FORUM: HUMANS AND OTHER SPECIES

Alex Blanchette
Tufts University
110 Braker Hall, 8 Upper Campus Road, Medford, MA, USA
alex.blanchette@tufts.edu

Elena Bogdanova
Independent researcher
Helsinki, Finland
bogdanova.nova@gmail.com

Anastasia Fedotova
St Petersburg branch of the Institute for the History of Science and Technology, RAS
5/2 Universitetskaya Emb., St Petersburg, Russia
f.anastasia.spb@gmail.com

Carole Ferret
Laboratoire d'anthropologie sociale CNRS / Collège de France /
École des hautes études en sciences sociales
52 rue du Cardinal Lemoine, Paris, France
carole.ferret@college-de-france.fr

Mark D. Hersey
Mississippi State University
208 Allen Hall, Starkville, MS, USA
mhersey@history.msstate.edu

Anna Mazanik
Munich, Germany
anya.mazanik@gmail.com

Mark Mefed
Independent researcher
Balashikha, Russia
fleainmyhead@gmail.com

Eva Meijer
University of Amsterdam
145 Oude Turfmarkt, Amsterdam, the Netherlands
e.r.meijer@uva.nl

Henrietta Mondry
University of Canterbury
20 Kirkwood Ave., Upper Riccarton, Christchurch, New Zealand
henrietta.mondry@canterbury.ac.nz

Elena Nikiforova
Independent researcher
Helsinki, Finland
elenikifor@gmail.com

Tamar Novick
Technical University of Munich
21 Arcisstraße, Munich, Germany
tamar.novick@tum.de

Stepan Petryakov
European University at St Petersburg
6/1A Gagarinskaya Str., St Petersburg, Russia
spetryakov@eu.spb.ru

Maria Pirogovskaya
Munich, Germany
adeyanova@gmail.ru

Milena Pugina
The Faculty of Liberal Arts and Sciences, St Petersburg State University
58–60 Galernaya Str., St Petersburg, Russia
milenapugina.ru@gmail.com
Lidiya Rakhmanova
HSE University
123A Griboedov Channel Emb., St Petersburg, Russia
muza-spb@yandex.ru
John Sanbonmatsu
Worcester Polytechnic Institute
100 Institute Road, Worcester, MA, USA
js@wpi.edu
Julia Shanina
Karelian Scientific Centre
11 Pushkinskaya Str., Petrozavodsk, Russia
ishanina@eu.spb.ru
Drew Swanson
Georgia Southern University
Interdisciplinary Academic Building, Statesboro, GA, USA
dswanson@georgiasouthern.edu
Alexandra Terekhina
Arctic Research Station of Institute of Plant and Animal Ecology,
Ural Branch of RAS
21 Zelenaya gorka Str., Labytnangi, Russia
terekhina.yamal@gmail.com
Maxim Vinarski
St Petersburg State University
7/9 Universitetskaya Emb., St Petersburg, Russia
St Petersburg branch of the Institute for the History of Science and Technology, RAS
5/2 Universitetskaya Emb., St Petersburg, Russia
radix.vinarski@gmail.com
Alexandr Volkovitskiy
Arctic Research Station of Institute of Plant and Animal Ecology, Ural Branch of RAS
21 Zelenaya gorka Str., Labytnangi, Russia
alvolkovitskiy@gmail.com
Aleksandra Zakharova
European University at St Petersburg
6/1A Gagarinskaya, St Petersburg, Russia
azakharova@eu.spb.ru
Oksana Zaporozhets
The Georg-Simmel Center for Urban Studies, Humboldt University
6 Unter den Linden, Berlin, Germany
oksana.zaporozhetc@hu-berlin.de

Abstract: Studies of more-than-human sociality in general, and multispecies ethnography in particular, are becoming an increasingly popular trend in global (social, human, and transdisciplinary) scholarship. In the current forum, researchers from various disciplines discuss the advantages, limitations, and challenges of this trend. They also share their thoughts on why multispecies research has (or has not) an appeal in Russian academia and what the future may hold for it. The discussion addresses the key issues of the origin of this trend and its distinctive vocabulary; the subject and object problem; the search for an appropriate methodology and elaborating a scholarly narrative; interdisciplinarity and the relationship between political activism and research.

