Environmental design research in Russian architecture
Western roots and national forms of existence

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Abstract
Purpose – The topics “environment,” “environmental design” and “environment and behavior studies” are important and promising in architectural discourse. The academic culture of the global west plays a unique role in the development of the knowledge within the field of environmental design research (EDR), from which these concepts originate. This paper examines the western names, works and ideas related to EDR that have spread into Russian architectural discourse. The purpose of this paper is to consider the status quo of Russian knowledge of EDR and its connection with the western EDR tradition.

Design/methodology/approach – The method of research in this paper is the analysis of references and keywords of architectural publications from the largest Russian academic online library – e-library.ru.

Findings – The origin, evolution and current state of environmental architectural knowledge in Russia are discussed. Its segmentation including the presence of several self-organized spheres within the EDR domain and the variety of “dialects” of environmental language are illustrated. The connections of each segment of Russian knowledge with western authors and sources are traced. Further, conclusions are drawn regarding the similarities and differences between Russian and western knowledge in the field of EDR.

Originality/value – The relationship of Russian architectural theory with western EDR knowledge has not previously been the subject of a comparative scientometric study.

Keywords Citation analysis, Environmental design research

Paper type Research paper

Introduction
Environmental design has been one of the most productive concepts in architectural practice for many years. It is as inclusive as possible, allowing environmental designers (e.g. architects, landscape architects, urban planners and interior designer) to become aware of their common involvement in the built environment. For the most researchers, it also marks the special interdisciplinary position of design professionals and social scientists, who are concerned with interactions of people with their physical environment. Salama (2012) is correct when stating that increased attention to this interaction, ranging from ecological to environmental and behavioral aspects, is the major content of the recent shift in architectural knowledge, along with digital technologies and virtual practices. This shift was initiated in the 1960s by North American scientists who were the founding members of and activists involved with the Environmental Design Research Association (EDRA). European, Japanese, Chinese, Australian and New Zealand colleagues and followers later formed other regional associations. The positions of the North American branch of environmental design are strong, and it is rare that an environmental design research (EDR) publication lacks references to its concepts, the work of its representatives.

There are good reasons to believe that EDR around the world originated in North America as well as the broader western tradition and owes much to the latter in its development. Hardly, any researcher representing the Global South or Global East denies it. There is much less reason to claim anything a priori about Russian EDR. Few publications of Russian authors in English are available to English-speaking audiences, so it is difficult to draw any conclusions based on such work. Meanwhile, the question of whether western EDR knowledge has had impacts on Russian architectural theory and practice, apparently
matters not only for Russia. This is a question of the effectiveness of the general circulation of knowledge as well as the unity or partial splitting of the academic EDR world. The author’s conviction regarding the importance of the answer to this question was the starting point of the given research.

**Methodology**

The study aims to clarify links between western, in particular North American, and Russian environmental design knowledge in architecture. EDR refers to the interdisciplinary field of the study of environmental design, conducted by design professionals and social scientists (i.e. sociologists, psychologists and anthropologists) and aimed at considering the relationships between people on the one hand and the physical environment on the other hand. The focus of the present study is the traces of western influences, namely authors and ideas in the EDR field of Russian architecture. The study addresses the following questions:

**RQ1.** What is the state of EDR knowledge in Russian architecture today?

**RQ2.** What western authors, associated with EDR, and how often are mentioned in Russian texts?

**RQ3.** What topics and concepts of western EDR have attracted the attention of Russian architects?

**RQ4.** How has western EDR knowledge penetrated Russian architectural theory?

To identify the western presence in Russian EDR texts, a list was made of the leading English-speaking authors, who are the key carriers of EDR knowledge. The core of the list comprises eminent EDRA members who have received awards “for an outstanding career,” “for academic service” or “for academic achievements” (see the EDRA website at: www.edra.org/page/awards). This list was further expanded with the authors of a number of well-known western monographs, textbooks and EDR anthologies as well as names were mentioned in these works (Wang and Groat, 2002; Sanoff, 2009; Lang, 1987; Marcus, 2009; Zeisel, 2006; Cranz and Pavlides, 2011). Second, a list of generally accepted environmental topics and “concepts-identifiers” of those texts that belong to the EDR sphere was compiled. The concepts were derived from the indices of monographs and proceedings of several annual EDRA conferences (2002, 2009, 2010 and 2013) and from keywords accompanying large review papers.

