation that has the means to enforce certain common policy patterns on its member states. Recently the model set by the EU has been followed by some other international organisations with similar interests, such as the Commonwealth of the CIS-countries.[35]

Despite the generally conceived successes of the Rio conference there were several points of argument concerning both the substance of the concept and the way in which *sustainable development* was propagated as *the* global environmental agenda, and there is still no full consensus over the status of the new sustainable strategy of development. One of the most central concerns raised by some parties involved is that sustainability is essentially a *western concept* based on western understanding of nature and a western model of development (for example, consisting of certainties such as *progress, growth, market integration and consumption)*[36]. Therefore, according to the critics, it would not be fully grounded to assume that all countries including non-western ones should converge with the accepted definition of sustainability modeled on this kind of dominant western development paradigm.[37] In fact the whole discussion round sustainability as the 'global magic word' has

---

[32] *About Commission on Sustainable Development* 1999 [WWW-document]. The Framework Convention on Climate Change and the Convention on Biological Diversity were the other two documents signed in Rio (ibid.)

[33] *Government Views on the Relationship between Population and Environment* 1997, 13.

[34] Garner 1996, 118. Out of the five agreements signed in Rio only two were legally binding: those on biological diversity and climate change (Ibid., 117.)

[35] Golubetskaya 1998, 9.

[36] Sachs 1993, 4.

[37] Palmer 1992, 185. Several other questions have also been raised concerning either the concept itself or the ways in which it seeks to solve environmental problems. A set of problems is connected with the way in which the concept glorifies development, or "[…] calls for the conservation of development, not for the conservation of nature." (Sachs 1993, 10.) Another central concern is that with the legitimising force of the 'global discourse', the environmental problems on local level can be left completely without attention, as if suddenly local problems did not exist anymore. For instance the Global Environmental Facility (GEF) established by the World Bank has only four environmental issues in its agenda, all pertaining to the sphere

been severely criticized by those who find the discourse on globalisation merely as a tool that is used to reinforce a particular dominant 'local' (western) view and to assert global control over these issues. This is also called "green imperialism".[38]

What followed in Russia in the aftermath of the Rio conference was that on the 1st of April 1996 the Russian President Boris Yeltsin issued a decree under the title "The concept of Russia's transition to sustainable development"[39]. This decree is interesting in that it also included an official statement concerning the environmental, social, political and economic conditions in the country. According to it, "the threshold of the 21st century" is particularly decisive for Russia, a country freeing itself from old ideological burdens and trying to find new development paths". Furthermore, Russia's role is considered central when dealing with these issues, because of the massive natural reserves situated on its territory. It is also openly admitted that Russian industry so far has not been able to render its actions more nature-friendly, in the same pace that corresponding western industries have.[40]

In May of the same year the Russian government introduced the first concrete actions to be taken in the implementation of the sustainable strategy. Among other things the government resolution calls for "the federal and regional consecutive organs and the Russian Academy of Sciences to prepare and introduce in the Ministry of Economy an outline for Russia's strategy of sustainable development by the 1st of September 1996".[41]

Although the Russian media so far has seemed to be rather indifferent in the matter of sustainability, some articles can be found in the most popular newspapers indicating that there is indeed a degree of domestic social pressure in Russia to respond to the UN policy recommendation. Such a view is expressed for instance by a member of the party committee of the Green Party of Russia (KEDR), *Vyacheslav Amelin*. He writes in an article published by the influential daily newspaper *Segodnya:*

> And what if the capricious Western partner, creditor and investor will not understand it [Russia not adopting the concept of sustainable development] and puts finances on ice and establishes new economic barriers. That would not only be because of human rights

---

of 'the global': the reduction in greenhouse gas emissions, the protection of biodiversity, a reduction in pollution of international waters and a reduction in ozone layer depletion. Similarly, properties such as biodiversity are suddenly considered global goods legitimising the free access of northern actors to the biodiversity of the Third World countries, not to mention that environmental problems are attributed to underdevelopment of the latter instead of the 'over-development' of the former (Shiva 1993, 152.)

[38] Shiva 1993, 149.

[39] *Ukaz Prezidenta Rossiiskoi Federatsii* 1572*/1996*.

[40] *Ukaz Prezidenta Rossijskoi Federatsii 1572/1996.*

[41] *Postanovleniye pravitel'stva Rossiiskoi Federatsii 2351/1996.*

> or other similar reasons but simply because it does not want to have anything to do with people who are drowning in their own waste.[42]

Amelin spells out what seems to be one of Russia's biggest fears during the new era: to be left out to the margins of world politics. This, I think, is not only because of the feared loss of the Soviet status of great power, but it has to do with an age-old trauma of the country being so vast and clumsy that it does not properly belong to any political or territorial entities.

Another Russian article about sustainability deals with a perceived conflict between the central role ascribed in the Rio Declaration to the state apparatus in promoting and implementing sustainability, and the historical need to reinforce the development of civil society in Russia.[43] The point for my purposes is that there is certainly a discordance between 'global wants' and 'local conditions', not only in the case of the 'developing countries' but also in the case of Russia.

The starting point for this study seems to be set: yet another, brand-new, 'outborn' idea has found its way the Russian soul and soil. The international actor called Russia is acting upon internationally accepted and legitimised recommendations and fulfilling its obligations as a member of the international society. But meanwhile, the process that bears significance from the viewpoint of this study is taking place under the surface and outside the echelons of power, namely the process of public and scientific discussion round the topic, discussion that is no longer subject to the decisions of the international organs of power. As it will be shown in the analysis later, this discussion differs from the corresponding western one, but it shows that Russians are in fact everything but unaware of the current environmental situation in their country and also acknowledge the global nature of some of these problems.

2.2. Heuristic Formulations

During a one-week Environmental Summer School in St. Petersburg in September 1998 our group took part in an environmental conference where I was handed an issue of a journal published by a local environmental

---

[42] *Amelin in* Segodnya 88/1996, 9. At large, sustainability is completely ignored by the Russian press.
[43] Ursul 1997, 36.

research institute. It seemed to open a world of its own, with the vocabulary used differing substantially from what I had got used to.

11.0.1.Sustainable Development – or Ecological Safety[44]?

When first leafing through the environmental publication coming out in St. Petersburg by the name *Ekologicheskaya Bezopasnost'* I could not help noticing that although the term sustainable development *(russ. ustoichivoye razvitiye)* appeared there quite a number of times, there was yet another concept that seemed to appear even more frequently, sometimes independently, sometimes interwoven with that of sustainable development. In so doing it still often played the principal role in very much the same kind of discourse that sustainable development did. The term is *ecological safety (russ. ekologicheskaya bezopasnost')*. It seemed to me that sustainable development had somehow been replaced by ecological safety in them in such a way that several passages that according to my previous knowledge lacked the concept of sustainability, were instead protagonised by 'ecological safety'.

A further reading of the texts showed that sustainable development in fact had not been completely *replaced* by ecological safety in the Russian texts but instead the latter had been made as a *complementary condition* of the former, almost as if the two concepts were somehow organically or logically connected. Sustainable development was seldom talked about as such without adding at least 'a hint' of 'ecological safety' to it. For instance, instead of a mere sustainable development of the society the expression "[…] *sustainable and ecologically safe development of the society*"[45] was used. Similarly, Agenda 21 was said to include "basic guidelines for the sustainable *and ecologically safe* development on the global level."[46] The explanation of the relationship between the two terms was such that *safety* and the sustainable development of a society are two "*closely interconnected* concepts that […] play a significant role in the analysis which aims at reaching the highest possible level of material and spiritual development of human life".[47] And all this was said as if it was totally self-evident to the reader!

---

[44] This is the translation of the Russian term is made by the environmental research institute that publishes the journal. The translitteration of the term follows the practice used by them. Other proper translations to the term would be *environmental safety* or *security.*
[45] Donchenko et al. 1997, 383.
[46] Donchenko 1998, 7.
[47] Donchenko et al. 1997, 327. Emphasis added.

Other than representing a part of this kind of an 'ecological paradigm', ecological safety was also the name of "a new multidisciplinary scientific approach" whose realm is the "complex study of the problems of ecology and the rational use of natural resources".[48] In other words, the approach represented by ecological safety is there to challenge sustainable development, although this was not expressed in so many words.

What does the term ecological safety actually suggest to a western reader at first sight? *Safety*, as a concept, traditionally calls for association with terms such as *security, risks, threats* or *protection. Environmental security* is a relatively new concept used in the western discourse to describe the threat that environmental catastrophes might pose to the *national security* of states. Environmental threats are hence militarised by bringing them into the traditional geopolitical national security agenda.[49] This approach is present in the Russian source material also but only in passing, in a categorisation in which national security (or safety) is divided in five main categories: natural, technogenic, ecological, military and economical safety.[50] It is argued, rather interestingly, that there is an interdependence between the sustainable development and the national security of Russia so that the latter guarantees necessary conditions for the former and the former is one of the preconditions of the latter.[51]

A second western approach to environmental security underlines not only the nation state being under the risk of danger but the *environment itself* being exposed to outside influences to such an extent that it is necessary to protect it.[52] This approach is also present in the Russian sources.

The first part of the term ecological safety, *ecology,* refers to the relationship between human populations and their physical environment.[53] Considering all this the term

---

[48] Yakimova 1997, 36.

[49] Elliott 1998, 219. The same is referred to in the discourse on *securitisation* of the environment and international crime among other areas, discussed, for instance, by Ole Waever.

[50] Izmalkov – Izmalkov 1998, 5.

[51] Ibid., 26.

[52] Elliott 1998, 219.

[53] **Ekologiya 1** Science that studies the internal relationships and the interrelationship between flora and fauna as well as their relationship with the environment **2** ecosystem **3** the nature and the environment of all living (usually with a negative connotation). (Bolshoy tolkovyi slovar' russkogo yazyka [The Comprehensive Dictionary of the Russian Language] 1998.) **Ecology 1** That division of biology which treats of the relations between organisms and their environment; bionomics **2** The study of humna populations and of their reciprocal reltions in terms of physical environment, spatial distribution, and cultural characteristics (The New International Webster's Comprehensive Dictionary of the English Language;

ecological safety seems quite ambiguous at first reading: the safety of whom or what does it refer to? In relation to whom or what is that safety defined? Safety merely might allude to the 'safety' (security) of a nation or a state but combined with ecology this conception is blurred. What is quite evident, however, is that we are not talking merely in terms of states or 'hard security' but instead in terms of human populations or societies in relation to their natural environment.

Ecological safety is a concept that is used by quite a limited circle of people and institutions. No western source seems to know it, and in Russian WWW-sites it also appears only occasionally. According to the sources that I have at my disposal it seems that ecological safety is a concept used first and foremost in the St. Petersburg scientific circles, although it has been adopted on an international level also, in the form of "Collective Ecological Safety for the CIS countries", a policy guideline for the Commonwealth of Independent States.[54] At the state level, the Russian Duma has adopted a law "On ecological danger ['unsafety'] already in 1995.[55] St. Petersburg environmental report from the year 1998 carries the name "Environment protection, use of natural resources and the securing of ecological safety in St. Petersburg in 1998". All this combined with its absence in the corresponding western discourse allows for suggesting that ecological safety is 'a truly Russian approach'.[56] Whether it seeks to challenge sustainable development or just to complement is not important, because it is definitely an expression of *something that is thought to have a great importance* when talking about man-nature relationship and environmental protection. And the fact that it has been developed in the aftermath of a massive discussion on sustainable development creates a necessary timely connection between the two.

---

later: Webster's.)

[54] Gloubetskaya 1998, 9.

[55] Izmalkov – Izmalkov 1998, 144.

[56] What further conforms with the idea that ecological safety is alien to western discourse are the presentations held in the Russian-Dutch seminar "Strategy for Ecological Safety of St. Petersburg, making the use of the Netherlands experience". It was astonishing to note that whereas the Russian speakers often used the concept (not to mention that it was in the name of the seminar), the Dutch participants to the seminar did not so much as mention this concept once. After reading through all the presentations held in the course of that seminar on has the impression that the two participant countries talk about more or less the same issues, but both using a completely different vocabulary. Other publications or Internet-sites that I found on ecological safety include: On Some Ecological Safety problems in Russia [WWW-document]; The Independent Center of ecological Consumer's Safety [WWW-document.

Heuristically, Alexander Wendt offers here an interesting starting point for this kind of inquiry with a basic constructivist view: "actors act on the basis of the meanings that the objects have for them, and meanings are socially constructed."[57] In this case, Russian actors act upon sustainable development on the basis of the inter-subjective meanings that are products (though continuously evolving) of previous interaction between them and those actor(s) (in this case the UN or the EU) who gave them *the* articulation of sustainable development. And as the intention here is to look at the discourse on sustainable development as an indicator of culture and identity, the study is simultaneously about the inter-subjective meanings that are affecting the attitudes operative in the content of sustainable development in Russia. Proceeding from the two notions, sustainable development and ecological safety, we are led to explore the way in which these two concepts incorporate what is considered most *important* and *valuable* in environmental thinking both in their respective contexts.

2.2.2. Isaiah Berlin on the Transformation of Western Ideas in Russia

Since the formation of the first Russian university and the Academy of sciences in 1725,[58] the influence of western philosophy on Russian science and thinking has acquired multiple forms and it has also been the topic of a lively scientific discussion. One of the leading British essayists in political philosophy of our century, Isaiah Berlin (1909-1997), who dedicated a considerable amount of work to the study of Russian arts and philosophy, has written the following about foreign ideas in Russia:

> More than one Russian critic in the nineteenth century observed that every idea of any consequence in Russian thought outside the natural sciences and other specialized disciplines –every general idea- came from abroad; that not a single philosophical or

---

[57] Wendt 1996, 50.

[58] Russian Academy of Sciences convened for the first time in 1725, the year of the death of its founding father, Peter the Great. At the time of its foundation there were no universities in the Russian empire, which was a fact that had a huge impact on what would become the Academy's main goals. Having no previous scientific elaboration of its own, the Academy had to grow native Russian science from "imported seeds". In practice this would mean for instance that the Academy would be divided in three levels, the highest consisting solely from 'imported' foreign scholars and the lowest entirely from Russians. The upper layers would be responsible of the teaching at the lower levels, thus extending the imported knowledge among Russian students (See Graham 1993.)

> historical, social or artistic doctrine or outlook that had any life in it was born on Russian soil. This, I think, is broadly true: but what is more interesting, it seems to me, is that all these ideas, whatever their origin, fell in Russia upon a spiritual soil so welcoming, so fertile, that upon it they swiftly grew to vast, luxuriant shapes; and were thereby transformed. […] I should like to call this the "rebound" or "boomerang effect".[59]

Berlin argued that this "boomeranging" happened because the circle of Russian educated people in the first half of the nineteenth century was so small and culturally isolated from the common people. This made them seek inspiration elsewhere, which in turn created "a hunger for ideas", and this, combined with some other factors like the "unexhausted Russian imagination" and the Russians' search for faith and ideologies to fill the vacuum left by the inflation of religion, made up an explosive combination. According to Berlin there is no significant parallel for this in the history of mankind.[60]

Berlin's reflections offer an interesting starting point for any inquiry about Western ideas in Russia and, in the light of my experience about sustainable development in Russian discourse, they allow asking whether that kind of "boomeranging" could have also happened in the case of sustainable development. This is one of the central research-questions in this study (for a complete summary of the problem-formulation, see on. p. 42).

[59] Berlin 1997, 194-5.
[60] Berlin 1997, 195.

3. Theoretical and Ontological Points of Departure

3.1. Integrating Culture into the Agenda of International Relations

As a student and a reader of mainstream IR I cannot help discerning that things that I consider essential in understanding international relations are often taken for granted in the disciplinary discussions. In the same way as international relations cannot be explained solely by reference to, say, power politics, the order among European states has been achieved not only through some international values, but instead it has been partly the product of *domestic social and cultural values* which operate at the level of *society* rather than that of sovereign states.[61] It would be an exaggeration to claim that IR is all about universal laws and theories or that cultural and historical factors have so far been completely ignored in the discipline, but a fair conclusion, I think, is that the scholars of IR still have a lot to learn about cultural studies and history.

