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CHRONOMAPPING THE JORDAN VALLEY

Ben Gitai

Throughout the ages, mapping has been a means of representing boundaries and establishing borders on the ground. Yet maps are hardly objective documents but rather projections of territorial conceptions. Maps show the development of human knowledge through the relationship between people, landscape, and power and as such often serve as the basis of plans for land and water development. Therefore, maps can reveal the power dynamics behind the shaping and transforming of landscape and the construction of space, in both broad geopolitical and natural contexts.

In an ongoing research project relating to the Jordan River Valley, the Chair of Landscape Architecture of Christophe Girot at ETH Zurich's Department of Architecture, in collaboration with the Department of Civil Engineering at the Technion in Haifa, has been working since 2015 to map the architecture and landscape of a power plant on the Jordan River. The area, called Nahayarim in Hebrew (Baqura in Arabic), is the site

of the first and most important modernist hydraulic power plant built in Palestine under the British Mandate. With authorization from both the Israeli and Jordanian authorities, the teams from ETH Zurich and Technion scanned the landscape and buildings using advanced point cloud modeling techniques and completed a full geographically positioned model of the extensive site. Through the use of cartography, ideology, and geopolitics from the late nineteenth century to the present, this 3D model explores the terrain's violent mutation.

For investigating the transformative role of the map as a medium for environmental changes and the formation of different topologies on the physical terrain, we used the research method of chronomapping, which involves compiling and comparing maps across time.¹ This practice applies a dynamic triangular model composed of three vectors—territory, cartography, and physical terrain—to trace their interaction. This method is intended to demonstrate the confluence of political and scientific approaches in the instrumental role surveying has played. Beyond that, it considers how geographical knowledge, mapping surveys, and ideology projected on the ground are combined in a human act of power over nature.

As landscape is a historical construct superimposed over the physical terrain, it reflects a plurality of thinking about territory—sociological, cultural, and political. Through chronomapping the ancient Middle East, one learns that the Jordan River

Fl 304 Flgzig. Schreiber-Forster über Jordantafel



Jordan Valley with Wadi Slechat, Wadi Sofara, and Wadi Kafrindschi. Taken from Chirbet Mofja-Baun, north of Ajlun. This view, captured from a Schreiber-Forster airplane, is one of the earliest photographic depictions of the Jordan Valley, made by the Bavarian air squadron number 304 (AF304b) between September 1917 and September 1918 as part of the German-Ottoman collaboration during the First World War.

has historically been a crossing point of civilizations and cultural heritage. It was the dividing line between two significant civilizations of the ancient Near East that were shaped by significant rivers. The first, Mesopotamia, had the ancient name Aram Naharim, which in Greek means “between two rivers” (the Euphrates and Tigris). The second is Egypt, where the Nile is the source of life in the arid lands of the region.² The geographical and political conditions of the Jordan Valley made it one of the transitional areas between these two important empires and contributed to the development of material culture as well as to the development of writing, language, and life itself. As such, it is an active environmental system where the dynamic interplay of the tools of human civilization is expressed in the constant transformation of the natural course of the river.

In the Middle East, mapping land and water using modern cartographic sciences led to fundamental transformations to the landscape. Shifting political powers plus new methods, techniques, and tools for dynamic

land and water surveys transformed the region’s physical landscape and its history. These transformations, conceptual and territorial, fundamentally changed the understanding of the landscape and hence created a new form of territoriality.³

Today, mapping physical terrain dynamics can reveal the conditional and unexpected in the formation of a landscape that is too often assumed to be static and immovable. Chronomapping, or charting the seen and the unseen in the transformation of landscape across time, shows how a landscape is made across geopolitical trajectories. It offers an understanding of territory and of new territorial strategies, such as water as a political technology, that aim to instantiate environmental change through the practice of mapping, and thereby to shape the future society while also tracing historical assumptions. Uncovering a landscape’s past reminds us that our environment is dynamic and may point the way toward co-existence with the physical terrain while ushering in a more sustainable form of transformation of the natural environment.

1 Christophe Girod, “The Elegance of Topology,” in Christophe Girod, Albert Kirchengast, Dunja Richter, and Anette Freytag, eds., *Topology: Topical Thoughts on the Contemporary Landscape*, Landscript 3 (Berlin: JOVIS, 2013), 82. In chronomapping, *chronos* (the demarcation and measurement of quantitative time) is combined with mapping, or the cartographic documentation of spaces and places.

2 E. A. Speiser, review of *Aram Naharaim: A Contribution to the History of Upper Mesopotamia in the Second Millennium B. C.* by Roger T. O’Callaghan, *Journal of the American Oriental Society* 70, no. 4 (1950), 307–309.

3 Stuart Elden, “Land, Terrain, Territory,” *Progress in Human Geography* 34, no. 6 (2010), 806–10.