Russia’s main national online database, “Research Electronic Library of Russia” – e-library.ru, was chosen as the source of Russian publications. At the time of the study, it contained about 40,000 publications in the “Architecture” section. Each publication is represented by a bibliographic description, abstract, keywords and references. Full text is available for one-third of the sources (see e-library website at: https://elibrary.ru/defaulttx.asp).

**Analysis**

*Social and professional background of EDR development in Russia*

Chronologically, the first sprouts of environmental vision in architecture in the former USSR appeared at about the same time as in other areas – the late 1960s to the early 1970s. The reasons that brought this field to life were also the same as abroad – the first tides of the post-industrial “third wave.” The “environmental approach,” as it is called in Russia, has embodied post-industrial and post-modern trends and has become a tool to combat industriality in design and construction technologies and modernism in professional knowledge and consciousness. By the mid-1960s, the country had been engaged in the industrial construction of prefabricated housing and public buildings for about 10 years. Entire cities were created from scratch or radically rebuilt after the post-war destruction,
and the number of new residential areas, incredibly similar to each other in form and content, rose to the thousands. The projects were carried out according to the so-called standard design methodology, with the same architectural solutions replicated throughout the vast country. Government and the architectural professionals used manipulative and paternalistic strategies for the creation of cities and living environments.

In the beginning, industrial technologies and their unified architectural products were well received by the public. The situation changed when those technologies and products began to move from the outskirts of cities to penetrate the refurbished centers of historical cities such as Moscow. As modernist architectural and planning ideas materialized in historical places, accompanied by low-quality construction, they began to cause disappointment, irritation and disagreement among the general public and some professionals. The emerging environmental approach was a reaction to these phenomena.

Authors such as Jane Jacobs, Robert Gutman, John Turner or Colin Ward did not appear in Russia, no one published the awakening sociological literature aimed at debunking modernist ideology, theory and practice in the eyes of architects and society. The Soviet sociology of urban areas and housing was in its infancy at this time. There were no mass protests against modernist urban development, as in Europe. However, there was a common element, namely, three methodological prerequisites for the development of the environmental approach: an ecological movement; the development of systematic methodology; and a reaction to the costs of the functional approach (Kaganov, 1987). It is known that western EDR stemmed from the design methods group (DMG) movement, which developed system design techniques and was associated with the names of H. Sanoff, G.T. Moore, J.C. Jones, B. Archer, among others. In the USSR, the most influential and intellectually productive environmentalists and their most convinced critics came from the so-called Moscow Methodological Circle of Georgy Schedrovitsky, which was somewhat similar to DMG in its ideas and intentions (Rindzeviciute, 2015).

In the USSR in the 1960s, there were none of the large-scale social unrest and protests that spawned early EDR in the USA and western Europe and determined its initial political leftism. However, there was a post-Stalin liberalization and democratization of public life, science and culture, called the “Khrushchev thaw,” which had, in part, the same consequences as the “youth riots” in the west, namely the activation of grassroots social initiatives and the weakening of state control and ideological dictatorship over the individual. The partial dismantling of the iron curtain and the penetration of western philosophical, sociological, psychological and prognostic literature replaced the almost complete cultural and academic autarky of previous times. The first associations of sociologists and psychologists were created, and the first mass sociological surveys of the population were conducted. At the central design institutes for architecture and planning sociology departments were established. Against this background, EDR in architecture and other areas of environmental design emerged in the Soviet Union and Russia.

Segmentation of Russian environmental design research areas of study
From its very beginning, the field of EDR emerged as a highly heterogeneous entity broken up into enclaves, demonstrating quite different professional and public interests as well as different interpretations of the environment and the environmental approach. From this diversity, at least seven thematic areas can be isolated. Each has its own name and own content within the larger architectural discourse (Figure 1).