One of the writers that underline the significance of cultural rather than structural factors in the explanation of international relations is *Bertrand Badie* who writes about the cultural dimension as follows:

> [Integrating culture in the study of IR implies] revealing *cultural codes*, that is the integrated systems of meaning, formed in history, and filling the function of controlling processes of social and political transformation. Accounting for these codes should then allow us to define the content and the orientations of the different social objects which specify each significant social space.[62]

Badie argues that the view in which international system is seen as "[…] resting on the triad of sovereignty, territoriality and security which is said to organise politics, space and motives"[63] is an old-fashioned one, which does not have too much explanatory power.

---

[61] Neumann & Welsh cited in Harle 1998, 409. The inclusion of the study of cultures into the agenda of IR has been discussed recently also in the same context as Political Theory and International Relations has been questioned. *Jean Bethke Elshtain* is one of those who consider that split an artificial one and at the same time she argues that there cannot be a *"grand, formalizable, universal theory* of international politics". She maintains that in order to be able to say something about what is going to happen in international politics during the next century we (meaning both international relations scholars and political theorists) have to "go back to school" and take some extra classes on history, geography and *cultural studies* (Elshtain 1995, 271.)

[62] Badie cited in Leander 1997, 149.

[63] Leander 1997, 159.

Generally, Badie resists all theories with claims to universal validity with the argument that when interpreting *social relations*, which is his ontology of international relations, these theories simply fail to take into account the historical and cultural factors that make seemingly similar situations unique[64]: revolution in China is not the same as revolution in Russia. Badie admits that declaring a war on unicausal monodirectional theories might seem to some as flogging a dead horse, but still, he says, that for instance in International Relations theories are often applied to a wide range of different cultural and historical realities without much caution.[65]

The ontological orientation of the present study follows that of Martin Wight, who writes the following about the study of international relations in one of his most famous articles (Wight, 1966):

> International society, then, on this view, can be properly described only in historical and sociological depth. It is the *habitual intercourse* of independent communities, beginning in the Christendom of Western Europe and gradually extending throughout the world.[66]

Wight also expresses here the point that justifies my kind of study in International Relations, namely that politics do have cultural grounds, and that it is worthwhile for a scholar of International Relations to study culture. Although criticised by many for its overt simplicity and ambiguity,[67] the notion of culture is the one that most clearly binds together the theoretical, ontological and methodological orientations of this study. Culture, in the most uncomplicated understanding, is a set of unifying factors, binding distinct groups of people together. Lotman and Uspenskii define it as "[…] a non-hereditary memory of a group, expressed in a certain system of prohibitions and commandments."[68] The images of past and future constitute a fundamental typological characterisation of a culture, and this characterisation should be taken into account when making comparisons between cultures.[69]

Lotman talks about a "[…] semiotic space [that every culture has] […] in which humanity and human society are enfolded and which is in constant interaction with the

---

[64] Leander 1997, 146.
[65] Leander 1997, 148. This, as I see it, might at least partly result from the fact that other kind of approaches (like the one that this study represents) tend to require more efforts, which are caused, for instance, by the poor availability of source material or the fact of this being written in a language that the researcher does not understand.
[66] Wight 1966, 96. Emphasis added.
[67] See e,g, Wallerstein 1990.
[68] Lotman & Uspenskii 1985, 30.
[69] Lotman & Uspenskii 1985, 66.

individual intellectual world of human beings."[70] My interpretation of the *habitual intercourse* discussed by Wight, combined with Lotman's understanding of semiotic space gives my study an ontological starting point which maintains that *the norms in international relations are born in the domestic arena, inside the states, but they do not stay there. Their interaction with norms coming from elsewhere makes it possible to talk about an international society of states.*

This kind of ontological commitment allows me to state that throughout the history Russia's *relationship with the west* has been one of a kind, and, in fact several authors agree on that west for Russia has been the main "Other" in the formation of Russian national identity.[71]

The theoretical orientation of this study draws something from all that has been said above. In other words the intention is to inquire about the deep structures of a culture supposing that by interpreting those structures and the dynamics of them we can learn more about the state as an international actor. As a whole, this study will argue against the inside-outside or domestic-international dichotomy and more fundamentally against theory-centered approaches in IR. As I see it, IR is, after all, all about inter*national* relations and when we talk about a nation we are not talking about a unit whose behaviour can be understood and predicted through some universal laws and theories, but instead we are dealing with distinct groups of people whose behavior today has been molded by their yesterday, their cultural and traditional narratives and by their identity today. Furthermore, this study will argue in favor of the fluidity of concepts such as culture and identity; that they both are "emergent and constructed (rather than unitary and singular), and interactive and process-like (rather than static and essence-like)".[72]

3.2. Global Politics of Environment in the Framework of Cultural Diversity?

[70] Lotman 1992, 3.
[71] See e.g. Berlin 1996, 195; Truscott 1997, 9; Neumann 1996, 1.
[72] Lapid 1996, 8.

Policy is defined by Anderson (1979) as "[…] a purposeful course of action designed and implemented with the objective of shaping future outcomes in ways that will be more desirable than would otherwise be expected."[73] According to Anderson there exist three levels of public (governmental) policies: national (or communal), foreign, and international, which includes also *global policies.*[74] Another thing that makes the problem formulation of this study a concern for IR is the fact of sustainable development originally being a *global policy recommendation* in accordance to which national governments were and are expected to act. This theme is also closely connected with the current IR discourse on the *structural change in the international system* taking place in the form of alterations in the polarity of the system; functional differentiation of states and *internationalisation of political authority.*[75]

Without going into the complex issues of internationalisation and globalisation[76] I can now shortly look at the way in which internationalising policy-making affects the kind of international system or rather, *society* in which the principal actors are different *cultures* and *identities* rather than rational and 'faceless' states. Parallel to the process of globalisation I see the process of diversification and 'localisation'. The more different cultures experience pressure towards global values, global technologies, global policy-making, global economy and so forth, the more they, in fact, show opposite tendencies and turn to what can be termed 'cultural protectionism'. This may happen either consciously or unconsciously, but the idea is that some kind of renaissance of indigenous cultures is necessarily the opposite side of the coin when talking about globalisation. The argument is that in a time like this different cultures draw from their own cultural arsenal more than ever, thus making for more substantial reading for a semiotician who wants to find the archaism in a culture. [77]

---

[73] Anderson cit. in Soroos 1989.
[74] Anderson cit. in Soroos 1989.
[75] Wendt (1996) discusses the structural change and the phenomena related to it.
[76] My conception of globalisation borrows from writers such as Axford (1995) and Cvetkovich and Kellner (1997). I see globalisation in terms of intensification of contacts and interdependence between different actors, to such extent that it is ever more difficult for one actor either to pursue its own line of policies or to sustain its identity without any reference to wider structures or processes. This kind of approach aims at being axiologically neutral, taking no moral stance in respect to globalisation. Rather, it sees that there are evidently both positive and negative consequences to it.
[77] See also Axford 1995 27; Friedman 1990, 311; and Appadurai 1990, 295.

4. Yuri Lotman and the Semiotic Study of Languages

This part of the Thesis has three main goals: to give an account of the ascent of semiotic movement in Russia and especially with the thought of Yuri Lotman. Since Lotman has taken much influences from Ferdinand de Saussure, his writings will also be used to some extent, not to mention that the tradition of semiotics represented by Lotman is commonly known as the "Saussurean tradition". Secondly, the aim is to display the research object of this with the help of Lotman's concepts; and finally, to explain in detail the application of Lotman that will be used in the forthcoming analysis and to present summary of the overall problem-formulation of this study.

Lotman, a historian and a humanist, was concerned with the sign-systems of various different languages and he made a significant contribution to the study and analysis of artistic and poetic texts. However, it was not in his agenda to design a method for the analysis of other than artistic languages. That is why this kind of study where Lotman's methods are used for the analysis of scientific texts is inevitably an experiment. However, the fact of Lotman being unaware during his lifetime of all the possible uses for his work, should by no means exclude the possibility that his work might be useful for whole scope of different disciplines.

4.1. Semiotics as a Discipline, a Method and a Worldview

To talk about the so called Saussurean[78] tradition of semiotics the representative of which Yuri Lotman is considered to be, arises from a dichotomy often made inside the study of semiotics between *semiotics of sign* first and foremost known as the Peircian tradition named after Charles S. Peirce, and *semiotics of language as a sign system* that has its foundations in Saussure. In the latter approach "the observer concentrates his attention not on the individual sign, but on a language – that is the mechanism which uses certain set of elementary signs for the communication of content."[79] Thus languages do not consist just

---

[78] Ferdinand de Saussure (1857-1913) did his work at the turn of the century. By challenging the earlier historical and comparative approaches to linguistics he was said by some to have opened up new ways of conceiving not only linguistics but the world as a whole (However, his later critiques that include e.g. *Michel Foucault*, argue that Saussure only rediscovered what was already there as conditions of the sign and of knowledge). Saussure held that man's words cannot be seen as peripheral to man's understanding of reality, but that instead man's understanding of reality should be seen as springing from the social use of verbal signs. In other words, languages are products of social interaction and not something given by nature, and therefore they influence our way of conceptualizing the world (Harris 1983, vii.) Saussure is best known as the father of modern linguistics, and specifically what later became known as *structuralism*. He did not consciously adumbrate a science called semiotics but he is the father of the idea behind modern semiotics as it is clearly proven in a fragment of his book *Course in General Linguistics: "*It is therefore possible to conceive of a science *which studies the role of signs as a part of social life*. It would form part of social psychology, and hence of general psychology. We shall call it *semiology* [...]" (Saussure 1983, 15.) Saussure himself coined the word *semiology* by borrowing from the Greek word *semeion* (sign) (Deely 1990, 3.) In the present, Saussurean structuralism can be seen as a sub-division of semiotics because out of all sign-systems it is focused on verbal languages whereas the object of semiotics are all the existing sign-systems, including verbal language. However, whereas Saussurean linguistics as a rule concentrated on the analysis of so called natural languages, the Moscow-Tartu semiotics group made it clear from the beginning that their focus would be on "secondary modeling systems", i.e. in all other languages except from the natural ones (Shukman 1977, 3.) The terms "primary modeling system" and "secondary modeling system" were coined by the Russian semioticians Zaliznyak, Ivanov and Toporov (Sebeok 1994, 117.)

[79] Chernov 1988, 10. See also Deely 1990, 8. Actually, semiotics, or *the science of signs*, dates back to the study of physiological symptoms induced by diseases, and therefore even Hippocrates can be considered its ancestor. Later on, scientists became interested in how the interaction between the mind and the body is influenced by different cultural contexts, and this kind of concerns finally led to the current situation (Danesi 1994, xi.)

of individual, separate signs. They are always structured *sign-systems*. A good example is the language of traffic lights: Lotman asks the reader to consider a situation in which the red and yellow lights work normally but the green light is replaced by a white one. Despite some minor problems that the drivers will have, this operation does not have influence on the working of the traffic, because instead of being a separate sign, the green light is a part of a system in which it is 'non-red' and 'non-yellow'.[80]

Russian Formalists of the Twenties were concerned of establishing a literary theory that would reveal the general principles of literary language differentiating them from those of 'ordinary' language. The most prominent representatives of this movement of literary criticism were Boris Eikhenbaum, Viktor Shklovskii, Roman Jakobson, Boris Tomashevskii and Yuri Tynyanov.[81] When Formalism was suppressed for political reasons in Russia in 1930, formalist ideas were adopted in Czechoslovakia and Poland, and finally, in late 1930's also in England and the United States.[82] The birth of semiotic movement in the western Europe during the late 1950's and early 1960's was partly a result of an interest in the works of this so-called Prague School and a rediscovery of the Russian Formalism of the Twenties.[83]

During the 1960's it became to some extent possible for the western and Russian scholars to communicate, and this as a single external factor created a fertile ground for the later development of Russian semiotics. Simultaneously, the concern that there did not exist yet a proper methodology for linguistics, the literary sciences and history, accelerated the development of modern semiotic thinking in Russia and in Tartu specifically, which was an old university town situated in the Estonian SSR. [84]

Yuri Lotman (1922-1993), who at the time was beginning his career as the Professor of Russian Literature at the University of Tartu, was the author of the first semiotic summer school held in 1964 in Kaariku, Estonia, and he also later became known as the leading figure of the so-called Moscow-Tartu semiotics group that was formed on the basis of

---

[80] Lotman 1989, 11.
[81] The formalists were considered dissidents, who by way of emphasising mere form of an artistic text, manifested their critique towards western influences (Erlich 1975, 11.) Originally, the two major centres of formalism were in Moscow and Petrograd, and the initials of the Russian name of the latter, OPOYAZ (Society for the Study of Poetic Language), later became the title of the formalist movement at large (Hawkes 1977, 59.)
[82] Erlich 1975, 3, 16.
[83] Eco 1990, vii.
[84] Chernov 1988, 9.

summer schools.[85] In distinction from the semiotic movement in the west whose principal ideas came from Saussurean linguistics, Russian semiotic movement had its roots in the ideas of literary scientists, especially in those of OPOYAZ and Mikhail Bakhtin (1895-1975) who was known as a prominent critic of the Formalists.[86] Lotman himself, although well known as a semiotician, has also made significant contributions to the study of Russian culture and arts, also in collaboration with Boris Uspenskij.

Today, as Lotman himself sees it, semiotics has three different aspects which are all of equal importance: firstly, semiotics is a *scientific discipline* whose object of study is "the sphere of semiotic communication"[87]. Secondly, semiotics is a *method of the humanities* - and of social sciences, one could add - which is defined by the way it is used to analyse the concrete research object. Thirdly, semiotics is a state of mind, or a worldview that makes the researcher see the world in a certain, semiotic way.[88] The first two aspects are the ones that are most important from the point of view of this specific study as the intention is to find the semiotic structures of a certain text with the help of a semiotic method. That, however, would not be possible without the help of a semiotic view of the world - and a little bit of 'semiotic imagination'.

4.2. "Modelling" My Research Material with Lotman's Concepts

In this chapter my aim is to give an account of how the primary material of this study can be identified through the prism of Lotman's concepts. At the same time I will have possibility to introduce what I consider as the cornerstones of Lotman's thought in a more detailed manner. These specific concepts have been chosen here first and foremost because

---

[85] Shukman 1977, 2, 22. According to Chernov it is adequate to speak of the Tartu-Moscow School of Semiotics from the year 1962 onwards (Chernov 1988, 9.) Other names that have become known in the context of the Moscow-Tartu semiotics group are Toporov, Ivanov and Uspenski.

[86] Chernov 1988, 15.

[87] The term 'communication' is in close connection with 'language'. However, there are also other spheres in which symbols are present, namely those of reason and knowledge. Knowledge refers to the function of symbols as means of orientation, language to their function as means of communication and thought to their function as means of exploration. Elias gives a detailed and interesting account of this in his book *The Symbol Theory* (Elias 1991, 64.)

[88] Lotman 1990, 4. Departing from Lotman's view, Deely sees semiotics as a point of view rather than a method (Deely 1990, 12.)

of being central in understanding the forthcoming analysis. On the other hand these concepts are also one of the most – if not *the* most – central and widely discussed in Lotman's writings, not to mention in semiotics in general, especially in the case of signs and symbols. One could, of course, bring in even more semiotic terms in order to define the research object even more precisely, but considering the scope of this paper I don't think this would be necessary.