The original Russian publication also included contributions from Varvara Baholdina, Lomonosov Moscow State University; Ian Helfant, Colgate University; Stepan Kalinin, International Slavic Institute, Moscow, Russia; Frédéric Keck, Laboratoire d'anthropologie sociale, CNRS / Collège de France / École des hautes études en sciences sociales, Paris, France; Olga Korovkina, independent researcher, Moscow, Russia; Vladimir Korshunkov, Vyatka State University, Kirov, Russia; Olga Kosheleva, Institute of World History, Russian Academy of Sciences, Moscow, Russia; Ekaterina (Katya) Krylova, University of Canterbury, Christchurch, New Zealand; Irina Podgorny, CONICET / Archivo Historico del Museo de La Plata UNLP, La Plata, Argentina; Denis Sivkov, Russian Presidential Academy of National Economy and Public Administration, Moscow, Russia, and The Moscow School of Social and Economic Sciences (Shaninka), Moscow, Russia; Sergei Sokolovskiy, Institute of Ethnography and Anthropology, Russian Academy of Sciences, Moscow, Russia; Anna Varfolomeeva, Independent

researcher, Oulu, Finland; Grigorij Vinokurov, European University at St Petersburg, St Petersburg, Russia, and Higher School of Economics University, St Petersburg, Russia.

Keywords: more-than-human sociality, multispecies ethnography, animal turn, Anthropocene, interdisciplinarity.

Acknowledgments:
Julia Shanina's material is produced within the framework of the Russian Ministry of Science and Higher Education program (the Karelian Research Centre of the Russian Academy of Sciences) "Cultural heritage of Karelia and historical experience: new approaches and interpretations," 124022000029-0.
Alexandra Terekhina and Alexandr Volkovitskiy's material is produced within the framework of the Russian Ministry of Science and Higher Education program "Terrestrial ecosystem of Northwestern Siberia: assessment of the modern transformation of the communities," 122021000089-9.

To cite: 'Forum: Humans and Other Species', *Forum for Anthropology and Culture*, 2025, no. 21, pp. 11–128.

doi: 10.31250/1815-8870-2025-21-21-11-128

URL: http://anthropologie.kunstkamera.ru/files/pdf/eng021/forum.pdf

Participants

Alex Blanchette (Tufts University, Medford, MA, USA)

Elena Bogdanova (Independent researcher, Helsinki, Finland)

Anastasia Fedotova (St Petersburg branch of the Institute for the History of Science and Technology, RAS, St Petersburg, Russia)

Carole Ferret (Laboratoire d'anthropologie sociale, CNRS / Collège de France / École des hautes études en sciences sociales, Paris, France)

Mark D. Hersey (Mississippi State University, Starkville, MS, USA)

Anna Mazanik (Munich, Germany)

Mark Mefed (Independent researcher, Balashikha, Russia)

Eva Meijer (University of Amsterdam, Amsterdam, the Netherlands)

Henrietta Mondry (University of Canterbury, Christchurch, New Zealand)

Elena Nikiforova (Independent researcher, Helsinki, Finland)

Tamar Novick (Technical University of Munich, Munich, Germany)

Stepan Petryakov (European University at St Petersburg / SI RAS — FCTAS RAS, St Petersburg, Russia)

Maria Pirogovskaya (Munich, Germany)

Milena Pugina (Faculty of Liberal Arts and Sciences, St Petersburg State University, St Petersburg, Russia)

Lidiya Rakhmanova (HSE University, St Petersburg, Russia)

John Sanbonmatsu (Worcester Polytechnic Institute, Worcester, MA, USA)

Julia Shanina (Karelian Scientific Centre, Petrozavodsk, Russia)

Drew Swanson (Georgia Southern University, Statesboro, GA, USA)

Alexandra Terekhina (Arctic Research Station of Institute of Plant and Animal Ecology, Ural Branch of RAS, Labytnangi, Russia)

Maxim Vinarski (St Petersburg State University, St Petersburg, Russia / St Petersburg branch of the Institute for the History of Science and Technology, RAS, St Petersburg, Russia)

Alexandr Volkovitskiy[1] (Arctic Research Station of Institute of Plant and Animal Ecology, Ural Branch of RAS, Labytnangi, Russia)

Aleksandra Zakharova (European University at St Petersburg / SI RAS — FCTAS RAS, St Petersburg, Russia)

Oksana Zaporozhets (Georg-Simmel Center for Urban Studies, Humboldt University, Berlin, Germany)

---

[1] This is the author's preferred spelling.