In the architectural texts of the late 1960s, the term “residential environment” was used for the first time. Originally, it meant “social and cultural aspects of the interaction of material entities with a complex spatial structure of the housing units” (Ryabushin, 1976, p. 6). The focus was on the environmental integrity of space and objects, designed by the “architect as creator.” Design of the architectural environment is the branch of EDR that
cultivates this understanding. It still exists and has generated a separate profile of architectural training, specialized departments in architectural schools and extensive literature (Efimov and Panova, 2015; Ermolaev, 1974; Shimko, 2009).

The second segment of EDR is “user needs research.” In the 1980s, this segment was inspired by interest in the customization of architectural products, based on the “needs of population,” within standard design and industrial construction (Kartashova, 1983; Molchanov, 1987; Ovsyannikov, 1985). The complex nature of human needs forced architects to turn to the concept of the environment and develop principles of consumer evaluation. Starting large-scale environmental research, architects turned to environmental psychologists and sociologists for theoretical and methodological support. At the forefront of interdisciplinary cooperation were Estonian researchers working at Tallinn University, including Toomas Niit, Mati Heidmets, Jury Kruusvall, Maaris Raudsepp and Kadi Liik. The Estonian school made a decisive contribution to the establishment of EDR in Soviet architecture and psychology. From 1981 to 1991, its adherents organized regular national and international conferences that played the same role of interdisciplinary consolidation of design professionals and social scientists in the Union that EDRA and IAPS played and continue to play in the western world.

From 1972 to 1985, Estonian environmental psychologists, together with design and research institutes from Moscow, examined housing and the living environment of more than 5,000 families in three dozen cities of the country (Niit et al., 1989). Studies resembling post-occupancy evaluation, among other things, led architects to an unpleasant discovery. Only 40 percent of families in mass-built apartment houses used their residential units in accordance with the models conceived by architects. This meant that architects’ ideas about life too often had nothing to do with reality (Ovsyannikov, 1985). Western sociologists contributed to the development of this field. Dr John Zeisel visited the country in 1974.
In Moscow, he met Kira Kartashova, a Russian expert in housing sociology who he later met again in Boston. As a result of this contact, a method of graphic modeling for housing survey, developed by John Zeisel (Brolin and Zeisel, 1968), became popular among Russian researchers.

Studies of the socio-cultural functions and qualities of the urban environment are the third segment of EDR knowledge in architecture (Ass, 1984; Glazychev, 1984; Glazychev et al., 1995; Gutnov, 1993; Ikonnikov, 1985; Vysokovskiy, 1984). The city, urban spaces, urban culture and cultural groups, human interactions and connections, and self-organizations and “do-it-yourself” initiatives are the focus of this academic community. Its adherents are also sensitive to the phenomenological aspects of architecture and have contributed significantly to their advancement in Russia. Generally speaking, these researchers have developed a sphere of knowledge and practice in the country similar to western urban design.

Researchers of the fourth EDR community combine interests in philosophy, epistemology and methodology of design, psychology and the organization of architectural activity and the profession. They deal with the phenomena of project culture and education, conduct comparative analyses of environmental and traditional architectural methods and approaches, and examine basic categories and oppositions like “activity vs behavior” and “system vs environment” (Rappaport, 1983; Zinchenko, 1985; Genisaretksiy, 1988; Nikitin, 1990). These researchers, often from the earlier mentioned Moscow Methodological Circle, have developed a line close to those of the western DMG and Design Research Society (see: www.desigresearchsociety.org/cpages/home).

Another EDR segment focuses on the perception of architectural form and space. Its followers rely on the theories of information and communication, architectural psychology, semiotics, esthetics, linguistics and textual paradigms in architecture as a whole (Belyaeva, 1977; Strautmanis, 1978; Kaganov, 1987). Researchers within this community base their work on long-standing national traditions of study in the fields of empirical aesthetics, the history of art and architecture, and the post-revolutionary theory of the perception of space and form. However, the transition from the perception of individual architectural forms to environmental perception and from physiological to cultural aspects was a radical innovation initiated in the 1970s.