4.2.1. Language and Speech [89]

Lotman adopted from Saussure two very basic dichotomies: the opposition of *language* and *speech*, and the opposition of *synchrony* and *diachrony.* Saussure explains the latter dichotomy as follows:

> *Synchronic linguistics* will be concerned with logical and psychological connexions between coexisting items constituting a system, as perceived by the same collective consciousness. *Diachronic linguistics* on the other hand will be concerned with connexions between sequences of items not perceived by the same collective consciousness, which replace one another without themselves constituting a system.[90]

It is the synchronic aspect that is of interest both for Saussure and for Lotman, and also for this study. It underlines that the focus is not on the historical development of a certain language but instead its *properties in a given moment of time.* The synchrony of a given language will be transgressed only to the extent that symbols are characterised by their ability to cut through synchronic layers and thus break the synchrony in a certain sense.

Following Saussure, Lotman states that there are two aspects in a system of communication: "[…] a stream of individual messages embodied in some material substance […] and an abstract system of invariant relations."[91] The changing and flowing aspect is called *speech* (or *text*, which is the written form of speech) and the stable and

---

[89] From the corresponding French words *langue* and *parole,* as utilised by Saussure.
[90] Saussure 1983, 98.
[91] Lotman 1977, 13. In other words, speech can be seen as the expression-level of language, and therefore it is much more vulnerable to external influences, whereas languages themselves are very resistant and stable and only influenced indirectly. As Saussure expresses it, "[t]he vocal organs [necessary for the production of sounds] are as external to the language system as the electrical apparatus which is used to tap out the Morse code is external to that code." The breaking down of the apparatus has no effect on the code itself, in the same way as variations in speech have no direct effect on the language (Saussure 1983, 18.)

invariant structure can be properly called *language* in semiotic theory. Thus, a *language exists before and independently from any given text*. The relationship between language and speech is clarified by Lotman who writes that languages are *communicative systems* having their own structures and rules and employing *signs* as their basic units.[92] In fact every structurally coherent system intended for communication is a language, and therefore the amount of conceivable languages is unlimited. To Saussure, both language and speech are important because they presuppose one another, but the point he made was that a clear distinction should be made between the study of the two. And it is the former that he was concerned with and whose study according to him should exclusively be called *linguistics.*[93] The practical consequences for this study are that while language is the ultimate object of study here, there is no other way of studying them than with the 'mediation' of texts.

Lotman makes a distinction between three different kinds of languages – or in the terminology of Tartu-Moscow school, *modeling systems* – natural, artificial and secondary.[94] The languages that in everyday usage are understood as being languages in literal sense (Finnish, English, Russian etc.), are called *natural languages* in semiotic discourse.[95] *Artificial languages*, as the name indicates, are languages which are artificially created in order to secure a better understandability of messages, and because of their extreme simplicity they have a very limited memory capacity compared with other types of languages. In fact, they are not languages as such but instead only one of the functions of language, that of adequate transmission of a message.[96]

Secondary modeling systems usually have a natural language as their basis but they operate with supplementary superstructures.[97] This is where the term "secondary" comes from: secondary in relation to (natural) language. Despite being constructed on a model of (natural) language they do not necessarily reproduce all the elements of a (natural) language. Still their structure is usually more complex than that of natural languages.[98] Lotman writes that secondary modeling systems "include […] all aggregates of social and ideological sign communications […], all of which merge into a single complex semiotic

---

[92] In distinction from systems that are not intended for communication or that do not employ signs (Lotman 1977, 8.)
[93] Saussure 1983, 20.
[94] See e.g. Lotman 1977, 9; Lotman 1976, 19.
[95] Lotman 1989, 9-10.
[96] Lotman 1990, 13.
[97] Chernov 1988, 11.
[98] Lotman 1977, 9.

whole – a culture".[99] *Culture* is the comprehensive semiotic modeling system or structure, which encompasses all other modeling systems.[100]

In order to understand the whole scale of different human languages, Lotman suggests that we see them as being disposed along an axis, the two poles of which are artistic ('very complex') and artificial ('very simple'). All languages are found along the axis, closer to either one of these two poles.[101]

4.2.2. Three Functions of a Text

Going back to the definition of language and text, a text is always external to the linguistic structure that it represents. From this division it logically follows that before a message can be transmitted it has to be *coded* [102] by the author according to a certain language and afterwards *decoded* by the receiver. It is obviously very seldom that these two languages or codes coincide, if we take into account the different cultural backgrounds of the 'coder' and the 'decoder', not to mention the individual experiences that affect the way in which the culture is conceived by these two. This requires that the receiver first tries to find out in which of the codes that s/he knows the message is encoded, and only after that proceeds to reading. [103]

The problem of the understandability of a message is especially relevant for artistic texts because, as Lotman writes, "every innovatory work of art is *sui generis* a work in a language that is unknown to the audience and which has to be reconstructed and mastered by its addressees."[104] It is equally a problem for history as a science because the historian is completely dependent on texts in his attempts to reconstruct the events of the past.[105] Similar obstacles are encountered by social scientists because they are usually equally dependent on texts in their studies in the same way as historians. And one might add that

---

[99] Lotman 1976, 19.
[100] E.g. Chernov 1988, 13. Lotman 1990, 2.
[101] Lotman 1990, 16.
[102] About codes and coding/decoding: Lotman does not go very deep into explaining these terms but he has adopted them from Roman Jakobson, and he explicitly gives the statement that the dichotomy language-text corresponds to the dichotomy code-message in the information theory (C.f. Lotman 1990, 11; Lotman 1977, 13.)
[103] Lotman 1990, 15.
[104] Lotman 1990, 16.
[105] Lotman 1990, 217.

it is generally a problem relevant for scientific texts, because their most important function is usually to transmit information adequately.

The transmission of information, however, is only one of the three functions ascribed to the text by Lotman. The second function is *creation,* for example in the case of translations from one natural language to another, and the impossibility of re-establishing the text in the original language. Thirdly, there is the *memory-function* which connotes the capacity of the text to preserve the memory of its previous contexts and to reproduce the past again.[106] According to Lotman, the memory-function is the function that allows the text to acquire "a semiotic life", which means that a text is never finalized. It keeps changing depending on the context it enters. [107]

4.2.3. Sign and Symbol-Images

Signs are the "stable, invariant units of the text."[108] Lotman's understanding of sign arises from his early works on sign systems, for instance in a booklet called *Staty po tipologii kultury,* written in 1970. In the booklet he illustrates the distinction between what is sign and what is "non-sign" with the following example:

> When we say "it was a significant event" or "don't pay attention, it does not signify anything", we simultaneously state that "to signify something" in our understanding means the same as "to be meaningful" or even "to exist". Accordingly, events are evaluated on the basis of whether they are just facts of material life (non-signs) or whether they have some additional *social* [my italics] (sign-like) function.[109]

[106] Lotman 1990, 13-19. Lotman 1990, 272.
[107] Lotman 1990, 18.
[108] Lotman 1977, 21.
[109] Lotman 1970 , 13.

Later Lotman has stated probably the most common understanding of sign which is that a sign is always a substitute for something; a thing, a phenomenon, a concept and so forth.[110]

Depending on whether the relationship between the signifier and the signified is innerly motivated or not, the signs can be divided in two categories: *conventional* and *iconic*. The best known examples of conventional signs are words in natural language: simply by considering in how many different ways 'a flower' for instance can be said using different natural languages it is easy to understand that there is no logical or absolute connection between the existing object and the sign that can be 'fleur', 'flor', 'blomma', 'flower' or any other of its translations. Iconic signs, on the other hand, have a more constant relationship with the thing that they stand for. The most typical of iconic signs is a drawing. If we draw a flower it is most probably understood by others as standing for the existing object called 'flower'. Thus the essential difference between conventional and iconic signs is that the object of the latter can be somehow 'imagined' only by seeing the sign that stands for it whereas there is no logical connection between a conventional sign and its object.[111]

When exploring deeper the iconic aspect of a sign one encounters the definition of a symbol. Symbols are iconic by their nature but what distinguishes them from 'ordinary' signs is that they always have *archaic features* within them which are brought up by their ability to store long texts in a condensed form over long periods of time. This archaism is articulated in that

> [a] symbol stands out as something different from the textual space that surrounds it, like an emissary from other cultural epochs […], a reminder of the ancient […] foundations of that culture. On the other hand, a symbol actively correlates with its cultural context, transforms it and is transformed by it.[112]

A symbol can be conceived of as a content which serves as expression-level for another content that is usually more valued in a culture.[113] Following from its ability to transmit big amounts of knowledge in a condensed form, a symbol, when it is included in a syntagmatic chain it preserves its semantic and structural independence, and when it is picked out from

---

[110] Lotman 1989, 10. Lotman, 1976, 17.
[111] Lotman 1989, 12-15.
[112] Lotman 1990, 104.
[113] Lotman 1990, 103.

its semiotic context it can easily enter a new one.[114] The expressive potentials of a symbol are so high that the expression hardly ever covers the entire content, but only alludes to it.[115]

Symbols are no less important for the functioning of a semiotic system than signs: Lotman writes that without them certain essential functions cannot not be realized in a language[116] by which he refers to the memory-function of a text. According to Lotman symbol is an essential element of cultural memory, and a huge amount of symbolic images runs vertically "through the whole course of human history".[117] In the end, Lotman says, it is impossible to give an all-encompassing definition of symbol, since it is enough that every cultural system itself knows what its symbols are and what their structural position is in that system.

Other than cutting through different synchronic layers of a culture, symbols also have other functions, for Lotman explains that they also stand between a *linguistic* and a *non-linguistic* experience (see Figure 1). In this respect, Lotman's argument is that rather than seeing in words or 'in symbols' people tend to see things that are out of their direct reach in *model-images,*[118] and a symbol is first captured in its model-image. The words that come out are formed on the basis of these model-images from which it follows that words are not essential but visual images are, and, as stated above, words can never cover the complete meaning-content. Symbolic significance can never be conceived of in isolation, since their understanding only becomes possible when a symbol is "projected onto the world of concepts."[119] The

> […] texts from chronologically earlier periods are brought into culture, and, interacting with contemporary mechanisms, generate an image of the historical past, which culture transfers into the past and which like an equal partner in dialogue, affects the present.[120]

---

[114] Lotman 1990, 103.
[115] Lotman 1990, 104.
[116] Lotman 1990, 102.
[117] Lotman 1990, 86.
[118] Lotman 1990, 83. **Image** 1 A visible representation of something; a statue, a picture, idol etc. […] 4 A representation in the mind of something not perceived at the moment through the senses, a product of the reproductive imagination or memory, of things seen, heard, touched, etc., including the accompanying emotion. 5 A mental picture or idea[…] (Webster's.) Instead of model-images, Elias talks about memory images (Elias 1991, 69, 71.)
[119] Lotman 1990, 85.
[120] Lotman 1990, 272.

This is a two-way process since the past is also affected by the way in which a model-image is actualised today.

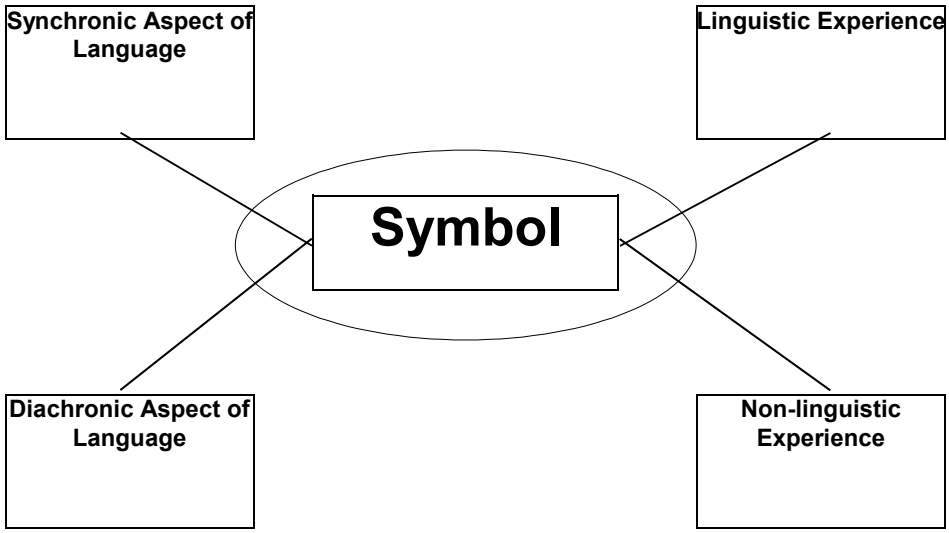

Figure 1. The mediating mechanisms of symbol.

5. The Operative Analysis: Tools and Scope

5.1. The Phases of the Analysis

The methodical application of my MA Thesis is a semiotic interpretation of texts as established by Yuri Lotman mainly in his article *The symbol as plot-gene* found in his book Universe of the Mind (1990). In this part of the Thesis the aim is to explain in detail the

exact methodical application that will be used to solve the research task and to give a sample of the analysis following the given method.

5.1.1. The Premises: Exploring the Memory of Environmental Texts

In the case of the concrete research object of my MA Thesis, although it is a collection of *scientific* texts whose primary function is the transmission of messages it is not in my interest to re-establish what the authors originally and primarily *wanted to say* when writing those texts. What I am interested in is exploring the memory of these texts in order to find the archaism in them, or the symbolic structures that they operate with. Therefore it is the third function mentioned in the previous chapter that will be relevant for this analysis. Following Lotman's model the primary material of my study will be seen as a text that, while transmitting information and possibly even creating new modes of understanding, also re-establishes and manifests something that has existed long before that specific text was written. And it is in my intention to find what it is exactly that these texts carry in their memory by identifying the primary symbols that they operate with. Following this logic I hope to find this kind of symbolic 'links' from the level of the text(s) that I will analyse which will take me to whole another level and another language inside Russian culture.

The language under attention in this study is scientific in broad sense. In the same way as a work of art is a *text* in the language of art, the individual environmental/ ecological texts in this study are texts written in the secondary language that could be called 'Russian environmental thinking today' or 'modern Russian environmental thinking'.[121] The all-encompassing superstructure is Russian culture, and Russian language is the *metalanguage of description.*[122]

5.1.2. What and How? Looking for Crises in Three Dimensions

---

[121] Lotman 1977, 10. In order to better understand what and how a language can be considered as a language, Lotman gives an example of different kinds of works of art: music, poems and paintings, some of which can be painted, composed, written etc. in the language of "Western European Romanticism", some with that of "Russian Pre-Romanticism" and so forth (Lotman 1977, 20).
[122] Lotman 1977, 20.

Proceeding from the notion that all human activities take place in the context of a certain type of relationship between man and nature, that relationship (as portrayed in the primary material of this study) will be assessed from three angles: epistemological, praxeological and axiological. These three dimensions are discussed by Tzvetan Todorov as dimensions of encountering "the other" but the use of them here arises from a reading of Lotman: in his article *The Symbol as Plot-Gene* Lotman sees that Pushkin's poetry is formed by a three-part paradigm, or in other words it consists of three distinct contradictory elements such as "the natural" (or "the elemental forces"), "the cultural" (or "the artificial") and "distinct human action" (or "personal force").[123] The typology of Todorov fulfils the function of these three categories but at the same time answers to the special needs of *scientific* texts (in distinction from poetic texts, the analysis of which was Lotman's speciality).

In Todorov's categorisation epistemological dimension is about knowing: "what can we know about the object in question?". Praxeology is more about action: "what shall we do about it?", "how shall we relate to it?". Axiology, then, is about moral stance and it could be assessed with questions such as "what is right or wrong in relation to the object in question?". [124] For my purposes the three notions will be understood so that with epistemology I refer to man's knowledge about nature and the concepts used in talking about the nature and acquiring that knowledge: what is the framework of knowledge within which nature is seen? Praxiology refers to future action: "what kind of relationship is proposed between man and the nature?" When I speak about axiology, I speak about man's moral relationship to the nature, e.g. what has been done right or wrong. [125] Below, in Figure 2. I have listed some exemplary questions that will further specify what is looked for in these three dimensions and help the reader to follow my line of thought.

Epistemology	**Praxeology**	**Axiology**

[123] Lotman 1990, 85. In fact, according to Lotman this three-part paradigm is Pushkin's paradigm of history in general, which is reflected through his poetry (Ibid.).
[124] Todorov 1982, 91.
[125] See also Neumann 1992, 6.

