

Part I

*The “Out of Eurasia” Project
Objectives and Strategies of Transdisciplinary Studies*

Part I Introduction

The “Out of Eurasia” Project: Objectives and Strategies of Transdisciplinary Studies

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“Integrative Human Historical Science of ‘Out of Eurasia’: Exploring the Mechanisms of the Development of Civilization” is a five-year research project supported by MEXT Grants-in-Aid for Scientific Research on Innovative Areas that started in 2019. The umbrella project consists of seven smaller research projects involving more than 70 researchers from various fields including archaeology, cultural and physical anthropology, cognitive psychology, genetics, astronomy, etc. The main task of this project is to explore the mechanisms of how the people who left Eurasia and spread to the American continents, Japanese Archipelago, and Pacific Islands have adapted to the new environments and developed socially.

This volume records the first international research meeting of the project that was held at Teotihuacan, one of the largest ancient cities in the New World during the pre-Hispanic period, on February 27–28, 2020. 29 Japanese

researchers, six invited researchers from the United States, and 15 researchers and related graduate students in Mexico participated in a two-day semi-closed research meeting with English as the main language for presentation and discussion (Figure Part I.1).

On February 29, we held an open forum at the Great Temple Museum in Tenochtitlan (now Mexico City), the capital of the Aztecs, where we introduced the theoretical foundations and strategies of our research, as well as specific research topics in Mesoamerica (Figure Part I.2). While we were unfortunately not able to have all of the main contributors participate in this forum, it seemed that our research approach, which focused on the internal factors of humans as the actors who created civilization, was stimulating to Mesoamerican researchers, who tend to focus on diverse natural and social environments and local resources (external factors).

Figure Part I.1.
Group photo of participants.



It was a great opportunity for participants from Japan to have lively discussions with project members and local researchers at archaeological sites at Teotihuacan, Monte Albán, and Cholula. It was a stimulating opportunity for active academic exchange and discussion among researchers of different cultures, academic disciplines, and regions. We were very fortunate to have been able to hold such an international meeting before the COVID-19 pandemic became more serious. We certainly realized how important it is for us to physically be at a location, to actually see, touch, and experience the material world

Figure Part I.2.

Flyer of “Foro de Arqueología Cognitiva: Monumentos, Arte, y Cuerpo Humano, afuera de Eurasia. Monumentos y tumbas como lugar de memoria social”.



with our body. The issue of global pandemics will be discussed in our project, along with the urban development, population increase, and the importance of gathering that have been essential in the formation of civilizations.

We hope that the discussions we started at the first international conference with local Mexican and North American researchers will be utilized to set concrete tasks and narrow down strategic research targets and contribute to the formation of a dynamic theory of civilizations in the future. We had an opportunity to reconsider different perspectives and approaches, as well as to reaffirm issues that were unclear to us. The meeting was important in order to formulate a practical strategy and a concrete research agenda that can be implemented in five years through our project, which holds ambitious research objectives.

Part I of this volume consists of papers intended for sharing the purpose, framework, and perspectives of the diverse participating disciplines of the project with other project members, collaborators, and overseas researchers. In the first chapter, Matsumoto gives an overview of the Out of Eurasia project, an unprecedented cross-regional comparative study, in which Mesoamerica is one of the central fields. Focusing on the close interrelationship between matter and mind through the body, the formation of civilization is examined as a process of uniquely human niche construction.

The subsequent chapters by Sugiyama, Tsurumi, and Mitsumoto are based on specific examples of archaeological sites in Mesoamerica, the Andes, and Japan. Based on specific case studies of monumental construction, the large-scale construction of an artificial environment, they describe how the research will be carried out in the project with shared perspectives and precise 3D measurements. Readers will be able to understand not only the differences in the nature and structure of monuments formed in each region but also the commonalities in their features, which

will be further investigated in the future. The chapter by Sekiguchi and Tanaka, who specialize in astronomy, discusses the development of a simulation system to visually show the relationship between archaeological sites, landscapes, and celestial bodies. The use of accurate astronomical data is important to study the formation of monuments and cities based on astronomical knowledge and the development of space-time cognition.

The chapter by Matsumoto describes a research strategy to elucidate how art, including both technological and aesthetic aspects, has played a role in the formation of civilizations. Focusing on anthropomorphic artifacts, she presents a research plan for the comparative analysis of figurines in Mesoamerica and Japan, referring to the universal characteristics of human cognition. The chapter by Matsugi points out the unique characteristics of the transformation process of complex societies in the Japanese Archipelago. By focusing on war, art, and monuments, he discusses how the unique material environment was created from a cognitive point of view.

Chapters by Ōnishi and Inamura consider how ethnography can contribute to the elucidation of the formative mechanisms of civilization. Based on his research on the relationship between the Ainu, the indigenous people of the Japanese Archipelago, and the Tokugawa Shogunate, Ōnishi discusses one of the most important issues in archaeology and anthropology, state formation, examining how external factors contribute to social complexity and how a relationship with a state level society does not necessarily lead to the formation of a state in the other group. Inamura discusses the importance of camelid breeding in the formation of complex societies and the development of political power in the Andes from multiple perspectives and argues for the effectiveness of collaboration between ethnography and archaeology.

The chapters by Bretas, Yamazaki, and Iriki, Yamazaki

and Iriki, and Saito discuss perspectives and models that our project employs to approach the mechanisms of civilization formation from the perspective of neuroscience and cognitive science. Bretas et al. describe the phase transition of the primate brain with reference to the coevolution of language and the brain, in addition to the triadic niche construction model, which is used as a hypothesis to explain the mechanism of human civilization. Yamazaki and Iriki discuss the latest research trends based on primate studies of the gut-brain axis, which suggest that microbiota living in internal organs influence brain function. This research may provide us with a new clue for considering how subsistence and foods may affect the body and mind of people. Saito discusses the prospects for experiments to examine the universality and diversity of human cognition in drawing behavior, based on experimental research on drawing behavior in chimpanzees and children.

Seguchi and Quintyn analyze trends in human skeletal materials from around the world to clarify the early migration to the Americas and population history from the perspective of skeletal biology. The results of this study indicate that some of the common groups in Late Pleistocene Northeast Asia may have been early migrants to the Japanese islands and the Americas.

We still await systematic comparisons of the processes of civilization formation in Mesoamerica, the Andes, Oceania, and the Japanese Archipelago based on concrete archaeological data, experimental studies in collaboration with neuroscience and cognitive psychology, and the construction and validation of models. The chapters in Part I of this volume provide the direction, basic information, and perspectives. Collaboration with researchers of various regions is essential for the success of this project. We hope that these proceedings will contribute to the understanding and sharing of research perspectives across regions and disciplines.

Finally, we would like to express our deepest gratitude to the participants and to the many people and students who generously provided assistance. This gathering was also supported by authorities and experts of the Teotihuacan Archaeology Park, the Templo Mayor Museum, and the Monte Albán-Atzompa Archaeology Park, all of which are under the National Institute of Anthropology and History in Mexico. We are also deeply grateful to Joseph Ryan and Chihiro Shimada for their efforts in editing this book. Many thanks to all.