An additional segment of environmental knowledge, aimed at bridging the gap between the built environment and human behavior, deals with environmental psychology as a synonymous to environment–behavior studies (EBS). In this area, architects interested in psychology (Krasheninnikov, 1988; Ttov, 2004; Shilin, 2011) work with psychologists interested in architecture (Tkachikov, 1980; Solovieva, 2006; Shteinbakh and Elenskiy, 2004; Smolova, 2010). Estonian authors have played a key role in the development of this segment. They have published dozens of reviews of English-language EBS sources in Russian and introduced to the Russian-speaking audience in person key environment–behavior experts from the west, including R. Sommer, R. Bechtel, S. Wapner, W. Preizer, J. Gehl, L. Altman, W. Michelson and E. Relph. In the last three decades, EBS in Russia as a field of knowledge have largely shifted toward “pure” environmental psychology.

The next segment of EDR focuses on the natural and landscape environment, sustainable development and design, and landscape design, taking an ecological approach to architecture (Iovlev, 1996; Nefedov, 2005; Mikulina and Blagovidskova, 2013; Kinsht, 2017). A human being here resembles a “naked monkey,” a biological creature, a systemic part of the surrounding milieu. The notions of “ecological” and “environmental” tend to be seen as synonymous. Emphasis is placed on the organic connection of man and the environment following the criteria of comfort, health, conservation, reproduction and diversity of natural resources.

It is necessary to emphasize that the boundaries between these EDR segments in architecture are permeable. The same person can conduct research and publish the results in several of these segments. However, this does not negate the certainty of the boundaries.
of different objects of study and different interpretations of the environment and an environmental approach. At the same time, there is something that connects all branches of Russian environmental knowledge against the background of foreign knowledge. Alexander Rappaport (not to be confused with American author Amos Rapoport) drew attention to this aspect almost half a century ago, but this observation is true to some extent even today. It has been noted that Russian EDR has comprised, above all, methodological and theoretical studies. Meanwhile, the American tradition has been incomparably more advanced in the empirical aspects of EBS. Scandinavians developed “political methods and forms of organization of design,” and “theoretical studies in the field of semiotics of architecture and urban planning” prevailed in France and Italy (Rappaport, 1983, p. 97).

**Western roots**

Analysis of references in publications on the theory of architecture shows that Russian authors are familiar with the works of foreign colleagues involved in EDR. A list of authors from the Global West (the USA, Denmark, Norway, Canada, Great Britain, Holland, France and Australia) mentioned in Russian sources on e-library.ru can be seen in Figures 2 and 3.


<table>
<thead>
<tr>
<th>“Western” EDR authors/ A–Design Profession:</th>
<th>Number of published materials in Russian at e-library.ru, cited the author:</th>
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<tr>
<td>Lynch, Kevin</td>
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<td>Alexander, Christopher</td>
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<td>Mazumdar, Sanjoy</td>
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Source: Author
cognition are increasingly turning to the works of Arnheim (1974, 1984) and Gibson (1988). Ecologically concerned authors are familiar with the papers of Van der Ryn and Calthorpe (1986). One can also find links to other works by the western authors mentioned above in Russian texts.

**Conceptual content of segmented EDR knowledge**

What western EDR terms and notions comprise Russian architectural and environmental knowledge? Unfortunately, the whole array of architecture texts cannot be analyzed. The task of considering keywords of architectural papers, monographs and conference proceedings in the Electronic Library of Russia is more feasible. With the spread of modern academic standards, the presence of keywords in publications has become a standard requirement. Most keyword lists contain both Russian and English concepts, making comparison easier.

As noted earlier, a basic glossary of environmental concepts that are searchable by keywords was compiled on the basis of subject indices from various sources and originally included about 150 entries. Not all of the concepts were found in Russian texts. The ten most common keywords for each of the seven selected EDR knowledge segments are shown in Figure 4. Some of the concepts are the product of Russian theory, and in some cases, Russian authors have significantly altered the original meaning of concepts and terms imported from the west.

Unsurprisingly, “environment” is the most common concept in the entire EDR knowledge field, but each segment interprets it in its own way. By capturing these differences, one can
more clearly define the boundaries of the segments. The “Design of the architectural environment” segment holds a unique place in environmental knowledge. It was formed from a Russian foundation rather than having a western origin (Figure 4(a)). Proponents of this version of environmental design position it as a combination of architecture and design “in the traditional sense of the word,” as well, as an “environmental approach, which helps to
understand that the filling and equipment of interiors or urban developments act as creative tools for shaping the form and meaning of living spaces” (Shimko, 2009, p. 409).