- What is the state of our knowledge of the nature? **- By means of what kind of knowledge can we best know about the nature?** **- What are the basic premises and key con-cepts in our knowledge about the nature?**	**- What kind of relationship is proposed between man and nature?** **- What is the line of policy that should be adopted in respect to nature?** **- What are the elements that add to the persuasive powers of the proposed policies?**	**- What is morally right or wrong in man's dealings with nature?** **- What is the role of man in his relationship with nature?** **- What is the moral attribution of nature?**

Figure 2. Epistemology, praxeology and axiology in this study.

To bring actuality to the themes and to further facilitate the reading of the texts, the first aim is to identify the *criticality of conditions* portrayed in those texts. The criticality or *crisis*[126] will be seen as something that in Lotman's words "gets the plot going"[127], the plot in this context being the course of action suggested by those texts in order to overcome the crisis. I consider the concept of *crisis* to be a very useful starting point when dealing with environmental texts, because it is exactly because of a conceived serious situation (or even 'ecological crisis') that most of those texts are written, and the plot in them is based on finding solutions to the present state of affairs which is considered problematic or even threatening. Furthermore, from criticality follows actuality, i.e. by definition from the criticality of the situation it logically follows that we are dealing with something that requires actions to be taken as soon as possible.

---

[126] **Crisis** 1 a) a decisive moment b) a time of danger or great difficulty 2 the turning point esp. of a disease (The Concise Oxford Dictionary)

[127] Lotman 1990, 85. In order to better understand what is meant by crisis here, it helps to look at how Lotman understands it in Pushkin's poetry. According to him, Pushkin "studied the possibilities hidden in the tragically contradictory elements which compose his paradigm of history[…]" and further "[…] for instance, in Pushkin's novel The Captain's Daughter, the snowstorm which gets the plot going […] is of significance because of the fact that Pugachev emerges out of it and saves Grinev from it." In terms of this study, the snowstorm represents here a critical moment which is of importance because it is followed by a series of actions. The contradictory nature of the different elements that Lotman here talks about is not so relevant for my type of study, rather it is the in the elements themselves that the ingredients of a crisis can be found (Lotman 1990, 85.)

When reading the texts, one soon realizes that the idea of *crisis* is very closely related to and interconnected with the statements concerning *how to overcome the crisis.* This happens to such an extent that in some cases the crisis can only be reconstructed through an *agenda*[128] of what should be done. Going even further, the crisis in the texts might be depicted through a mere *description of an ideal state of affairs.* For this reason, although the principal aim in this part of the analysis will be to reconstruct the crises, in some cases that can only be done indirectly. To put it simple, the first task in the analysis is to reconstruct the *dimensions of crisis* by which that what is proposed is actual/critically important.

5.1.3. Model-Images and Symbolic Reading

When discussing Pushkin's works Lotman suggests that "[…] thought-paradigm is formed not by words but by model-images"[129], or in other words: words are not of primary importance for a semiotician. Moving from the expression-level to the content-level the next step in this kind of analysis will require identifying a *primary symbol* for *each of the three levels* discussed earlier. Rather than primary symbols, Lotman prefers talking about *model-images,* visual images that are clothed inside words. Lotman defines model-images as being the semantic centres of texts, something that preserve their meaning and have the effect of transforming the whole paradigm.[130]

After identifying the model-images that form the thought-paradigm in the texts, they will be projected onto the world of concepts, and, through projection, different interpretations can be made.

---

[128] **Agenda** A record of things to be done […] (The New International Webster's Comprehensive Dictionary of the English Language).
[129] Lotman 1990, 83. **Image** 1 A visual presentation of something; a statue, picture, idol, etc. […] 4 A representation in the mind of something not perceived at the moment through the senses; a product of the reproductive imagination or memory, of things seen, heard, touched, etc., including the accompanying emotion. 5 A mental picture or idea: a false image of oneself. […] (Webster's)
[130] Lotman 1990, 85.

5.1.4. A Summary of the Problem-formulation

The research question at the level of the concrete analysis is

- What are the primary symbols that ecological safety operates with in its Russian context?

With view upon the corresponding analysis of the concept of sustainable development, the question is:

- To what extent there is similarity or difference between the symbolic deep-structures of the two concepts?

Within the framework of interpretation provided by Isaiah Berlin's notion of "boomerang effect", the question is about whether this 'boomeranging' has also happened in the case of sustainable development and ecological safety. Also, as the notion has been left rather undefined by Berlin himself, the inquiry will hopefully give some substance to it.

5.2. Definition of Scope and Identification of Sources

The empirical focus of the study will be on the environmental discussion at the St. Petersburg area. The city of St. Petersburg has in numerous occasions been given the status of "Russia's window to the west"[131], and quite similarly in this study it will be seen as the outpost of Russian culture meeting the western European culture, not least because of the St. Petersburg Academy of Sciences that has a long tradition of being in the midst of an intellectual 'storm' between the west and the east, producing magnificent scholars and scientists over the decades. St. Petersburg, as an outpost, is one of the most rapid to adopt any influences coming from abroad and thus it makes for a more interesting case study compared with some other regions.

[131] See e.g. Neumann 1996,

The actors dealing with environmental issues at the given region can be found on many levels: the responsibility of the city administration is to promote law-changes and implement them in concrete actions in the sphere of nature conservation on the city-level. It is capable of analyzing data but does not produce it which means that it has to acquire the information it needs from other sources. An important source of information is the Leningrad Commission on Environment (*Lenkomprirody*) which carries out independent soil, water and air monitoring. A second important provider of numerical data are the independent research institutes including those working under the Russian Academy of Sciences. Their tasks are twofold in that they are both providers of numerical data and have resources for analysing them. Besides these organs, controlling measures on water quality are carried out for instance by city waterworks *(Vodokanal).*[132]

The grassroots level environmental activities at the St. Petersburg area are organised around environmental non-governmental organisations the amount of which is 160 according to a survey in 1996. The main task of these organisations is hard to define due to their heterogeneity, but some of the things they do is educating schoolchildren and students, arranging field-trips for them, carrying out field work such as measuring and monitoring – some of them are even specialised at providing WWW-services for other environmentalists. One thing that clearly differentiates them from corresponding Western organisations is their emphasis on monitoring and fieldwork rather than social influencing or outright lobbying. An important organisation that is very clearly oriented towards influencing rather than field work is the local organisation of the Green Party of Russia.[133]

Out of all these environmental actors I have chosen a research institute that in my opinion has very original and at some points even radical views on the environmental issues locally, regionally and world-wide. That is the *Scientific Research Centre of Ecological Safety* (SRCES)[134] at the St. Petersburg Research Centre of the Russian Academy of Sciences (RAS). The SRCES was established in March 1991 in order to carry out "[…] interdisciplinary fundamental and applied researches in the field of ecological safety"[135] Its principal scientific endeavours are:

---

[132] This chapter is based on an interview with Irina Kalinina, a SRCES research fellow.
[133] *A Directory of Non-Government Environmental Organisations of St. Petersburg*, 1998.
[134] The Institute's own translation from the Russian name Nauchno-Isslyedovatel'skii Tsentr Ekologicheskoi Bezopasnosti.
[135] *St. Petersburg Scientific Research Center of Ecological Safety, Russian Academy of Sciences (SRCES/RAS)*

> Integrated analysis of global climate change problems in the context of sustainable development; development of *a methodology of ecologically safe development of regions* (with Leningrad oblast as an example) and megapolises (with St. Petersburg as an example); identification of territories (zones) posing environmental risk by ground surface remote sensing; elaboration of ecological basics of complex balanced use of natural resources in the region; preparation of suggestions on creation of an environmental protection norm-and-legal base.[136]

Since its foundation the SRCES has been actively participating the environmental discussion in the region and attending international seminars and conferences home and abroad. It has also participated EU TACIS projects as a consultative Russian expert organization, for instance in the case of TACIS/ERU 001/92 "Recommendations in the field of energy politics for St. Petersburg and the Leningrad oblast'", carried out in April 1995 – June 1996).[137] One of the institute's main achievements is the elaboration of the concept of *collective ecological safety* notably by the Institute's director *Vladislav Donchenko* , and its adoption by the Inter-parliamentary Assembly of the CIS countries as a general guideline governing the environmental interactions and co-operation between these countries.[138]

Structurally, the SRCES is divided into six main scientific departments, those of Systemic and Economic Aspects of Ecological Safety; Ecological Criminology; Medical-biological Aspects of Ecological Safety; Regional Ecodynamics and Integral Monitoring; Modeling and Information Technologies in Ecology; and Field Ecological – Chemical Studies.[139] Since 1997 the Institute has also had an own department at the Faculty of Geography and Geoecology of the St. Petersburg State University - the Department of Ecological Safety and Sustainable Development of the Regions.[140]

The Institute's only publication coming out on a regular basis is the *Ekologicheskaya bezopasnost'* bulletin that was first published in 1996. Few issues are available in the Internet. Other than *Ekologicheskaya bezopasnost'* the institute publishes books and monographs, some of which have received funding from abroad. The two foreign partners

---

[136] *St. Petersburg Scientific Research Center of Ecological Safety, Russian Academy of Sciences (SRCES/RAS).* Emphasis added.
[137] Kondratyev 1996.
[138] *St. Petersburg Scientific Research Center of Ecological Safety, Russian Academy of Sciences (SRCES/RAS).* Emphasis added.
[139] Donchenko (sine anno).
[140] *Ekologicheskaya Bezopasnost' 1-2(10-11)/1998, 30.*

most often mentioned are the Nansen International Environmental and Remote Sensing Centre in Norway and the DCMR Environmental Protection Agency in the Netherlands.

One only has to look at the names of the scientific departments in order to realise that the main endeavours of the SRCES are not on the theoretical side but rather on the experimental. This fact has a practical repercussion concerning this work, namely that the number of primary sources may seem rather limited. The main criterion for the selection of the source material is that the selected articles discuss the concept of ecological safety. In practice almost every article that I managed to get from the SRCES has been analysed and used for this study.[141]

What is, then, the relevance of a scientific institution like SRCES for international relations and an IR reader? What makes it worth the effort to study scientific publications? Although the principal aim in this study is to argue that scientific texts provide us with extra knowledge on the cultural characteristics of a country in the form of different conceptualisations, in this case, about the man-nature relationship, it cannot be forgotten that policy recommendations made by scientific institutions have become increasingly important to the environmental governance nation- and worldwide. The importance of different scientific institutions grow alongside with the importance of other non-state actors such as NGOs, industry and business and grass-roots movements of all kinds.[142] Here it is also important to note that during its existence the SRCES has not only been a local or regional or even national actor but instead it has presented its ideas on several international forums and had cooperation with foreign partners. It has been, as mentioned earlier in this chapter, participating TACIS projects and exercised influence on CIS-level policies, as well as participated in the working groups on the UN level.

---

[141] During the trips that I made to St. Petersburg in order to gather the primary sources for my study I encountered this problem very concretely and this is the main reason why the amount of source material may seem comparatively low.

[142] C.f. Elliott 1998, 120. An interesting view on all kinds of epistemic communities with an increasing influence on world politics is offered by Ernst Haas, e.g. in his articles *Obtaining Environmental Protection through Epistemic Consensus (Millennium vol 19 no 3/1990)* and *Epistemic Communities and International Policy Coordination (International Organization vol 46 no 1/ 1992).*

6. A New Paradigm of Nature in the Making?

6.1. A Sample of the First Phase of the Analysis

Now, with all the necessary tools at hand, it is time to move on to the concrete analysis. To begin with, the first phase of the analysis (that is, the identification of the dimensions of crisis) will be demonstrated with text-passages taken from three different articles in the primary sources. Epistemology, praxeology and axiology will be marked with the abbreviations **Ep, Pr** and **Ax.**

Passage I[143]

- On the threshold of the third millennium the modern world has encountered problems which determine the vector of the future development of the mankind.

  Ø **Ep:** The development of the mankind is conceived of as following the form of a *vector*, i.e. as a physical quantity that has both magnitude and direction in space.[144]

- The establishment of the system of global ecological safety is regarded as one of the most important among them.

---

[143] Donchenko, 1996 [WWW-document]. The fragments of articlesfor this demonstration are taken straight from English original versions, with all their grammatical and other mistakes preserved.

[144] **Vector** 1 *Math.* A line representing a physical quantity that has magnitude and direction in space, as velocity, acceleration or force: distinguished from *scalar* […] (Webster's). **Scalar** *adj*. Completely definable by a single number or by a point on a scale: said of a quantity having magnitude but no direction, as a volume or mass (…) (Ibid.)

Ø **Ep:** In order to overcome or tackle with the problems facing the mankind a *system* of global ecological safety should be established.

- The complexity of its solution is not due to the lack of determination among politicians, state authorities and citizens to improve the planet's environment, but is due to the lack of a fundamental theoretical basis**.**

Ø **Ep:** The problems are *complex* by their nature.
Ø **Pr:** There is a *lack of a fundamental theoretical basis,* and this stands in the way of the efficient solving of problems.

- Being an interdisciplinary area of knowledge, at present ecological safety passes through the period of compiling and understanding of the large body of information on the state of environment exposed to technological and human loads.

Ø **Pr:** The achievement of ecologically safe modes of action requires *interdisciplinary studies.*
Ø **Pr:** The *inductive logic* of the way of solving the problems (compiling and…).
Ø **Ax:** The environment is *exposed* to technological and *human loads*.

- The investigation of the processes, phenomena and interaction effects between the global systems has determined the aim of the research.

Ø **Ep:** What is relevant is seen in terms of *global systems.*
Ø **Pr:** It is suggested that more *investigation* is needed in order to understand the logic of the global systems.

- Topicality of the problem has motivated the scientific work aiming at the development of new approaches and methods of attack

Ø **Pr:** More *scientific work* is required in order to develop new approaches and methods.

- In order to carry out interdisciplinary studies, the special institute – St.Petersburg Scientific Research Centre for ecological safety- was established within Russian Academy of Sciences.

Ø **Pr:** Environment is an interdisciplinary area of study.

- The Institute's field of activity incorporates theoretical, experimental and field expeditions research on the following main issues:

Ø **Pr:** Accurate and relevant knowledge about nature is attainable through a combination of field expeditions, experiments and theoretical work.

- Development and substantiation of generalised indexes of ecological safety;

  Ø **Ep:** Generalised (vs. in this case: national or regional) indexes.

- examination of regional environmental and natural resource potential; analysis of sources and levels of human loads on the environmental components;

  Ø **Ax:** The *human loads* on environmental components that should be *analysed*.

- studies of transformation processes of ecological toxic components in natural environment and in trophic chains at various hierarchical levels;

  Ø **Pr:** *The scientific study* of specific phenomena.

- development of the identification theory of ecological toxic components in natural environments, in order to work out the scientific basis for practical implementation of the environmental legal measures:

  Ø **Pr:** Need to develop a *theory* in order to identify toxic elements in nature.
  Ø ***Pr:*** Need to develop *a scientific basis* for legal measures.

- development of environmental economic methods for systems of decision making preparation in accordance with ecological safety criteria, etc.

  Ø **Ep:** *Systems* of decision making.

Passage II[145]

- The present-day numerical modeling (even in case of 3-D coupled global models**)** is far from being able to reliably simulate real climate change and, consequently, **-** to identify contributions of various climate-forming factors (including the enhancing greenhouse effect of the atmosphere.

  Ø **Pr:** The present-day numerical modeling is not reliable enough and there is a need to develop it.

- Thus, as far as climate is concerned, the task is to study climate in all its complexity without an overemphasis on certain individual factors of climate change like the atmospheric greenhouse effect.

[145] Kondratyev 1998, 36.

Ø **Ep:** The climate should be studied as a *whole*, without an overemphasis on some individual factors

- An important aim is to identify place and role of climate change within a more general domain of global change.

  Ø ***Ep:*** Climate change as a part of global change.