Humans and Other Species

Studies of more-than-human sociality in general, and multispecies ethnography in particular, are becoming an increasingly popular trend in global (social, human, and transdisciplinary) scholarship. In the current forum, researchers from various disciplines discuss the advantages, limitations, and challenges of this trend. They also share their thoughts on why multispecies research has (or has not) an appeal in Russian academia and what the future may hold for it. The discussion addresses the key issues of the origin of this trend and its distinctive vocabulary; the subject and object problem; the search for an appropriate methodology and elaborating a scholarly narrative; interdisciplinarity and the relationship between political activism and research.

The original Russian publication also included contributions from ***Varvara Baholdina*** Lomonosov Moscow State University; ***Ian Helfant***, Colgate University; ***Stepan Kalinin***, International Slavic Institute, Moscow, Russia; ***Frédéric Keck***, Laboratoire d'anthropologie sociale, CNRS / Collège de France / École des hautes études en sciences sociales, Paris, France; ***Olga Korovkina***, independent researcher, Moscow, Russia; ***Vladimir Korshunkov***, Vyatka State University, Kirov, Russia; ***Olga Kosheleva***, Institute of World History, Russian Academy of Sciences, Moscow, Russia; ***Ekaterina (Katya) Krylova***, University of Canterbury, Christchurch, New Zealand; ***Irina Podgorny***, CONICET / Archivo Historico del Museo de La Plata-UNLP, La Plata, Argentina; ***Denis Sivkov***, Russian Presidential Academy of National Economy and Public Administration, Moscow, Russia, and The Moscow School of Social and Economic Sciences (Shaninka), Moscow, Russia; ***Sergei Sokolovskiy***, Institute of Ethnography and Anthropology, Russian Academy of Sciences, Moscow, Russia; ***Anna Varfolomeeva***, Independent researcher, Oulu, Finland; ***Grigorij Vinokurov***, European University at St Petersburg, St Petersburg, Russia, and Higher School of Economics University, St Petersburg, Russia.

Keywords: more-than-human sociality, multispecies ethnography, animal turn, Anthropocene, interdisciplinarity.

QUESTIONS FROM THE EDITORIAL BOARD

By its very etymology, the term 'anthropology' suggests that the focus of research is on human beings. Yet for all that, the various fields of anthropology have not excluded attention to other members of the natural world, from primates within biological anthropology to animals, fungi, and plants that participate in some capacity in human culture. Lewis Henry Morgan, one of the discipline's co-founders, described the engineering activities of beavers, and Edward Evans-Pritchard devoted many pages to the relationship between the Nuer people of Sudan and their cattle, as well as to the principles of categorization that group humans with other creatures [Morgan 1868; Evans-Pritchard 1940]. 'Natural species are chosen not because they are "good to eat" but because they are "good to think,"' this aphorism by Claude Lévi-Strauss in his work on totemism stated the importance of animals to anthropologists who studied their role in myths, taxonomies, rituals, and social institutions [Lévi-Strauss 1991 (1962): 89]. A key question that emerged, in particular through the study of shamanism and vernacular ontologies, was the question of the boundary between humans and other beings, and the problems of interspecies

communication as well as the construction of the self and community associated with this boundary-making [Hamayon 1990; Viveiros de Castro 1998; Conklin 2001; Willerslev 2007].

In the 2000s, a growing critique of the unbalanced relationship between humans and other animals [Ritvo 1987] as well as skepticism about human exceptionalism led to the *species turn* in global anthropology. Expanding the horizons of social research, scholars have chosen to focus not only on humans but also on other representatives of wildlife and their tensions and entanglements, addressing ecological niches, networks, rhizomes, symbiosis, and interspecific alliances, and introducing a new method of *multispecies ethnography* [Kirksey, Helmreich 2010]. Besides Eduardo Kohn's "anthropology of life" and his critique of anthropocentrism [Kohn 2013], the *species turn* has borne fruit such as studies of the connections between humans and insects [Raffles 2010] or the interdependence of humans and matsutake mushrooms [Tsing 2015]. It has influenced discussions of classical problems of anthropology, such as subject and subjectivity, social hierarchy, morality, ecological imagination, political economy, etc. [Govindrajan 2018; Blanchette 2020].