“Architectural environment” concept in this segment is endowed with its own meaning. It is interpreted as a three-dimensional emptiness, filled with equipment and landscape design, and “united into a whole according to the laws of artistic integrity” (Shimko, 2009, p. 22). Therefore, the social component is not accentuated here. Environmental design is neither an umbrella term covering architecture, landscape, interior design and urban planning, nor the equivalent of “ecological design,” but an emerging concept of a “new era of contemporary design culture” (Shimko, 2009, p. 22). “Architectural composition” is the cornerstone – the repository of analytical and creative tools. “Artistic design” and “design concept” are the core ideas of “architectural creativity” in this professional niche. Appealing to the concept of “environment,” “architects as artists” seek to expand their power to the entire visible world, to quench the thirst for “total design.” Frequent references to “ergonomics” and “anthropometry” are parts of the root that stretches here from “technical aesthetics,” one of the origins of this knowledge that arose in the era of George Nelson’s “industrial design.”

The “user needs” segment of EDR knowledge links to the areas of housing, urban studies and architectural sociology, all of which shape its lexicon (Figure 4(b)). The concept of the “architectural environment” is rare in this research area, but the concepts of “residential environments” and the “living environment” are widespread. From a sociological point of view, “the concept of environment is clearly associated with the environment of human activity and has a social, human connotation, unlike other ideas about space” (Kartashova, 1983, p. 148). People are taken to be “consumers” and are transformed into environmental properties through “needs” and “preferences” identified by sociological methods. The quality of the environment is indicated by “satisfaction” as expressed by the consumer. Different “consumer groups” supposedly need different environments described by keywords such as “children and youth environment,” “environment for the elderly,” “barrier-free environment” and “physically accessible environment.” In general, this segment of Russian environmental knowledge is based on the same terminology as its western counterpart.

The “socio-cultural research” segment has its own lexical field (Figure 4(c)). Environment here means the “urban environment” and is interpreted as the “material objects and spatial situation” combined with human behavior, or the “city-body” integrated with the “city-society” (Glazychev, 1984, p. 74). From physiological “life,” the focus is shifted to the socio-cultural “interaction.” Attention is paid to public spaces, urban culture and subcultures, urban lifestyles, neighborhoods and communities and identification of human-oriented qualities of the urban environment. The concept of “consumer” is not widespread in this segment due to its special connotation: “citizens” are an active force and form the urban environment instead of being passive recipients.

The “design methods” community views the environment as a theoretical and methodological abstraction, rather than an empirical social-physical reality (Figure 4(d)). Its members explore deep meanings of the basic concepts of “environment,” “environmental approach,” “environmental vision” and “environmental design” and attempt to trace their origins in the context of culture and profession. A productive hypothesis advanced by the environmental theorist states that “the idea of architecture, architectural activity in the process of its unfolding is realized through a number of historical and cultural cycles of its existence, and in each of these cycles there is a special stage that can be described as environmental” (Nikitin, 1990, p. 143). Methodologists compare different points of view of “architecture” and “environment,” consider the design process and its stages – from pre-design studies to “environmental assessment,” and analyze traditional and participatory design methods and models.
Publications related to “environmental perception and cognition” combine key concepts from several disciplines – the psychology of visual perception, architectural semiotics and architectural phenomenology, including such notions as “visual perception,” “visual communication,” “semantics,” “text,” “place identity,” “image of the city” and “spirit of place” (Figure 4(e)). Thus, phenomenological problems appear in the field of view of two environmental fragments – socio-cultural studies and visual perception. Undoubtedly, in this place the boundaries of the two segments are adjacent to each other.