- As has been shown by Gorshkov (1995), the basic processes which regulate environmental dynamics are based on the principle of the biotic regulation of the environment.

  Ø **Ep:** The principle of *biotic regulation*.

- The earth is a unique planet in the Solar System because life on this planet [is] in the form of biota – a totality of living organisms, including human being. Important properties of life include: relative biological stability of species and their communities as well as rigid distribution of energy fluxes absorbed by biota over organisms of various sizes (Gorshkov, 1995).

  Ø **Ep:** Nature is characterised by the relative biological stability between different species.

- Biota itself is responsible for the formation of its environment and stability of optimal environmental properties in accordance with its needs. Only because of such a long-term existence of the Earth's biota has been possible.[146]

  Ø **Ep***:* *Biota*[147], a holistic view of the nature. The *self-sustainability* of nature.
  Ø **Ax***:* Human being is a part of the totality of living organisms.
  Ø **Ax***:* Biota itself is responsible for its well-being.

- Like other species, Homo sapiens is one of the species of the biota and therefore its principal aim is to also support the global biosphere. Otherwise it would be impossible to develop sustainably.

  Ø **Ax***:* Following from the fact of being a part of the biota human beings are morally responsible (responsibility follows biological being).

---

[146] Ibid.

[147] **Biota** *Ecol.* The combined fauna and flora of any geographical area or geological period (The New International Webster's Comprehensive Dictionary of the English Language).

- Long ago human beings left the natural ecological niche and started to consume much more biospheric resources than ecological equilibrium allows. But after the industrial revolution started this process of the violation of the natural equilibrium was accelerating continuously under conditions of the rapid growth of population (Gorshkov, 1995).

  Ø **Ep:** Human beings have their own ecological niche[148].
  Ø **Ep:** There is a conceived *ecological equilibrium* that governs the relationship between man and nature.

- In the end of the XX century, historic changes have altered the political climate of the European continent. The modern Europe appears in the international community as a reborn continent prepared for the radically new initiatives. Political and economic integration processes in Europe have stimulated ecological integration which is an important factor governing the idea and direction of European development.

  Ø **Pr:** The idea of *ecological integration.*

Passage III [149]

- Ecological problems receive ever increasing attention in the EC documents and agreements**.** The growing assurance of the political security and economy growth offers scope for a search of new ways of the environmental protection, which is of primary importance for the construction of our common European home.

  *Ø **Pr:*** The new political situation allows for the search for new ways of environmental protection.

- As part of these programs, the basic arguments in favour of creating the collective ecological safety (CES) systems have evolved. The CES system should provide a transition from bilateral and multilateral agreements to an integrated system of inter-state regulation of the economic activity based on the ecological safety criteria with the aim to create a truly controlled environmental space.

  Ø **Ep:** The solution to the problems is seen in terms of the creation of a *system* of collective ecological safety.
  Ø **Pr:** There is a need to create a *controlled environmental space*.
  Ø **Ax:** Human beings have the capability of controlling the environmental space.

---

[148] **Niche 1** A recessed space or hollow; specifically, a recess in a wall for a statue or the like **2** Hence, any position specially adapted to its occupant (Webster's)
[149] Donchenko, Romanyuk, Blekthsin 1998, 105.

- At the inter-state level, creating a CES system implies coordination of the ecological policy, which requires development of unified approaches to: comparative assessment of transboundary technogenic impacts; calculation of inter-state indices for compensation of the damage caused by transboundary technogenic impacts; prediction of the damage compensation costs and elaboration of economic incentives for costs minimisation; elaboration of coordinated principles of ecological integration; formation, in the end, of combined system of national ecological accounts.

  Ø **Pr:** There should be a global, uniform approach to environment protection.
  Ø **Pr:** A *comparative assessment* is needed in the examination of transboundary environmental effects.
  Ø **Pr:** Inter-state indices are proposed to be created in order to coordinate the procedures of compensation of transborder emissions.

- The main principles underlying the CES system concept can be summarised as follows:
  - Ecological systems are not separated by the normative borders.
  - The biosphere potentials form the main treasure of the countries.
  - Rational use of the biosphere resources is the key factor of the national wealth growth.
  - The economic activity should not disturb the biological productivity and diversity of ecosystems.

  Ø **Ep:** The interdependence of ecological *systems*.
  Ø **Ax:** Human beings as the *rational users* of natural resources.
  Ø **Ax:** Man's economic activities should not disturb the functioning of the ecosystems.

- The use of natural resources that ensures the restoration of the living conditions for a multitude of subjects of the ecological law, is based on the fair compensating principle of the biosphere potential non-disturbance. Migrating biological species enjoy a protected right of free migration as governed by the evolution of species and their communities. International relations are based on the principles of ecological trust and mutual ecological assistance. Every disturbance of the living environment of a state should be adequately compensated for.

  Ø ***Ax:*** Man's *responsibility* over the rest of the subjects of the ecological law.
  Ø ***Ax:*** The ontologically given rights of the biological species should be protected.

- An essential element of the economic regulation within the CES system framework is the estimation of the damage from technogenic transboundary interactions with the use of the state compensation indices for the costs of environmental restoration.

  Ø **Pr:** State compensation indices should be developed.

- The responsibility for transboundary impact is becoming one of the most effective factors governing the inter-state relations. Taking responsibilities for reduction of atmospheric emissions of harmful matter implies elaboration and implementation of a

coordinated action program both in the foreign and domestic ecological policy. However, procedures for sanction application and compensation for damage from transboundary impacts still remain to be developed for the international ecological law.

Ø **Pr:** The need to develop and implement an internationally co-ordinated action programme.
Ø **Pr:** International ecological law needs to be elaborated on.

- We suggested earlier that the compensation costs be determined with the use of the state compensation indices (SCI). As part of the UNEP program, an international group of experts headed by the Academician Yu. A. Izrael' has estimated the state costs of compensating for damage to the natural environment components (atmosphere, soil and biota). The compensation costs were expressed as quotas of the gross national product (GNP) for several groups of countries.

Ø **Pr:** A practical solution is the development of State Compensation Indices.

- Thus, a methodological framework for introducing economic methods into regulation of adverse impacts on natural environment from the economic activity is already available. However, implementation of the methodology require coordinated efforts under special-purpose international projects.

Ø **Pr:** It is necessary to co-ordinate efforts internationally in order to implement the methodological framework that has already been developed.

6.2. Framing the Model-Images in Three Dimensions

The sample used above for demonstration is a rather representative one because it already gives a general picture of the three model-images of the thought paradigm behind the concept of ecological safety. However, the actualisation of these model-images in the text-context is left rather limited at this point, which means that the model-images themselves are also left rather incomplete. In the epistemological dimension the symbol-image that seems to glimmer through the text-context is a conception of the world as a *self-sustaining system*. In the praxeological dimension the *necessity to develop more scientific approaches and means* in man's dealings with nature is an all-encompassing theme. However, the image in this case is left rather obscure. Finally, the axiological dimension draws a picture of a *responsible man,* guarding his environment. This image also remains obscure.

Since the method that I am using is centered around an examination of *man's* relationship with *nature,* before going into that I will start out by bringing in shortly what there is in the primary sources concerning *Russia's relationship with other actors in the international arena*, that is, what kind of relationship is proposed between Russia and other actors in dealing with environmental problems internationally, and, on the other hand, what kind of role is designed to Russia in the new situation (post-soviet and post-cold war world*).* This kind of starting point offers not only an interesting perspective from the point of view of international relations, but it also brings more depth to the actual analysis by showing the kind of discourse that the considerations about man-nature relationship are clothed in. Furthermore, at the same time as Russian scientists underline the role of Russia in the world affairs, they underline their own role in the solving of global environmental problems.

6.2.1. The Ecological Integration of Russia to the International Community

In the primary sources of this study a significant role is ascribed to Russia in the world environmental affairs because of the country's physical size and the immense natural resources situated on its territory. Russian natural riches are said to represent "a large part of the biospheric potentials" of the world.[150] Russian economy can benefit from these "potentials" also indirectly because in the present unstable economic situation the nature with its resources can also provide "a guarantee for foreign investments, loans, credits and other financial help."[151] What is criticised, however, is that in many international contexts the role of Russia has been seen as one of a "raw material storage", the resources of which are endless and can be used for the benefit of all. And when integrating to the international society Russia is supposed to give up its "spiritual superiority and national interests."[152] Maybe this explains at least partly why integration processes are seen as complex or even conflicting by their nature.[153] The new development paradigm can only be based on equal chances of development for all nations, taking into account their "cultural-historical roots,

[150] Donchenko 1995, 5.
[151] Donchenko 1995, 5.
[152] Romanyuk 1998, 5.
[153] See e.g. Romanyuk 1998, 4.

genetic national peculiarities and their potentials for integration."[154] It is suggested that the strength of the Russian people is that they have a unique capability of putting common interests ahead of individual ones, which should help to return the country back to its feet. Russia's potentials in the integration are unlimited, given that "[…] a notable part of the biospheric riches of the planet are situated on its territory." This is why Russia itself has the power to define its own role in the integration-process.[155]

After decades of isolation Russia has again turned outward and seeks to integrate to the international society "in all possible spheres". Instead of being a superpower and dictating its conditions to other countries, this time Russia will join in as an equal partner and a "peaceful neighbour"[156] but still in the role of an "ecological superpower"[157].

When trying to find solutions to the problems the country is facing it is in need of "proper advice and experience of [its] friends."[158] Russia considers it necessary to analyse "[…] the experiences of other countries concerning the methods used in state planning and in the regulation of entrepreneurship following the criteria of ecological safety […]" and also to study "[…] the main phases of development of ecological policies in individual countries (the USA) as well as in the international practice".[159]

In the given situation the issues related with ecology have the possibility of playing a central role in "[…] the *development of science* and the practical implementation of new administrative mechanisms of the development of economic and social processes."[160] Unfortunately in the several international environmental publications "there has not yet been space even for references" to Russian scholars who have studied scientifically these issues.[161]

I think these fragments show willingness to integrate to the outside world, as well as to use ecology as a vehicle for a deeper integration. There is also an open mind concerning outside experiences and. However, no matter how strong the discourse on "integration" is,

---

[154] Romanyuk 1998, 5.
[155] Romanyuk 1998, 6.
[156] Yakovlev 1998, 17.
[157] Ibid.
[158] Yakovlev 1998, 17.
[159] Donchenko 1995, 6.
[160] Donchenko 1995, 6.
[161] Kondratyev 1998, 13.

what shines through throughout the texts is an assertive attitude which continues to employ the familiar cold-war vocabulary, for instance in the case of "ecological *superpower"*.[162]

6.2.2. Epistemology: The Planet as a Unitary System

According to the Russian sources, ecological safety can be examined at three different levels: those of a civilisation, national security and *ecosystems.* In the last mentioned case it denotes a state of environment in which its development is regulated by its own capabilities and man's actions in such a way that the *harmonic structure,* interconnections and the *self-regulation* of natural processes is supported.[163] The aim is to reduce the risk caused by man to his surrounding environment to a minimum and preserve not only the *natural equilibrium* of ecosystems but also the health of human beings.[164]

When trying to create conditions of ecological safety and manage ecosystems, it is of central importance to first study the state of ecosystems:

> Ecosystem is the elementary functional unit of the biosphere. Ecosystem is the basic functional unit of the living nature, including both organisms and their abiotic environment. It is the principal object of modern ecology.[165]

A difference is made between natural ecosystems and natural-anthropogenic ecosystems. The latter of these refers to ecosystems in which a significant role is played by "human loads" on nature that are caused by distinct human action.[166]

Ecosystems are characterised by their *self-sustainability* and *balance*[167]. The biggest of all known ecosystems is the biosphere of the Earth,[168] which is a global, *open system* with the capabilities to self-regulation *(homeostasis)*. In the light of these characteristics it is a

---

[162] From the point of view of IR the style in the texts resembles that of political realism, which saw that differentiated interests, power and bargaining are the three central factors in international relations. In his *Twenty Years' Crisis* E. H. Carr takes a critical stand towards the approach of international law, because this, according to him, fails to recognise the element of power (Carr 1939, 213, 218.)
[163] Izmalkov – Izmalkov 1998, 143.
[164] Donchenko et al. 1997, 327.
[165] Izmalkov – Izmalkov 1998, 124.
[166] Izmalkov – Izmalkov 1998, 125.
[167] Izmalkov – Izmalkov 1998, 134.
[168] Izmalkov – Izmalkov 1998, 127.

cybernetic centralised system.[169] Biosphere is systematically connected to technosphere and sociosphere, and there is an interdependence between the three. This creates the need for an approach that takes into account all three instead of just one or two of them.[170]

The criticality of the current situation lies in that the natural ecosystems are continuously being exposed not only to human action but also to climatic factors.[171] Ecological safety as a policy-guideline proceeds from the objective of the maintenance of the "qualitative and quantitative characteristics of the living environment".[172] "Unsafe circumstances", again, are characterised by the presence of "ecologically unsafe substances"[173] and "negative technogenic effects"[174]. Under conditions of ecological safety, ecosystems are capable of preserving their homeostasis.[175]

The model-image that in the epistemic dimension of the thought-paradigm 'glimmers through' is nature seen as a *self-sustained system*, a *balanced whole*, whose *harmonic structure* is threatened under extensive human influences. The metaphor of system functions here with the dichotomy of culture versus nature, although the notion of natural-antropogenic ecosystem implies some kind of 'peaceful co-existence' between the two. In the case of ecological safety, the model-image of a systemic balance finds its actualisation in notions such as *homeostasis* and *open system*, which convey the legacy of the sciences of system. Thus, the rather romanticist image of a 'whole irreducible to its parts' is overrun by the overtly scientific understanding of a cybernetic system.

Systems thinking originated in Russia as a result of several separated theories notably in the fields of natural sciences and technology but also in literature and art (semiotics).[176] Related to the rapid development of Russian sciences in 1861-1917, systems thinking became a part the general emancipatory scheme of the nation, incorporating a programme for social reform.[177] The concept of biosphere, elaborated in Russia by the geobiologist V.I. Vernadskii (1863-1945) during the first decades of the 20th Century, formed the basis for today's ecosystem approach.[178]

---

[169] Izmalkov – Izmalkov 1998, 130.
[170] Romanyuk 1998, 5.
[171] Izmalkov – Izmalkov 1998, 126.
[172] Donchenko 2000.
[173] Donchenko et al. 1990, 330.
[174] Donchenko (sine anno).
[175] Donchenko 2000.
[176] Susiluoto 1982, 27.
[177] Susiluoto 1982, 29.
[178] Susiluoto 1982, 26.

Gaining success at the beginning of the 1960's, cybernetics[179] marked the return of systems-thinking in Russian sciences after decades of Stalinist oppression. Later, when it was applied to the fields of philosophy, economics and social sciences, it formed the basis for the theory of social guidance and the scientific management of the Soviet society. The actualisation of all systems thinking in those times happened in the form of an intent of gaining control over certain complex phenomena. This is not surprising, when comparing it with the origins of systems-thinking and cybernetics as "the science of communication and control"[180], but the abundance of applications on different fields during the Soviet rule certainly lacks a parallel in history.