In the current issue of the *Forum for Anthropology and Culture*, we would like to discuss what the inclusion of other species in our focus, along with the methods of multispecies ethnography, offers anthropology, how this issue affects the future of the social sciences, and what complexities and challenges it poses for researchers. We invited participants in the "Forum" to respond to the following questions:

1 *Have you ever studied the relationships between humans and other species? Do you observe any changes in the study of these relationships in current scholarship, or are the approaches in your field unchanged? What interspecies interactions (neighboring, cooperating, exploiting, ignoring) do academics in the field of anthropology that you are familiar with discuss, and which ones are needlessly overlooked? Which living things can be productively introduced into the study?*

2 *In your opinion, what is the main task of multispecies ethnography and research on relationships between humans and other species? What are the advantages and disadvantages of such research? Can anthropologists benefit from the experience of scholars from other fields of knowledge (natural sciences, philosophy, literature, art) or from interdisciplinary approaches?*

3 *How can we most effectively explore a social world not limited to human relations? How can anthropological work "lend a voice" to animals, plants, fungi, viruses (those who in English-language literature are referred to by the term "nonhumans")? Are new methods needed for such research?*

4 *Why are interspecies studies less popular in the Russian context in comparison with global trends in anthropology? In what direction are they currently developing and what can they bring to anthropology as a whole?*

5 *How can we separate scholarship and political activism in the study of human-animal relations? Is it possible?*

References

Blanchette A., *Porkopolis: American Animality, Standardized Life, and the Factory Farm*. Durham, NC: Duke University Press, 2020, 320 pp.

Conklin B. A., *Consuming Grief: Compassionate Cannibalism in an Amazonian Society*. Austin, TX: University of Texas Press, 2001, XXXI+285 pp.

Evans-Pritchard E. E., *The Nuer: A Description of the Modes of Livelihood and Political Institutions of a Nilotic People*. Oxford: Oxford University Press, 1940, VIII+271 pp.

Govindrajan R., *Animal Intimacies: Interspecies Relatedness in India's Central Himalayas*. Chicago, IL: The University of Chicago Press, 2018, 256 pp.

Hamayon R. N., *La chasse à l'âme. Esquisse d'une théorie du chamanisme sibérien*. Nanterre: Société d'Ethnologie, 1990, 878 pp.

Kirksey S. E., Helmreich S., 'The Emergence of Multispecies Ethnography', *Cultural Anthropology*, 2010, vol. 25, no. 4, pp. 545–576. doi: 10.1111/j.1548-1360.2010.01069.x.

Kohn E., *How Forests Think: Toward an Anthropology beyond the Human*. Berkeley, CA; Los Angeles, CA; London: University of California Press, 2013, 288 pp.

Lévi-Strauss C., *Totemism*, trans. by R. Needham. London: Merklin Press, 1991, 116 pp.

Morgan L. H., *The American Beaver and His Works*. Philadelphia: J. B. Lippincott & Company, 1868, 330 pp.

Raffles H., *Insectopedia*. New York: Pantheon Books, 2010, 465 pp.

Ritvo H., *The Animal Estate: The English and Other Creatures in the Victorian Age*. London; Cambridge, MA: Harvard University Press, 1987, 368 pp.

Tsing A. L., *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton, NJ: Princeton University Press, 2015, 352 pp.

Viveiros de Castro E., 'Cosmological Deixis and Amerindian Perspectivism', *The Journal of the Royal Anthropological Institute*, 1998, vol. 4, no. 3, pp. 469–488.

Willerslev R., *Soul Hunters: Hunting, Animism, and Personhood among the Siberian Yukaghirs*. Berkeley, CA: University of California Press, 2007, XVI+229 pp.

Silkenat D., *Scars on the Land: An Environmental History of Slavery in the American South*. New York: Oxford University Press, 2022, 272 pp.

Sörlin S., 'The Contemporaneity of Environmental History: Negotiating Scholarship, Useful History, and the New Human Condition', *Journal of Contemporary History*, 2011, vol. 46, no. 3, pp. 610–630.

Sutter P., 'The World with Us: The State of American Environmental History', *Journal of American History*, 2013, vol. 100, no. 1, pp. 94–119.

Thomas K., *Man and the Natural World: A History of the Modern Sensibility*. New York: Pantheon, 1983, 425 pp.

Walker R., 'On the Edge of Environmental History', *RCC Perspectives*, 2011, no. 3, pp. 48–52.

White R., 'Environmental History, Ecology, and Meaning', *Journal of American History*, 1990, no. 76, pp. 1111–1116. doi: 10.2307/2936588.