The EBS segment is located at the other end of the scale in terms of referencing and citation intensity (Figure 4(f)). Of a total 40,000 architectural texts, only around 100 consider the concepts of EBS so purposefully that they appear in the keywords. The differences between “activity” and “behavior” and between the “built environment” and the “architectural environment” are considered in this knowledge segment, where architects are more deeply aware of social and environmental phenomena. For example, they understand social interaction as not only cooperation, but also competition and conflict. They see that the “neighborhood unit” is not just something, invented by architects and planners, but is a real diversity of socio-spatial relations in the modern world. Architects turn to concepts such as “territoriality,” “personalization,” “personal space” and “privacy.” However, many current EBS concepts are found only in a few Russian texts and are not included in the lists of top 10 keywords. Among these are the concepts of “defensible space,” “broken windows,” “distance,” “pattern language” and “post-occupancy evaluation.” Some of the popular concepts in western EBS knowledge are not present in Russian architectural texts, including “behavioral settings,” “affordance,” “crowding” and “evidence-based design.”

Experts in the field of “ecological design” are aware of themselves as belonging to the overall “environmental movement.” The concept of the “natural environment” as something surrounding the human body, of which it is a part, originated in the depths of ecology and represents this segment of environmental knowledge (Figure 4(g)). Environment is taken here as “a unity of mutually connected natural and man-made elements” (Kinsht, 2017, p. 45). Proponents of an “eco-environmental” vision believe that the notions of “environmental approach/design” and “ecological approach/design” should be considered synonymous. Meanwhile, some methodologists of the “environmental approach” reject its similarity to the ecological counterpart. “If ecology is the preservation and reproduction of natural […] resources and […], is a part and development of naturalistic and scientific approach, - says Oleg Genisaretsky, - than environmental approach deals with environmental issues in a rather […] metaphorical sense, because it is not as much about the natural environment, as about the cultural, semiotic environment” (Genisaretsky, 1988).

This study addresses the question of how widespread “EDR language” is in Russian architectural texts against the background of classical and modernist languages (Figure 5).
While the pairs of concepts being compared are vulnerable to criticism, the continued dominance of pre-environmental architectural dictionaries in Russian architecture is evident. “Art” receives more attention than “science,” and “form making” is more popular term than “environment making.” “Conceptuality,” “creativity,” “architectural design,” “territory,” “aesthetics” and “function” interest architects more than “contextuality,” “viability,” “environmental design,” “place,” “ethics” and “behavior.” There is one significant exception, the concept of “environment” is found more frequently than the concept of “space.” Although for many architects these two notions are synonymous, changes in, if not logic and methodology, then at least the rhetoric of professional discourse deserves to be mentioned.

The spread of western EDR knowledge in Russia

Environmental design knowledge in Russia is partly produced in the country and partly imported from outside. This study addresses the question of how the western EDR literature has become part of Russian architectural and environmental discourse. Analysis of references in architectural publications from e-library.ru reveals that this penetration process involves several main actors, namely the producers, distributors and end-users of knowledge (Figure 6).

The main feature of this information transfer is that the Russian-speaking EDR community has remained largely distant from its English-speaking colleagues. Suffice to say that in a list of 58 countries whose authors have published in ArchNet-IJAR for the 10 years since the journal was established, Russia is not represented (Salama et al., 2017, p. 9).

Figure 6.
Western EDR literature and Russian EDR knowledge: model of penetration

Source: Author
There are numerous reasons for this distance. Many Russian authors do not speak enough English to rely on western sources. Further, many primary sources themselves are generally unavailable in paper form in Russian libraries, and paid electronic access to online versions is too expensive for many researchers. In modern Russia, there are no academic and professional associations like the EDRA to promote interdisciplinary exchanges, and the overall level of EDR literacy among architects is low. These factors are responsible for the special role of two agents of the information process: translations into Russian of western primary sources, and texts of leading Russian theorists who work with foreign publications and act as mediators between Russia and the west.

As shown in Figures 2 and 3, some western authors are of much greater interest to the Russian-speaking audience than others. These names include the first four positions in the list of architects and first three positions in the list of social scientists and humanitarians. In addition to the high academic merits of the publications of these authors, there is another reason for popularity of their works — they were translated into Russian. The situation is also the same for architects (Lynch, 1982, 1986; Gehl, 2012a, b; Gehl and Gemzoe, 2012; Gehl and Svarre, 2016; Alexander, 2014) and humanitarians (Jacobs, 2011; Arnheim, 1974, 1984; Gibson, 1988). Other translated authors are also influential (Jones, 1986; Sanoff, 2015; Salingaros, 2014; Day, 2000; Gold, 1990; Černoušek, 1989). Since 1974, about 40 monographs related to EDR from two dozen western authors have been translated into Russian. In the context of limited information and lack of competition in Russia of western environmental views and ideas, translations have had a significant impact on the ideas of Russian researchers.