It is rather amazing how much there is resemblance between the vocabulary employed with ecological safety and the one employed about 40 decades ago, during the heyday of systems-thinking in the Soviet Union. An example will be provided by the way in which Ernst Kolman combined systems-thinking with Marxism in his characterisation of communism in 1965:

> The goal of our development, Communist society, is a *complex system*, and from the point of view of cybernetics, is an *open*, dynamic one with ideal *self-regulation*.[181]

As mentioned above, the power of systems-theories lies in the aspect of control hidden in them. This is also clearly present in the actualisation of systems-thinking in the context of

---

[179] **Cybernetics** The science which treats of the principles underlying the common elements in the functioning of automatic machines and of the human nervous system; the theory of control and communication in machines and organisms (Webster's.) Cybernetics emerged in the United States in the pre-war period in order to answer to the new challenges of technology, to the transmission of *information* instead of energy. Norbert Wiener coined the term cybernetics, and his efforts have been central in the development of the new science (Rapoport 1968, xix.) Cybernetics was being developed in the United States in a period when the Soviet Union was undergoing a decay in systems thinking. When Norbert Wiener published his "Cybernetics" in 1948, the new science was greeted with suspicion in the Soviet Union. It was considered a "bourgeois theory" which, by making an analogy between a human being and the operational principles of a machine, aimed at creating something (a robot) that would submit completely to exploitation by its capitalist 'masters'. This ciritque surfaced despite the fact that very similar ideas concerning the role of technology in social change and the role of automatic devices in revolutionising technology had been presented by the Russian scientists Bukharin and Bogdanov already decades ago (Ibid., 162.) Partly due to Stalin's death the circumstances changed drastically, and already in 1958 Wiener's book was translated into Russian and in 1961 cybernetics was given an official recognition by the 22nd Congress of the CPSU (Ibid., 173.)

[180] Rapoport 1968, xix.

[181] Kolman cit. in Susiluoto 1982, 174.

ecological safety. 'Systems' are present not only in the eco-systemic discourse but these also add to the persuasive powers of the new policies. For instance, Russian scholars are proposing the building of a *system of collective ecological safety*, which would provide a basis for the "[…] transition from bi- and multilateral agreements towards a completely controlled ecological space […]"[182]. What is important for my purposes is that what is proposed is a *system*, although it could as well be a 'network', 'community or 'organisation'. System is the only one of these that imply the aspect of *control.*

6.2.3. Praxeology: Science as the Keyword in New Policies

In the Russian primary sources the United Nations is criticised because of a wrong kind of emphasis in its actions. The Framework Convention on Climate change is given as an example of the "[…] massive bureaucratic activities that swallow millions of dollars every year". Instead, it is proposed, this money could be invested in the development of *science*.[183] Because of its inefficiency, the United Nations is considered to be in need of fundamental changes.[184] The new paradigm of socio-economic development requires the elaboration of a *"new, complex approach"*[185], rather than the costly diplomatic efforts made through the UN.

One of the most actual themes is considered to be the *scientific elaboration* of how national biospheric riches form a part of planetary biospheric riches.[186] An example of the scientific approaches developed in Russia is the theory of natural biological regulation of the environment.[187] This was formulated in Russia during the 1980's. With it, it was demonstrated that the biosphere is capable of compensating the harm caused by man's actions as long as this does not exceed 1% of the biotic production. Thus, it is of critical importance to study *how much* of nature's production man utilises.[188]

---

[182] Romanyuk 1998, 6.
[183] Kondratyev 1998, 13.
[184] Kondratyev 1998, 13.
[185] Romanyuk 1998, 5.
[186] Donchenko 1998, 7.
[187] Gorshkov – Kondratyev – Losyev 1996, 75.
[188] Ibid.

The SRCES sources argue that changes in the living conditions must lead to substantial changes in science and its priorities. In the sphere of ecology this means for instance that in order for the ecological police to work properly in the present situation there is a necessity to establish a firm *theoretical ground* in the form of "[…] ecological criminology, a branch of science that studies the phenomena of ecological crime and ecological criminals."[189] More generally, "[…] there is a need to a profound *revision of the methods* and approaches to the use of natural resources."[190] Priority should be given to the study of the environment and to the dangers caused by economic and other human actions on nature and human beings.[191] In other words the "living conditions" have changed to such an extent that man *does not know* enough anymore about the effects of his actions in order to change them. It is necessary to acquire more knowledge in order to determine the limits to man's actions. Combining experiences and approaches used by other countries with the corresponding Russian ones will allow for the creation of "*a general methodology* to answer to the concrete circumstances arising in the process of ecological integration."[192] In other words the development of science is expected to follow the development of human life.

Analysis of the praxeological dimension of the thought-paradigm shows that the argument for the *development of a scientific means* as a basis for policies is strongly present in the text. The criticality of the situation is seen in terms of lack of adequate knowledge about the state of the environment, and what is proposed is a scientific effort in order to overcome this state of affairs. The comprehension that guidelines for action should be based on the knowledge provided by science and that this knowledge basis needs to be developed before resorting to outlining policies discloses the moral project of the scientific worldview. What is required, for instance, is that all statements about reality ought to be verifiable by scientific means.[193] This kind of reasoning is a reflection of the legacy of the combination of Marxism and positivism in which the requirement of scientific validity is often so rigid that religious or worldview considerations are unconditionally excluded from all kinds of propositions about the reality.[194]

---

[189] Vorontsova 1999.
[190] Donchenko 1995, 5.
[191] Donchenko (sine anno).
[192] Ibid. Emphasis added.
[193] Niiniluoto 1980, 86.
[194] Niiniluoto 1980, 87.

6.2.4.Axiology: "From a Strategy of Nature towards a Strategy of Reason"[195]

> There is no "surrounding environment" but instead a "living environment" that unites man as a social and biological being to the rest of the species of the biosphere. The unity of the world forms the basis for the *co-development* of man and nature.[196]

Professor Donchenko writes that the science of ecological safety aims at "[…] defining, specifying and correcting the conceived boundaries of existence of human beings *in the biosphere*."[197] Thus, human beings form *a part of the biosphere* but the modern science has not yet been able to define accurately enough what are the limits to his actions inside the biosphere. Man's belonging to biosphere is reinforced by his dependence on nature: "[…]the effectiveness of production, the comfortableness of the living conditions and the health of human beings depend on the environment."[198] Hence, it is stated that "[…] we have to consider the biosphere not just as a resource, but as the fundamental condition of the continuation of life on earth."[199] The "*rational* use of biosphere resources"[200] is essential from the point of view of economic development (rational in the sense of not disturbing the functioning ecosystems). However, in the past few decades the economic and social development of mankind has become contradictory to the "resource-producing" and "life-securing" possibilities of the biosphere.[201] The problem and the criticality is in how to reconcile the two conceptions of development, the "resource-centric" and "biosphere-centric", or rather: how to overcome the former and move to the latter.[202] Today it is still the resource-centric path that is followed. This anthropocentric development model that has been realized by humankind for as long as it has existed has proved to be extremely harmful to the environment.[203]

---

[195] This is the name of the first chapter of Moiseyev's book (1990) which discusses man's relationship with the nature.
[196] Donchenko 1995, 9. Emphasis added.
[197] Donchenko 2000. Emphasis added.
[198] Donchenko et al. 1997, 328.
[199] Kondratyev 1998, 37.
[200] Donchenko, Romanyuk, Blekhtsin 1998, 106. Emphasis added.
[201] Kondratyev 1996, 43.
[202] Gorshkov – Kondratyev – Losyev 1996, 74.
[203] Izmalkov – Izmalkov 1998, 4.

The criticality of the situation, i.e. 'unsafe' development is seen in terms of man's alienation from nature or 'biosphere' - that man has at some point 'crossed his nature-defined borders'. This unsafety threatens the existence of mankind, territories, life support systems and economic development.[204] The solution to the problem is that man starts live 'up to his natural limits', i.e. the only possibility for mankind to survive and develop is that it has to "return to the biosphere"[205] which it has left for a long time ago. "The unity of the world as the new worldview" [206], is seen as the solution to the problem.

It is stated that "danger for the environment implies the potential jeopardy to the health and life of human beings, to ecosystems, to economic and social actions […]"[207] Ecological safety is regarded as a state of protection for man, society, nation and the environment from the harmful effects of human, technogenic, natural and ecologically harmul factors.[208] In this conception all nature, including man, is viewed of as being under equal threat from man's actions and the effect he has on nature. Development is also seen in terms of a "[…] *co-evolutionary process of nature, society and thinking*."[209] This seems logical, considering that man is given an equal status in comparison with other subjects of the biosphere - something that forms a whole has to develop as a whole or at least so that each part may develop at similar pace. This is why there is "a historical necessity to transform [back] to a co-evolutionary way of development"[210].

So, there is a biosphere, or "biota"[211], a biological whole that the man is or used to be a part of. At some point, however, man has transgressed the boundaries of what used to form his "natural ecological niche"[212] and started to consume more than the natural equilibrium would allow. This approach seems to be biocentric, emphasizing the harmony that used to govern the relationship between man and nature. Similar primary symbol can be identified in a radical ecology thinking which sees that the order is given by nature and unless human beings accept the idea of serving the purposes of nature, the world is doomed to destruction.[213]

---

[204] Kondratyev – Gorshkov 1996, 54.
[205] Donchenko 1995, 8.
[206] Donchenko 1995, 9.
[207] Donchenko et al. 1997, 329.
[208] See e.g. Donchenko et al. 1997, 327.
[209] Donchenko 2000.
[210] Donchenko 2000.
[211] Kondratyev 1998, 37.
[212] Kondratyev 1998, 37.
[213] Colby 1988, 199.

However, the biocentrism in the text-context is supplemented with a feature that does not belong to biocentrism at all. Although it is quite explicitly stated that it is wrong and dysfunctional that man keeps disturbing the natural balance, the axiological position seems to be more defined in terms of *rationality* than morality: "man will need to rationally use those potentials given to him by nature".[214] Man is seen as risking not only the environment but also his own health and living conditions. This conveys an image of man that is a part of nature (system) but that at the moment is dysfunctional from the point of view of 'the whole'. So, man has to start acting up to the requirements of the natural equilibrium. The one to benefit the most from this is man himself.

Another aspect of criticality deals with the different development paths out of which mankind has to choose. Three different development paths are introduced as ways out of the current "global ecological crisis". These are called "techospheric", "*noospheric"*, which is based on Gaia-thinking and "*noosferic*-technospheric", which is based on a conception of sustainable development. The first scenario argues that the world is doing well today and all ecological problems can be solved with technological means only: by regulating economic activities and putting limits to the use of resources. This kind of development is said to have no theoretical grounds but it is the one that mankind has been following during the last decades. [215]

The new reality that is proposed as the ultimate goal of the socio-ecological development of mankind finds its expression in the concept of *noosfera*, which is illustrated as a state of affairs in which "[…] the society will be able to provide the individual not only with material substances but to an ever greater extent with spiritual and moral values as a basis on which each individuality may unfold with all its potentials and capabilities."[216] *Noosfera* will mark the "triumph of reason", a period when man has finally familiarized himself with "the principal laws of the transitional period of the evolution".[217] It will mark the highest

---

[214] Moiseyev 1990, 7.
[215] Izmalkov – Izmalkov 1998, 11.
[216] Romanyuk 1998, 4. *Noosfera* is a concept formulated by the Russian academician V.I. Vernadskii at the beginning of the 20th Century. Vernadskii conceived of the earth and the space as a unitary system in which the living features of the planet are connected with spatial processes Moiseyev 1990, 23.) Besides that, Vernadskii has also propounded the idea of transformation of matter and energy between living and non-living substances (Weiner 1988, 80.) In this system man was to become the "carrier of reason" that will "accelerate all the processes taking place on the planet". He will take the responsibility over the future development of the planet. The development of the environment and society will go hand in hand. and biosphere will once be a part of the sphere of reason – *noosfera*. As a result of this "great unification" the development of the planet will become controlled – controlled by the power of reason (Moiseyev 1990, 23.)
[217] Donchenko 1995, 9.

stage of the evolution of the biosphere, in which the main factor, influencing its future, is *human action*. Man, knowing profoundly all the laws of nature and having developed technology, will start to "[…] have a decisive influence on natural (including cosmic) processes."[218]

> *Noosfera,* therefore, is the kind of developmental stage of biosphere, when its development has a direction, when Reason has the power to direct the development of biosphere with view upon man's interests and his future.[219]

Today, however, the *noosferic* stage of development seems distant because the science today is still far from understanding all the "[…] complexities and diversities of the circle of nature".[220] Considering the current situation, it is today more feasible and realistic to endeavour towards a phase that is a combination of the technosperic and the *noosferic* scenarios, i.e. a *noosferic*-technospheric scenario. Basing on biological and physical laws and the rationally organized interplay between man and nature, this scenario aims at satisfying the needs of our generation by supporting economic growth, energy-saving and non-contaminating technologies.[221] It suggests "biological regulation" and "extensive measures of environmental protection". It is the path widely accepted and supported in today's international co-operation, at the UN for instance, and it seems to be the most possible to achieve in the present situation. The ultimate goal, *noosfera,* still remains.[222]
Rationality is the prominent characteristic of the image conveyed in the axiological diemension of the thought-paradigm, an image of an *'Enlightened man'*.[223] There are several reasons for ending up with the kind of image. The first hint towards it is found in the epistemic dimension that unfolds a firm believe in the understandability of nature's complexity through the lens of systems-theories and cybernetics. The praxeological dimension, again, adds to this view with the conception that new policy-lines have to be based on scientific procedure: no actions should be taken before the a prior scientific study

---

[218] Izmalkov 1998, 12.
[219] Moiseyev 1990, 24.
[220] Izmalkov – Izmalkov 1998, 12.
[221] Izmalkov – Izmalkov 1998, 15.
[222] Izmalkov – Izmalkov 1998, 16.
[223] A prominent feature of Enlightenment thinking at the 18th century was the deification of reason that would, accompanied with experience, solve any problem whether it was social, political or even religious. Man, of course, would be the carrier of reason and man as a superior feature had the right to free from the oppression and corruption of governments (Bierstedt 1978, 4-5.)

of the object in question. The scientific worldview of the epistemic and praxeological dimensions is here combined here with the more all-encompassing historico-philosophical project of the Enlightenment, which proceeds from the argument that *by knowing the laws of nature man will be able to exert control over it.* On the way towards 'good society', which in the context of ecological safety denotes the substantive good of 'safe society', scientific knowledge is an instrument that enables to build up conditions for health, safety and stability in a society left on the ruins of the Soviet state. Although addressing problems that characterise first and foremost today's Russia and are very country-specific in this sense, the Russian texts analysed resort to universalism and a global projection of their own 'programme of better society'. This projection again is a logical manifestation of the underlying *belief in the progress of human race* and a higher stage of development and evolution, which are aspects of the universalist Enlightenment philosophy.

An interesting question is what are the reasons to the journey of the Enlightenment thinking through several synchronic layers of the language. One explanation, although maybe a bit imaginative, would be the figure of Peter the Great. He is considered to be the first Enlightened ruler in Russia, and since he had such a great impact on Russia and Russians, he is still a historical figure that is greatly admired in Russia. He is one of the very few historical figures in Russia that have managed to maintain their popularity through different historical and political circumstances: during the Soviet times he was the idol to the state-leadership because of his brutal policies and strong autocracy, today he is mostly admired for his determined policies that marked the beginning of a whole new era in Russian history.

6.3. Sustainable Development Turned Inside Out?

At this point of the work it is time to turn to the corresponding analysis of sustainable development, as published in the article by Helena Rytövuori-Apunen and myself (Interfaces in Environmental thinking: Sustainable Development Challenged by Ecological Safety, 2000), in order to make comparisons and finally: to elaborate on Berlin's ideas about 'the boomerang effect'.

In the epistemic dimension, the systemic outlook turned out to be the model-image transmitted to the reader by the memory-function of the text. The concept of sustainable development in a similar manner relies on the conceived systemic qualities of the object in

question, and therefore the conclusion is that in this respect the two concepts share the same primary symbol. However, "the plot" at the expression-level, shows a significant difference: system in sustainable development is clothed inside romantic connotations of "a whole irreducible to its parts", as something whose integrity one should respect as if this was another human being.[224] In the context of ecological safety, this is overshadowed by terms such as "homeostasis" and "the self-regulation of natural systems". In ecological safety, the object is viewed as a 'mechanical whole' that, due to its complexity, has to be studied and mastered with the help of the sciences of system. Mastered, because that is what the sciences of system are ultimately about: getting an intellectual 'hold' of phenomena that are considered complex or even unmanageable as such. The idea of controllability or manageability is, of course, present also in the context of sustainable development but this aspect remains more in the background.