Worster D., 'Transformations of the Earth: Toward an Agroecological Perspective in History', *Journal of American History*, 1990, vol. 76, no. 4, pp. 1087–1106. doi: 10.2307/2936586.

ALEXANDRA TEREKHINA, ALEXANDR VOLKOVITSKIY

We wrote this short answer in the tundra of Yamal, while we were at an ecological field station with our biologist colleagues. During the past five years the topic of humans' relationships with other living creatures has been particularly relevant to us thanks to our work in the interdisciplinary laboratory of the Arctic Research Station, a branch of the Institute of Plant and Animal Ecology based in Labytnangi. This is a rare occasion for Russian science, since biologists and social anthropologists are gathered together in a single academic department. Our text has no pretensions to a theoretical interpretation of the multi-species turn, but is, rather, an attempt to share our experience.

Alexandra Terekhina
Arctic Research Station
of Institute of Plant and Animal
Ecology, Ural Branch of RAS,
Labytnangi, Russia
terekhina.yamal@gmail.com

Alexandr Volkovitskiy
Arctic Research Station
of Institute of Plant and Animal
Ecology, Ural Branch of RAS,
Labytnangi, Russia
alvolkovitskiy@gmail.com

According to the conceptual principles of our team, based on the traditions of European ecological research, the tundra is viewed as a socio-ecological system [Berkes et al. 2003; Cumming 2014], in which there exist and interact with each other as parts of a complex world animals, plants, lichens, indigenous peoples, their reindeer herds and even industrial objects. The biologists' work assumes many years of uninterrupted field observations of various Arctic species, which allows a view of the dynamics

of the ecosystems in conditions of the rapidly changing Arctic climate and active industrialisation of Yamal, two factors which are powerful drivers of transformation in the tundra. Our activities are organised so that in summer we go out together with the biologists to the ecological field station in South Yamal, where we take part in the collection of biological data and conduct ethnographical research. On the extensive territory around the station, where the ecological monitoring is taking place, there live Nenets families of reindeer herders and fishermen, with whom we are constantly in conversation.

The research questions in which we are interested within the overall programme of the laboratory include the impressions of people who live in the tundra about the changes in the environment (the weather, the behaviour of species, the appearance of new animals and plants) and the dynamics of the presence of species, the practice of modern reindeer herding and a whole complex of problems of interaction of "man — reindeer — pasture — climate". In other words, our present scholarly interests are in the fields of ethnoecology, ethnobotany, ethnozoology, ethnoentomology, ethno-landscape-science and other "ethno-", though our circle of informants is not confined to Nentsy, since while we are in the tundra we are in contact with fly-in fly-out workers, drivers on the ice roads, and hunters and fishermen from the towns. We draw up our interview questions together with our natural scientist colleagues, and compare the ethnographic material that we get with the results of the ecological monitoring. The further writing of interdisciplinary articles, the search for a common scholarly language and mutual understanding between disciplines is a separate, and complex stage in the work, and, perhaps, another potential topic for the Forum. In addition, we cannot help reflecting along the way on questions from the sphere of anthropology of science, observing the conduct of biological research (and taking a direct part in it) and the analysis of data that follows.

Interaction between humans and animals is a key topic for anthropologists who work in communities of indigenous peoples, especially pastoralists [Mullin 1999; Anderson 2000; Beach, Stammler 2006; Davydov 2013; Oehler 2020]. Projects taking place in the Circumpolar regions are focused on discussions of domestication, questions of inter-species coexistence, communication and hybridity (for example, the "Arctic Domus: Humans and Animals across the North" project, led by D. Anderson, or F. Stammler's "WIRE: Fluid Realities of the Wild" group). It is quite hard to imagine such collaboration in present-day Russia because of institutional difficulties and funding problems. In Russian reality there are no grant competitions with relevant opportunities: within the only funding body there is a large competition for interdisciplinary research which presupposes the participation of two or more academic organisations

with the prospect of large-scale results. This is hardly suitable for a project focused on anthropology. In an application to the standard grant competitions for large or small groups, when the scholarly discipline is to be indicated, there is no option to put down two or more of them.

