

## Histoire et philosophie de l'écologie

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The workshop “*Histoire et philosophie de l'écologie*” took place at the French University College (*Collège universitaire français*, Saint-Petersburg State University), on May 8<sup>th</sup> 2014, and was held in Russian and French languages. It included scholars from France and Russia and was organized by **Etienne Aucouturier** (*Université Paris 1 Panthéon-Sorbonne*), **Sergey Gachkov** (*Université de Poitiers* and Saint-Petersburg State University) and **Philippe Huneman** (*CNRS, Université Paris 1 Panthéon-Sorbonne, ENS*).

The workshop sought to gather historical and theoretical approaches to ecology, with a view to provide a synoptic view of contemporary issues in history and philosophy of ecology, and to address together the questions of the origins and foundations of contemporary ecology and conservation biology. In particular, the workshop addressed such issues as the relations and compatibility between explanatory practices in ecology and evolutionary biology, the contextual influences on conservation biology throughout the 20<sup>th</sup> century, and the early developments of ecological enquiries and ecology in Russia.

**Virginie Maris** (*CNRS/CEFE*) began with a presentation on “*Ecologie et biologie de la conservation — de la théorie vers la pratique et retour*”, in which she questioned the origins and the epistemological status of conservation biology. She surveyed and discussed the norms of natural environments' and species' protection throughout the 20<sup>th</sup> century, as well as the interactions between scientific ecology and economic or political issues. The protection of biodiversity has been and remains closely intertwined with contextual practical issues and human concerns about their resources. Virginie Maris underlined that conservation biology is altogether a science influenced by ecological crises, hence including political agendas, with strong social determinations. These practical issues and contextual determinations have generated responses in several theoretical frameworks in the humanities, among which medicine, with evidence based conservation, economics, with, for instance, the ideas of natural capital and ecosystem services, and philosophy, with the notion of intrinsic value of biodiversity.<sup>1</sup>

**Professor Edouard I. Kolchinsky** (*Санкт-Петербургский филиал Института истории естествознания и техники им. С.И.Вавилова РАН*) presented a detailed historical account of 18<sup>th</sup> and 19<sup>th</sup> century scientific expeditions in Russia, entitled “*Les études de terrain en Russie et leur rôle dans les premiers développements de l'écologie animale*”. In his paper, Prof. Kolchinsky showed that almost all 18<sup>th</sup> century Russian naturalists carried out their field observations and processed their field materials within the framework of natural history, which to a certain extent included ecological knowledge. Some of this knowledge was borrowed from non-academic travelers (among which Daniel Gottlieb Messerschmidt, 1685–1735), who carried extensive expeditions in Siberia and far eastern Russia. He underlined how, in the course of exploratory voyages, naturalists worked out new methods for observing animal life in natural environments, how they accumulated data on the relations between animals and their environments, between different animal species, and among individual animals belonging to the same species. Later

<sup>1</sup> *Maris V., Bechet A.* From adaptive management to adjustive management: a pragmatic account of biodiversity values // *Conservation Biology*. 2010. Vol. 24. P. 966–973.

supplemented by stationary observations, these expeditions formed a basis for 19<sup>th</sup> century ecological research programs in Russia.

In her paper about “Forests, climate, and the rise of scientific forestry in Russia: from local knowledge and natural history to modern experiments (1840s — early 1890s)”, **Anastasia A. Fedotova** (*Санкт-Петербургский филиал Института естествознания и техники им. С.И. Вавилова РАН*) examined an episode in the history of nineteenth-century agricultural improvement, the attempt to change the climate of Russia’s southern steppe provinces by planting forests. The afforestation efforts carried out in the Velikii Anadol’ forestry district in eastern Ukraine were closely interwoven with debates about the potential climatic impact of deforestation — debates that were waged across Europe from the eighteenth century onwards and that are often considered by historians as crucial for the emergence of modern environmental consciousness. Anastasia A. Fedotova focused on the changing character of experiments and observations carried out in Velikii Anadol’, and analyzed the ways in which they reflect a broader transformation of evidential standards in the nineteenth-century life sciences. She also explored the ways in which different scientific agendas were carried on the Russian frontier as part of attempts at agricultural colonization.<sup>2</sup>

**François Munoz** (*Université de Montpellier 2*) presented a paper on “*Les origines de la biodiversité: entre hasard et nécessité*». He focused on the dual understanding of biological diversity, based on the fundamental duality in evolutionary biology between neutral and non-neutral theories. His paper underlined that neutral and non-neutral processes have a joint effect on biodiversity, depending on given levels of study, and processes: some non-neutral processes occurring at the level of survival or reproduction can become neutral, at a higher level of organization, through stabilization processes. The coexistence of neutral and non-neutral processes on differing spatial scales (local diversity and regional diversity) speaks in favour of the existence of scale dependent neutrality.<sup>3</sup>

**Philippe Huneman** (*CNRS, Université Paris 1 Panthéon-Sorbonne, ENS*) gave a final presentation on “Community ecology, behavioural ecology and evolution: issues about explanatory practices and timescales”. In his paper, he questioned the links between ecology and evolutionary biology, from a causal point of view, as well as by comparing the differing timescales taken into account in subfields of ecology and in evolutionary theory. Evolution can be causally understood as a consequence of ecology, but ecology, in return, concerns evolving species. If ecology mainly relates to selection pressures, fitness values in population genetics can simply be considered to represent selection pressures in genetic models. But there is a structural difference between behavioural ecology and population genetics: behavioral ecology is methodologically adaptationist, whereas population genetics does not unconditionally justify adaptationism. From the point of view of timescales, the individuals’ level (related to behavioural ecology) stands between development and evolution in a population, and on the collectives’ levels, the dynamics of community ecology also shares the timescale of microevolution. Both timescales of microevolution and macroevolution thus do not exactly match the ones of, respectively, behavioural ecology and community ecology, which adds a level of complexity to the understanding of the relation between ecology and evolutionary biology.

<sup>2</sup> Федотова А.А., Локучова М.В. Велико-Анадольское лесничество и создание лесного опытного дела в России (1840 — начало 1890х гг.) // Известия Русского географического общества. 2013. Т. 145. № 6. С. 52–65.

<sup>3</sup> Munoz F., Ramesh Br., Couteron P. How do habitat filtering and niche conservatism affect community composition at different taxonomic resolutions? // Ecology. 2014. Vol. 95. № 8. P. 2179–2191.