Another major difference is that while the reconciliation of man's doings within the nature's laws is present in both concepts, in ecological safety this is more hidden. Rather, by relying on the sciences of system, ecological safety ends up with promoting the opposite idea, namely that nature as a system can be/has to be submitted under human-made laws with the help of systems theories, and not vice versa. This differnce at the textual level, however, need not be seen in terms of overt anthropocentrism, but, springing from Russia's special geographical features, as a sign of the Russian's understanding how great and powerful the nature is in their country. And in case something is feared enough, and there is also a historical continuum to this in the Stalinist thinking, more effort is made to 'tame' it. Theories of system are just a way of doing this – at an intellectual level.

In the praxeological dimension the argument forwarded by ecological safety centers around the legitimacy-basis provided by scientific knowledge. The criticality of the situation is defined in terms of lack of adequate knowledge about nature. Following the same logic, it is proposed that instead of pouring huge amounts of money to the efforts made by the international community in the form of the United Nations, more resources should be spent in the development of scientific means to tackle the problems caused by environmental degradation. Sustainable development, on the contrary, gives much credit to the moral powers of the world community that is actualised in the form of the United Nations. It contrasts the multilateral effort made by a consortium of states to the selfish

[224] Rytövuori-Apunen – Takkinen 2000, 460.

strategies of individual states.[225] Hence, the two contrasting symbol-images here are the scientific worldview conveyed by ecological safety and the image of a whole irreducible to its parts by sustainable development.

What it all comes down to is the moral attribution of nature, examined in the axiological dimension. In this respect, the two concepts have a shared point of departure in *anthropocentrism* that is the ultimate criterion for any kind of action in the contexts of the two concepts. This is so despite the fact that it is criticised at the text-expression of both concepts. The model-image that in sustainable development has the same structural position as the image of 'Enlightened man' in ecological safety, is the image of man as the *Steward of Nature.*[226] In their anthropocentric rationale the two resemble one another, but the difference is in that the romanticist connotations of divine/rural harmony in sustainable development are completely absent in the context of ecological safety.

Another important point of disagreement between the two concepts in the axiological dimension is that whereas the moral project in sustainable development bases largely to *man's responsibility* for the living conditions of the future generations, in ecological safety the moral project discloses in *knowing enough in order to be able to act in the right way.* The notion of responsibility is present also in ecological safety, but it actualises in a way that differs substantially from sustainable development. In the synchronic aspect of ecological safety, 'responsibility' connotes the fact of being responsible for one's actions in front of law: "[…] ecological responsibility […] is the main criteria of human actions and an object of study in the environmental jurisdiction."[227] Further, "[t]he ecological responsibility of a nation – a subject of *international ecological jurisdiction* – calls for the inclusion of the principles of collective ecological safety to the international relations."[228]

Ultimately, what there is between the two concepts is a 'clash' between two contending views of 'good life'. The analysis showed that in the context of sustainable development this project unfolds in the model-image of *Arcadia,* which criticises the excesses of modernity and man's crude instrumentality in his dealings with nature. As an alternative to this decadence, sustainable development presents an image of an individual way of life that respects nature in all its totality.[229] In ecological safety the understanding of what the

---

[225] Rytövuori-Apunen – Takkinen 2000, 468.
[226] Rytövuori-Apunen – Takkinen 2000, 464.
[227] Donchenko 1998, 7.
[228] Donchenko et al. 1997, 385.
[229] Rytövuori-Apunen – Takkinen 2000, 465.

criteria are for good life is considerably different. Ecological safety addresses not the individual way of life but that of entire societies, the conditions of *safety* inside a society, on one hand, and the equality among all societies (for example in the use of natural resources), on the other. At the same time, it paints an image of state as the protector of the people, and the creator of the conditions of safety.

In the question of 'good life' Lotman's notion of *boundary* proofs itself to be a very relevant one. Lotman claims that one of the most basic qualities of a culture and its "semiotic space" is the intention to define what is "ours", "my own", "cultured", "safe" and "harmoniously organised" as opposed to "other", "hostile", "dangerous" and "chaotic".[230] *Boundary* is the 'empty space' between what is 'ours' and what is 'theirs'. It is the filtering mechanism, through which the transformations of cultural elements from one culture to another become possible, as well as the translation of texts that are written in "alien semiotics".[231] In the present study, ecological safety, when drawing from the arsenal of the Russian cultural memory, instead of reproducing or imitating sustainable development, makes visible the boundary that exists between two cultures: the values and the vocabulary represented by sustainable development are alien, and therefore the protecting mechanisms of Russian culture are activated. By translating the alien semiotic language, it produces something new, using the possibilities provided by its *own* cultural memory. I think this very clearly shows how culturally bound the 'global' notion of sustainable development in fact is.

Another example of the same phenomenon of culture's mechanisms of protection takes place at the semantic level of the two concepts compared here. When the notion of 'sustainability' is used, is not it the case that what is usually desired to be 'sustainable' is something so good that it is considered worth maintaining? In the cultural context that gives rise to sustainable development this may well be the case: something so valuable has been achieved that it is considered worth preserving. On the other hand, considering the social and economical realities in today's Russia, it is hardly the case that the first thing to pop into the mind of a Russian citizen is the desire for all this to be *ustoichivoe,* sustainable. This is of course a blatant generalisation but it shows in a very concrete way just how alien the element of 'sustainability' really is to Russian experience and tradition. The diverse

[230] Lotman 1990, 131.
[231] Ibid., 136.

'safeties' with which it is supplemented, again, tells about the primary concerns in the Russian reality.

Turoma et al. summarise in their article the argument that as hungry as Russian culture has proved to be for ideas coming from the outside, it is often the case that these ideas, when adopted in Russia, transform into something considerably different.[232] This view resembles, in its basic points, the argument of Berlin about the boomerang effect. Two authors that have examined in a more detailed manner the logic of the Russian culture are Yuri Lotman and Boris Uspenskii. In their essay *Binary Models in the Dynamics of Russian Culture,* Lotman and Uspenski focus on the pre-ninenteenth-century events and reality in Russia. They build round what they themselves term the *binarity of the everyday life in Russia*. This was demonstrated in that there was no value-free zone in the everyday life of medieval Russia, that the reality was always strictly divided in two: the holy vs. the sinful, the admirable vs. the despicable, the good vs. the bad and so forth. This was contrary to the western Catholicism of that time, where there was yet a third zone, "the neutral", which was represented by purgatory as an intermediate stage between heaven and hell. According to Lotman and Uspenskii, in the west this threefold division in the spiritual sphere led to the fact that neutral behavior in the earthly life became possible. This, in its turn resulted in certain subjective continuity between the "negated present" and the "awaited future". In Russia, on the contrary, the essential polarity of the spiritual life led to the exact opposite, that although every new period in Russian history was "oriented toward a decisive break with what preceeded it"[233], the 'new' always included mechanisms that in a peculiar way reproduced the culture of the past.

The mechanism described by Lotman and Uspenskii works in the case of sustainable development: at the same time as Russian environmental scientists create something new, they turn to the past to such an extent that the in fact the past is being reproduced again. This is the kind of 'boomeranging' that we can talk about in this context: sustainable development is, in a sense, not only renamed in Russia, but it also begins drawing from Russia's own cultural memory. But then: there should be nothing extraordinary in this, since according to Lotman's notion of boundary it should be the natural mechanism of any culture to protect itself in this way, by drawing from its own 'cultural archive'. Therefore, maybe the difference that Russia makes when compared with other cultures, is simply that

[232] Turoma et al 2000, 32.
[233] Lotman – Uspenskii 1985, 31-32.

historically it has been more eager than any other culture to absorb alien elements into it.

7. Concluding Remarks: Going against the Myth of Russia

After the job is done, the question posed in the introductory chapter of this work still remains: what are the implications of a study like this for International Relations as a discipline? As noted earlier, this work goes against theory-centredness and for a more 'social scientific' outlook in IR. It aims at demonstrating that inside IR there is also place for an empirical piece of research like this one, and also that semiotics is a functioning method for this kind of research. Another contribution concerns the study of globalisation inside the discipline: although the purpose was not to dig in too deep into theoretical questions concerning globalisation, I think there is an important point to be made. In the various books that I have read for this study, globalisation is most often studied as a *form* or a *process* of policy making, whose implications on *international relations* are explored. This is indeed an important scientific endeavour: to examine the consequences of globalisation from the point of view of traditional institutions in IR such as state sovereignty or international anarchy. There is, however, the reverse side to the coin in this process, the study of which has been much less popular. This concerns the implications of global policies at the domestic scenes, their reception and the emerging interpretations. By

conducting a study about a Russian concept that according to my interpretation has emerged as an answer to the global policy of sustainable development, I hope to have shown that in the study of globalisation it is necessary also to go to the 'output-end' of the process and dig at the grassroots-level in order to realise that globalisation is much more complex as a phenomenon than it is often thought to be.

Since this is a study on Russian culture, the most relevant question at this point is, of course, what is the contribution that it makes to Russian studies at large. In the introductory chapter I opened this theme with a quotation from the famous Russian poet and diplomat who obviously had exhausted himself with the complexity (irrationality?) of Russian culture and subsequently come to the conclusion that it is impossible to properly *understand* Russia. His writings have been so abundantly quoted in all possible occasions that his words seem to have become a self-fulfilling prophecy: since the conclusion in scientific research has often been that Russia cannot be explained by the same laws as other European countries, it has automatically been doomed as 'totally unexplainable'. This is the intellectual legacy that I started out with several years ago in my exploration of Russian culture and mentality. Either I just happened to use the kind of literature that was constantly making an enigma out of Russia, or it was because of a some kind of romanticist view that I had of Russia at that time, but I felt that I was dealing with something so different, something that did not conform with any known laws, something characterised primarily by its age-old drifting between Europe and the Eurasia. This is what made it so interesting in the first place. This Master's thesis, however, has marked a significant intellectual growth in respect to my understanding of Russia. Now (I think) I know that Russia *can* be studied and understood, just as any other culture can. Maybe it is the case that the key to its understanding lies in its peculiarity: admitting that it is considerably different allows to make a rule of all the exceptions that it makes.

To conclude with all that has come up in the course of this intellectual journey let us stop to think about what I consider maybe the biggest contribution of this kind of concrete study to the practice of international relations. Although being limited in scope, this kind of study might help to understand certain things in everyday life that otherwise would be left either completely unexplained or at least misunderstood. A good example is provided by president Putin's recent statements about his intentions to reassert power to the federal centre of the country and take it away from the regional leaders. This kind of behaviour goes against every 'modern western' view about democracy and the conceived general logic of regionalisation, and therefore, the most probable reaction of a western politician to

statements like this is that this must mark the beginning of another dictatorship in Russia. However, those who have studied Russian culture and history are able the grasp the most relevant: that no matter how awkward some things might sound to us, they are most probably based on a cultural logic which simply differs from that of ours but in not necessarily any more irrational. To those who have studied the mechanisms of Russian culture this kind of worries about Putin's 'hidden agenda' may sound as silly as if someone asked: *"why is it the case that the whole Russia is not recycling yet?"*

Primary Sources[234]

Journals

Ekologicheskaya bezopasnost'
1-2(7-8) 1997
1-2(10-11) 1998 and
1-2(13-14) 2000

Articles

Yakimova, V.P. 1997, Ob ekologicheskih terminah [On Ecological Concepts], pp. 36-37 in *Ekologicheskaya bezopasnost'* 1-2 (7-8) 1997.

Donchenko, Vladislav 1996, An article (without a name) in Ecological Safety 6/1996 [WWW-document].

[234] The primary sources of this study are at my possession and they can be borrowed upon request.

Donchenko, Vladislav 1998, Kollektivnaya ekologicheskaya bezopasnost' – klyuchevoi element "Povestki dnya na XXI vek" [Collective ecological safety – a key element of the Agenda 21], pp. 7-8 in *Ekologicheskaya bezopasnost'* 1-2 (10-11) 1998.

Golubetskaya, N.P. 1998, Prioritetniye napravleniya deyatel'nosti parlamentariev SNG po obespecheniyu ekologicheskoi bezopasnosti [The Priorities of the CIS Parliaments in the Securing of the Ecological Safety], pp. 9-10 *in Ekologicheskaya bezopasnost'* 1-2 (10-11) 1998.

Gorshkov V.- K. Kondratyev, K. Losyev 1996, Ekologicheskiye problemy sovremennosti: vozhmosniye kontseptsii razvitiya i resheniya [Ecological problems of modernity: possible ways of development and resolving], pp. 73-85 in *Ekologiya, ekonomika, politika* ed. by K. Kondratyev, V. Doncenko, K. Losyev and A. Frolov. St. Petersburg: SRCES.

Kondratyev, K. 1996, Prioritety global'noi ekologii [The priorities of global ecology], pp. 43-51 in *Ekologiya, ekonomika, politika* ed. by Kondratyev K. – V. Donchenko, K. Losyev and A. Frolov. St. Petersburg: SRCES.

Kondratyev, K. – V. Gorshkov 1996, Predely ustoichivosti biosfery [The limits to the sustainability of the biosphere], pp. 51-73 in *Ekologiya, ekonomika, politika*, ed. by Kondratyev K. – V. Donchenko, K. Losyev and A. Frolov. St. Petersburg: SRCES.

Romanyuk, Ludmyla 1998, Sotsial'no-ekonomicheskie aspekty protsessov integratsii (popytka obobshenya) [The socio-economic aspects of integration processes (an intent to generalise)], pp. 4-6 in *Ekologcheskaya bezopasnost'* 1-2 (10-11) 1998.

Titova, Galina – Michael Begak 1996, Sustainable Development in the Norms of Law, Ecological Safety 6/1996 [WWW-document].

Books

Donchenko, Vladislav 1995, *Ekologicheskaya integratsiya*, chast 1: Sotsial'no-ekonomicheskiye aspekty ekologicheskoi intgratsii Rossii v mirovoe soobshestvo [Ecological Associating, Part I: Ecological Associating of Russia with the World Community, Social and Economic Aspects]. St. Petersburg.

Donchenko et al. (eds.) 1997, *Ekologicheskiye problemy Severo-Zapada Rossii i puti ih resheniya* [The Ecological Problems of North-West Russian and Ways of Solving Them]. Saint Petersburg: ZAO Viktoriya – Spetsial'naja literatura.

Izmalkov, V.I. – A.V. Izmalkov 1998, *Tekhnogennaya i ekologiceskaya bezopasnost' i upravlenie riskom* [Technogenic and ecological safety and risk management]. Moscow – St. Petersburg.

Presentations

Begak, M. – G. Titova 1998, Ecological Safety in St. Petersburg: Legislative Regulation, pp. 226-230 in *Strategy for Ecological Safety of St. Petersburg*, Making Use of the Netherlands Experience. Materials for the Symposium, September 9-12, 1997, St. Petersburg ed. by Donchenko et al. St. Petersburg: SRCES.

Donchenko, Vladislav – Lyudmila Romanyuk, I. Blekhtsin 1998, A Concept of the Collective Ecological Safety and Economic Instruments of Its Implementation, pp.105-109 in *Strategy for Ecological Safety of St. Petersburg*, Making Use of the Netherlands Experience. Materials for the Symposium, September 9-12, 1997, St. Petersburg ed. by Donchenko et al.

Donchenko, V. 1998, Collective Ecological Safety – the Key Aspect of Local Agenda XXI, pp. 102-104 in Strategy for Ecological Safety of St. Petersburg, Making Use of the Netherlands Experience. Materials for the Symposium, September 9-12, 1997, St. Petersburg, ed. by Donchenko et al. St. Petersburg: SRCES.

Donchenko, Vladislav 1999, Diskussionnye voprosy kontseptsii kollektivnoi ekologicheskoi bezopasnosti stran SNG. Mezhparlametskaya asambleya gosudarstv-uchastnikov SNG 29.-30.3.1999.

Donchenko, Vladislav (sine anno), Global Change-related Studies in Regional context.