In order to expand Western/European/Christian ideas of the relationship between man and the environment, and to change the optics of research, Tim Ingold has proposed having recourse to the world picture of indigenous peoples who live their everyday lives with wild nature and their domestic animals [Ingold 2000]. Over years of work with the people who live in the Yamal tundra we have noticed, through nuances that seem insignificant at first sight, how the Nentsy interact with their reindeer, dogs and other living creatures, and how they speak about them. The tundra dwellers endow them with the same agency as humans, which is, for example, manifested in the formulation *harta tarcja* — "he/she is like that in him/herself", when talking about the behaviour both of reindeer and dogs and of people. That is, all categories of "living creatures" are born with a particular set of qualities which cannot be seriously influenced, but only slightly corrected.

Paradoxically, after we had started to work with the biologists (monitoring Arctic foxes' dens, the nests of birds of prey, the relative number of rodents and, finally, discussing ecological questions with them), we were able more accurately to assess the view of the tundra as a home, in the broad sense of the word, that is typical of Yamal nomads. The reindeer herders domesticate the space that their routes cross, not only by the places where they stop every year, the sledges that they leave, and their seasonal pastures, but also through their knowledge of where the wild animals live on these territories. Since the Arctic foxes' dens and the nests of the falcons or geese are found in the same locations year after year, and may be occupied for years by the same individuals, they also mark out the cultural landscape for the people who live in the tundra.

The domestication of a particular area of tundra is also expressed by the Nentsy in their narratives of "their own" and "alien" predators, which we recorded when collecting material on the problem of the more frequent attacks by Arctic foxes on newborn reindeer calves [Terekhina et al. 2021]. The foxes that the reindeer herders call "their own" are those whose dens are not far from the herders' camps, and those do not attack the calves. Extra-predation is a feature of the "aliens", those that have come from elsewhere or are migrating. In the past the Nentsy had an analogous view of the wolves which until the beginning of this century represented the "chief" danger for the herd in the tundra. According to the Nentsy, the wolves would not touch "their own" herd. Mention of "their own" and

"alien" animals, who either live along the routes of the nomadic family or have come from elsewhere, can also be encountered in what they say about other species. Particular individuals of a particular species may be perceived as good neighbours, others as a source of danger. The agency of non-human beings in proximity to humans is in particular manifested in their use of food subsidies at the reindeer herders' camps or in their search for a safe place. For example, geese, ducks and partridges may build their nests under a sledge near the tent, where they will not be troubled by predators. Reindeer herders maintain that their dogs "won't hurt their own fledglings" whereas in the tundra far from where they live they might tear a nest to pieces. In this case the birds are practising a model of interaction that is well known in ecology as "the umbrella effect". For example, geese in the tundra often nest immediately beneath the nests of peregrine falcons placed in elevated spots. These apex predators defend their individual nesting territories and practically do not prey on "their own" geese. The Nentsy too are aware of this phenomenon: they call such geese *pjara"mada* ("protected"/"subordinate").

The whole territory of the tundra which is crossed by nomadic routes or where the tents of settled fishermen stand may be called a big hybrid community of the people and animals who populate a common living space (*domus*) [Stépanoff, Vigne 2019]. So that this system of ideas should be complete, it must be added that this space is also populated by gods and spirits who influence the well-being of all living creatures. For the reindeer herders, the health and increase of the herd are indicators of "right" living and divine approval. If the spirits want to punish somebody, they send misfortunes upon his herd, manifested as attacks by wolves or losses due to black ice or disease [Stammler, Ivanova 2020]. The interconnectedness of a multitude of worlds in Nenets cosmology is also expressed through non-human beings. According to Nenets beliefs, dead people are reborn after a certain time as the black beetles that crawl across the tundra, and therefore they must not be killed — it might be a kinsman who has appeared in insect form.

The examples given above are separate subjects that have occurred in our research, and illustrate the views of the people who live in the Yamal tundra on their network of interactions with other creatures. For us the study of these ideas and the interactions themselves is not only the monitoring of the socio-ecological system of the tundra, but even wider, of its socio-eco-cosmological system. The tasks of research into the relationships between people and other living creatures are, in our opinion, very important for the interdisciplinary understanding of the transformation of that system. The people who live all the time in the tundra are the first to notice any changes that all the inhabitants of the tundra need to adapt to.

In our opinion, it is important to develop interdisciplinary research in this area, and for representatives of the social and natural sciences to become acquainted with each other's works. It seems at times that the ethnographic studies that interpret the behaviour of living creatures completely ignore the biological element and anthropomorphise the behaviour of animals, and at the same time call this the "voice" of non-human beings.