Two Russian authors and researchers have done more than others to keep their colleagues in touch with EDR knowledge from the west, namely Andrey Ikonnikov and Viacheslav Glazychev (e.g. Glazychev 1984; Glazychev et al., 1995; Ikonnikov 1985, 1990). V. Glazychev translated the key works of R. Arnheim, R. Graz, J. Jacobs, K. Lynch and C. Day. A. Ikonnikov edited many translations and popularized western knowledge in his numerous monographs. A series of papers has been recently published in the Russian academic media about K. Norberg-Schulz, H. Sanoff, N. J. Habraken and O. Newman, concerning EDR knowledge in the west (Kiyanenko, 2008, 2010, 2011a, b). Judging by the quotes on e-library.ru and the number of views on Academia.edu, these papers have contributed to growing interest in these authors and topics in Russia.

The educational literature also promotes the spread of western EDR knowledge in Russia. Seven environmentally oriented educational Russian texts written for architecture students were analyzed in this study (Krasneninnikov, 1988; Stepanov et al., 1993; Shimko, 2009; Tetior, 2009; Shilin, 2011; Pravotorova, 2012; Kiyanenko, 2015). Two of the textbooks contain references to foreign publications, and five acquaint students with Russian translations of the western EDR literature. All except one refer students to the works of Russian authors who are disseminators of western environmental knowledge. Contemporary Russian environmental psychologists also contribute to the EDR literacy of architects (Shteinbakh and Elenskiy, 2004; Smolova, 2010; Solovieva, 2006).

**Conclusion**

Our findings suggest that knowledge in the environmental design field in Russia has developed in approximately the same chronological and thematic framework as it has abroad, with many common roots and causes. In the 1960s–1980s, and today, the western academic tradition of EDR has influenced and continues to influence Russian architectural discourse. The primary sources of this influence are, in particular, English texts, which have appeared in Russian architectural discourse in different ways.

Western sources have penetrated Russian architectural knowledge with the help of theorists who present associated concepts in their theoretical works, textbooks, reviews and
articles to a wider professional audience. Reference texts and monographs written by environmental psychologists are also available for “EDR-friendly” architects. The most influential intermediary in the dissemination of western texts in Russia has been their translations. In the last half-century, only a small portion of foreign sources, which deserved translation, have been translated. However, thanks to these translated works, Russian architects became acquainted with the findings of Rudolf Arnheim, Kevin Lynch, James Gibson, Jane Jacobs, Christopher Alexander, Henry Sanoff, Nikos Salingaros and others.

The direct appeal of original western EDR sources is relatively small within the broader Russian architectural community.

The EDR body of knowledge in Russian architecture is segmented. One of these segments has grown on the substrate of environmental psychology and EBS. Others have been inspired by artistic culture (design of architectural environment), sociology (user needs research"), cultural or urban anthropology (socio-cultural studies of the urban environment), logic and methodology (design methods research) and the psychology of perception (environmental perception and cognition). At the junction of architecture and ecology, the “ecological design research” segment emerges. All segments except the first mentioned here have parallels in western EDR knowledge, although the list of cited works and authors is limited, and the number of references and citations is rather small.

In different segments of Russian EDR knowledge, the concept of “environment” is interpreted in various ways: from the unity of material objects and spaces to the synergy of the physical context and social interaction. When Russian researchers say “environmental design,” they rarely mean the same thing as their western counterparts, who use it as an umbrella term covering all areas of spatial design or a synonym for “ecological design.” Among other things, Russian authors may imply a newly emerging sphere of “total artistic design.”

Western EDR knowledge has had a definite influence on Russian architectural discourse. While this influence is quite noticeable, it seems incomparable in strength with exchanges in the rest of the academic and professional world. Not all questions arising from this situation are of interest to western audience. However, one is particularly interesting – what are the losses and acquisitions of western EDR knowledge in connection with the current misbalance of the given information exchange, resembling a one-way street? This can become a topic for another study.

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