Kondratyev, Kirill 1998, Ecodynamics of St. Petersburg Region in the Context of the Global Change, pp. 34-43 in *Strategy for Ecological Safety of St. Petersburg,* Making Use of the Netherlands Experience. Materials for the symposium, September 9-12, 1997, St. Petersburg, Russia ed. by Donchenko et al. St. Petersburg: SRCES.

Makarov, Oleg 1998, Ecological Safety Criteria for the Strategic Planning of St. Petersburg Development, pp. 87-89 in *Strategy for Ecological Safety of St. Petersburg*, Making Use of the Netherlands Experience. Materials for the Symposium, September 9-12, 1997, St. Petersburg ed. by Donchenko et al. St. Petersburg.

Vorontsova, A.M. 1999, Kriminologicheskiy podkhod k probleme ekologicheskoi bezopasnosti. Doklad professora A.M. Vorontsova na ychonom soviyete NICEB RAN 1.10.1999 [Criminological approach to the problem of ecological safety. The presentation of professor A.M. Vorontsov in the scientific council of the SRCES/RAS].

Yakovlev, Vladimir 1998, Strategy and Instruments of Ecological Safety in St. Petersburg, pp. 17-21 in *Strategy for Ecological Safety of St. Petersburg*, Making Use of the Netherlands Experience. Materials for the symposium, September 9-12, 1997, St. Petersburg, Russia ed. by Donchenko et al. St. Petersburg: SRCES.

Working Papers

Donchenko, Vladislav 2000 (forthcoming), Kontseptual'nye aspekty problemy ekologicheskoi bezopasnosti [Conceptual Aspects of the Problem of Ecological Safety]. St. Petersburg State University Press.

Donchenko, Valdislav (sine anno), Ekometricheskii analiz vtorichnyh tekhnogennyh vozdeistvii (effekt vtorichnogo tekhnogennogo vozhdejstviya tyaselyh metallov, akkumulirovannyh v ledovo-snezhnom pokrove Baltiiskogo morya) [Ecometrical analysis of secondary technogenic impact [The effect of secondary techogenic impact of heavy metals accumulated on the ice and snow cover of the Baltic Sea)].

WWW Sources

Parts of the following issues of the *Ekologicheskaya bezopasnost'* –bulletin are at my possession. The Internet-site where they are taken from does not work anymore.
6 (6) 1996
5 (5) 1996
1 (7) 1997
(TheWWW-address was ***http://www.dux.ru/enpp/newspapers/ekolog/indexes/ekolog-06-index.html***)

Leaflets and brochures

St. Petersburg Scientific Research Center of Ecological Safety, Russian Academy of Sciences (SRCES RAS). Sine anno.

Bibliography

Amelin, Vyacheslav 1996, Ustoicivoe razvitie dlya Rossii – Illyuziya ili shans [Sustainable Development for Russia – Illusion or a Chance], in *Segodnja 88/1996* (23.5.1996).

Appadurai, Arjun 1990, Disjuncture and difference in the Global Cultural Economy, pp, 295-310 in *Global Culture; Nationalism, Globalization and Modernity* ed. by Michael Featherstone. Sage Publications.

Austin, J.L. 1980 (1962), *How to Do Things with Words*, ed. by J.O. Urmson and Marina Sbisà. Oxford University Press.

Axford, Barrie 1995, *The Global System, Economics, Politics and Culture*. Polity Press, Cambridge.

Berlin, Isaiah 1997, *The Sense of Reality*. Paperback Publications

Bierstedt, Robert 1978, Sociological Thought in the Eighteenth Century, pp. 3-38 in *A History of Sociological Analysis* ed. by Tom Bottomore and Robert Nisbet. London: Heinemann.

Bramwell, Anna 1989, *Ecology in the 20th Century*. A History. Yale University Press.

Bäckman, Johan 1996. Venäläisestä ympäristötietoudesta (On Russian Environmental Consciousness), pp. 51-56 in *Idäntutkimus* No 1.

Carr, Edward Hallett 1939, *The Twenty Years' Crisis 1919-1939*. An Introduction to the Study of International Relations. The Macmillan Press Ltd.

Chernov, Igor 1988, Historical Survey of Tartu-Moscow Semiotic School, pp. 7-16 in *Semiotics of Culture*, Proceedings of the 25th Symposium of the Tartu-Moscow School of Semiotics, Imatra, Finland, 27th-29th July, 1987 ed. by Broms, Henry and Rebecca Kaufmann. Arator INC Publishers, Helsinki.

Colby, Michael E. 1991, Environmental Management in Development: the Evolution of Paradigms, pp. 193-213 in *Ecological Economics* 3/1991.

Cvetkovich, Ann – Douglas Kellner 1997, Introduction: Thinking Global and Local, pp. 1-30 in *Articulating the Global and the Local* ed. by Ann Cvetkovich and Douglas Kellner. Oxford: Westview Press.

Danesi, Marcel 1994, Introduction: Thomas A. Sebeok and the Science of Signs, pp. xi-xvii in Signs, *An Introduction to Semiotics* by Sebeok, Thomas A. University of Toronto Press Incorporated.

Deely, John 1990, *Basics of Semiotics*. Indiana University Press.

Eco, Umberto 1990, Introduction, pp. vii-xiii in *Universe of the Mind*, A Semiotic Theory of Culture, written by Yuri Lotman. I.B. Tauris & CO. LTD, London.

Elias, Norbert 1991, *The Symbol Theory*. Sage Publications, London.

Elliott, Lorraine 1998, *The Global Politics of the Environment*. Macmillan Press Ltd, London.

Elshtain, Jean Bethke 1995, International Politics and Political Theory, pp. 263-278 in *International Relations Theory* Today ed. by Ken Booth and Steve Smith. Polity Press, Cambridge.

Erlich, Victor 1975, Introduction: Modern Russian Criticism from Andrej Belyj to Andrej Sinjavskij: Trends, Issues, Personalities, pp. 3-30 in *Twentieth Century Russian Literary Criticism*, ed. by Victor Erlich. Yale University Press.

Friedman, Jonathan 1990, Being in the World: Globalization and Localization, pp. 311-328 in *Global Culture.* Nationalism, Globalization and Modernity ed. by Michael Featherstone. Sage Publications.

Garb, Paula 1995, Environmentalism in Russia, pp. 687-695 in *Nationalities Papers* Vol 23 No 4.

Garner, Robert 1996, *Environmental Politics*. University of Leicester.

Government Views on the Relationship between Population and Environment, 1997. United Nations.

Graham, Loren R. 1993, *Science in Russia and the Soviet Union*, A Short History. Cambridge university Press.

Groys, Boris 1993, Rossiya kak podsoznaniye zapada (Russia as the sub-consciousness of the west), pp. 245-259 in *Utopiya i obmen* (Utopia and Change). Moscow: Izdatelstvo Znak.

Harle, Vilho 1998. The Concept and Tradition of the "Enemy" in the Light of European Politics and Integration, pp. 409-425 in *Tieto, Valta ja Maailmanpolitiikka* [Knowledge, Power and World Politics] ed. by Olavi Borg, Juha Holma, Jukka Paastela and Tarja Seppä. Cityoffset Oy.

Harris, Roy 1983, Translator's Introduction, pp. ix-xx in *Course in General Linguistics* by Ferdinand de Saussure. Duckworth, London.

Hoppal, Mihaly 1988, Ethnosemiotics and semiotics of culture, pp. 17-33 in *Semiotics of Culture*, Proceedings of the 25th Symposium of the Tartu-Moscow School of Semiotics, Imatra, Finland, 27th-29th July 1987 ed. by Broms, Henri and Rebecca Kaufmann. Arator INC Publishers, Helsinki.

Huttunen, Tomi – Pekka Pesonen & Sanna Turoma 2000, Modernism and Postmodernism: Means of Understanding 20th Century Russian Culture, pp. 29-44 in *Russia: More Different than Most* ed. by Markku Kangaspuro. Helsinki: Kikimora Publications.

Laferrière, Eric 1996, Emancipating International Relations Theory: An Ecological Perspective, pp. 53-75 in *Millennium*, Vol 25 No 1.

Lapid, Yosef 1996, Culture's Ship: Returns and Departures in International Relations Theory, pp. 3-20 in *The Return of Culture and Identity in IR Theory* ed. by Yosef Lapid & Friedrich Kratochwil. Lynne Rienner Publishers.

Leander, Anne 1997, Bertrand Badie: cultural diversity changing International Relations?, pp. 145-169 in *The Future of International Relations* ed. by Iver B. Neumann and Ole Wæver. London, Routledge.

Lotman, Yuri 1970, *Staty po tipologii kul'tury*, Materialy k kursu teorii literatury, vypusk 1. Tartuvskiy gosudarstvennyi universitet.

Lotman, Yuri 1976, *Analysis of the Poetic Text*. Ardis/Ann Arbor.

Lotman, Yuri 1977, [1971] *The Structure of the Artistic Text*. Department of Slavic Languages and Literatures, The University of Michigan.

Lotman, Juri 1989, *Merkkien maailma*, Kirjoitelmia semiotiikasta. Painokaari Oy, Helsinki.

Lotman, Yuri 1990, Universe of the Mind. A Semiotic Theory of Culture. I.B. Tauris & Co. Ltd Publishers, London.

Lotman, Yuri M. - Boris Uspenskii 1985, Binary Models in the Dynamics of Russian Culture, pp. 30-66 in *The Semiotics of Russian Cultural History* ed. by Yuri M. Lotman, Lidiia Ia. Ginsburg & Boris A. Uspenskii. Cornell University Press.

Marchuk, Y.N. 1992, *Osnovy terminografii*. Metodicheskoye posobiye [Basics of Terminography. Methodical Tools]. Moskva: CII MGU.

Moiseyev, N. 1990, Chelovek i noosfera [Man and noosphere]. Moscow: Izdatelstvo Molodaya gvardiya.

Negosudarstvennye Ekologicheskiye Organizatsii Sankt-Peterburga [A Directory of Non-governmental Environmental Organisations in St. Petersburg], 1998. St. Petersburg, Notabene Publications.

Neumann, Iver B 1996, *Russia and the Idea of Europe*. A Study in Identity and International Relations. London: Routledge.

Niiniluoto, Ilkka 1983, Tieteellinen päättely ja selittäminen. Helsinki: Otava.

Okhrana okrushayushey sredy, prirodopol'zovanie i obespechenie ekologiceskoy bezopasnosti v Sankt-Peterburge v 1998 godu [Environmental Protection, the Use of Natural Resources and the Securing of Ecological Safety in St. Petersburg in 1998], 1999. Administratsiya Sankt-Peterburga. St. Petersburg: Sesam.

Palmer, Joy A. 1992, Towards a Sustainable Future, pp. 181-186 in *The Environment in Question* ed. by Cooper, David E. – Joy A. Palmer. London: Routledge.

Postanovlenye Pravitel'stva Rossiiskoy Federatsii 2351/1996. O Razrabotke Proekta Gosudarstvennoy Strategii Ustoichivogo Razvitiya Rossiiskoy Federatsii [Resolution by the Government of the Russian Federation. On the Development of a National Strategy of Sustainable Development for Russia], pp. 5027-5028 in *Sobranye Zakonodatel'stva Rossiiskoy Federatsii* [The Collection of Laws of the Russian Federation] No 20.

Rapoport, Anatol 1968, Foreword, pp. xiii-xxv in *Modern Systems Research for the Behavioral Scientist* ed. by Walter Buckley. Chicago: Aldine Publishing Company.

Rytövuori-Apunen, Helena – Terhi Takkinen 2000, Interfaces in Environmental Thinking: Sustainable Development Challenged by Ecological Safety, pp. 446-497 *in Russian-European Interfaces in the Northern Dimension of the EU* ed. by Helena Rytövuori-Apunen. Studia Politica Tamperensis 8. Tampere: Department of Political Science and International Relations.

Sachs, Wolfgang 1993, Global Ecology and the Shadow of 'Development', pp. 3-21 in *Global Ecology, a New Arena of Political Conflict* ed. by Wolfgang Sachs. Fernwood Publishing, Halifax, Nova Scotia.

de Saussure, Ferdinand 1983 [1916], *Course in General Linguistics*. Duckworth, London.

Sebeok, Thomas A. 1994, *Signs: An Introduction to Semiotics*. University of Toronto Press.

Shiva, Vandana 1993, The Greening of the Global Reach, pp. 149-156 in *Global Ecology, a New Arena of Political Conflict* ed. by Wolfgang Sachs. Fernwood Publishing, Halifax, Nova Scotia.

Shukman, Ann 1977, *Literature and Semiotics*, A Study of the Writings of Yuri Lotman. North Holland Publishing Company, Netherlands.

Soroos, Marvin S. 1989, *Beyond Sovereignty, The Challenge of Global Policy*. University of South Carolina Press.

Susiluoto, Ilmari 1982, The Origins and Development of Systems Thinking in the Soviet Union. Political and Philosophical Controversies from Bogdanov and Bukharin to Present-Day Re-Evaluations. *Dissertationes Humanum Litterarum 30*. Helsinki: Suomalainen tiedeakatemia.

Todorov, Tzvetan 1982, *La Conquête de l'Amérique*, La Question de l'Autre. Éditions du Seuil.

Truscott, Peter 1997. *Russia First, Breaking with the West*. I.B. Tauris Publishers.

Ukaz Prezidenta Rossiiskoi Federatsii 1572/1996. O Kontseptsii Perekhoda Rossiiskoi Federatsii k Ustoichivomu Razvitiyu [A Decree by the President of the Russian Federation: About the Concept of Transition of the Russian Federation to Sustainable Development] pp. 3694-3701 in *Sobranye Zakonodatel'stva Rossiiskoi Federatsii* [The Collection of Russian Legislation] No 15.

Ursul, A. 1997, Problema gosudarstvennosti v perspektive perekhoda k ustoichivamu razvitiyu [The Problem of the Dominance of State Administration in the Context of Transition to Sustainable Development], pp. 27-45 in *Sotsial'no-politicheskiy shurnal* (Socio-political Journal) 2/1997.

Wallerstein, Immanuel 1990, Culture as the Ideological Battleground of the Modern World-System, pp. 32-65 in *Global Culture*. Nationalism, Globalization and Modernity ed. by Michael Featherstone. Sage Publications.

Weiner, Douglas R. 1988, *Models of Nature*. Ecology, Conservation, and Cultural Revolution in Soviet Russia. Indiana University Press.

Wendt, Alexander 1996, Identity and Structural Change in International Politics, pp. 47-64 in *The Return of Culture and Identity in IR* Theory ed. by Yosef Lapid & Friedrich Kratochwil. Lynne Rienner Publishers.

Wight, Martin 1966, Western Values in International Relations, pp. 89-131 in *Diplomatic Investigations*, Essays in the Theory of International Politics ed. by Herbert Butterfield and Martin Wight. Simson Shand Limited, London.

Internet Sources

About Commission on Sustainable Development. Changed 19.3.1999. [WWW-document]. **http://www.un.org/esa/sustdev/csdgen.htm**

Rion konferenssin taustaa [Background to the Rio Conference]. Changed 12.11.1998. [WWW-document]. **http://www.vyh.fi/poltavo/keke/keketaus.htm**

On Some Ecological Safety Problems in Russia. Changed 28.3.2000. [WWW-document]. **http://www.greenpeace.ch/action11/action11_russland5.html**

The Independent Centre of Ecological Consumer's Safety. Changed 28.3.2000. [WWW-document]. **http://igras.geonet.ru:8081/igras/depart/ecocnt/e/gener.htm**

Dictionaries

Bolshoi tolkovyi slovar' russkogo yazyka, 1998. Rossiiskaya akademiya nauk. Institut lingvisticheskih issledovanii. Norint. Sankt-Peterburg.

Collins English Dictionary, 1995, 3rd revised edition. Harper Collins Publishers.

The New International Webster's Comprehensive Dictionary of the English Language. Deluxe Encyclopedic Edition, 1995. Trident Press International.