Acknowledgements

The research for this publication was carried out with support from the state-funded project of the Institute of Plant And Animal Ecology of the Ural Branch of the Russian Academy of Sciences no. 122021000089-9.

References

Anderson D. G., *Identity and Ecology in Arctic Siberia: The Number One Reindeer Brigade*. Oxford: Oxford University Press, 2000, 270 pp.

Beach H., Stammler F., 'Human-Animal Relations in Pastoralism', *Nomadic Peoples*, 2006, vol. 10, no. 2, pp. 6–30. doi: 10.3167/np.2006.100202.

Berkes F., Colding J., Folke C., *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change*. Cambridge: Cambridge University Press, 2003, 393 pp.

Cumming G. S., 'Theoretical Frameworks for the Analysis of Social-Ecological Systems', Sakai S., Umetsu C. (eds), *Social-Ecological Systems in Transition*. Tokyo: Springer, 2014, pp. 3–24.

Davydov V. N.,'Borba s khishchnikami i povsednevnye praktiki sovremennykh olenevodov: otnosheniya cheloveka i zhivotnykh na Severnom Baykale (po rezultatam polevykh issledovaniy 2007–2012 gg.' [The Fight with Predators and the Everyday Practices of Modern Reindeer Herders: the Relations of Humans and Animals in Northern Baikal (From the Results of Fieldwork in 2007–2012)], Fedorova E. G. (ed.), *Materialy polevykh issledovaniy MAE RAN*, 2013, iss. 12, pp. 23–42. (In Russian).

Ingold T., *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*. London: Routledge, 2000, 465 pp.

Mullin M., 'Mirrors and Windows: Sociocultural Studies of Human-Animal Relationships', *Annual Review of Anthropology*, 1999, vol. 28, pp. 201–224.

Oehler A., *Beyond Wild and Tame: Soiot Encounters in a Sentient Landscape*. New York: Berghahn, 2020, 214 pp.

Stammler F. M., Ivanova A., 'From Spirits to Conspiracy? Nomadic Perceptions of Climate Change, Pandemics and Disease', *Anthropology Today*, 2020, vol. 36, no. 4, pp. 8–12. doi: 10.1111/1467-8322.12589.

Stépanoff C., Vigne J.-D., 'Introduction', *Hybrid Communities: Biosocial Approaches to Domestication and Other Trans-species Relationships*. London: Routledge, 2019, pp. 1–20.

Terekhina A., Volkovitskiy A., Sokolova N., Ehrich D., Fufachev I., Sokolov A., 'The Context of an Emerging Predation Problem: Nenets Reindeer Herders and Arctic Foxes in Yamal', *European Journal of Wildlife Research*, 2021, vol. 67, no. 3, article 52.
doi: 10.1007/s10344-021-01497-z.

MAXIM VINARSKI

1 In my speciality, malacology, I deal with a group of animals which are traditionally, and not very "politically correctly", called "lower animals". This evaluation, although frankly anthropocentric, does to a certain extent reflect the objective reality that there are many levels of organisation (or grades) in the animal world, which can be arranged along a "scale of perfection" constructed by us. Though highly artificial from an evolutionary point of view, this gradation has a right to exist as a heuristic model that allows us to arrange the structure of natural communities hierarchically and answer certain practical questions (such as those connected with problems of bioethics). At the level of relationships between people and other species, "higher" and "lower" reflect the degree of immediacy in interaction, the possibility or impossibility of domestication, cooperation, symbiosis, etc. The "lower" a particular species is in relation to humanity, the greater the number of intermediate links that separate us and the greater the effort needed to perceive its members as components of a single interactive system. Many representatives of the "lower" animals are simply outside our everyday field of vision and are not included in ethnobiological classifications (except for a very small number that are specially important to humanity by reason of their properties, being edible, venomous, parasitic, etc.), which is reflected in their lack of "popular" names. Someone who coexists with them in a single ecosystem (even an urban or agrarian ecosystem) may not have the slightest idea of their presence in his or her immediate environment. This is why the work of the entomologist Fabre became famous all over Europe at the end of the nineteenth century, "disclosing" to the educated reader the invisible

Maxim Vinarski
St Petersburg State University /
St Petersburg branch
of the Institute for the History
of Science and Technology, RAS,
St Petersburg, Russia
radix.vinarski@gmail.com