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Landscape, the Visual: A Review of Michael Armand Canilao's *Remote Sensing the Margins of the Gold Trade: Ethnohistorical archaeology and GIS analysis of five gold trade networks in Luzon, Philippines, in the last millennium BP* (Oxford, UK: BAR Publishing, 2020)

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BOOK REVIEW

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Introduction

In reviewing the book, *Remote Sensing the Margins of the Gold Trade: Ethnohistorical archaeology and GIS analysis five gold trade networks in Luzon, Philippines, in the last millennium BP*, I examine how Michael Armand Canilao offers new ways of visualizing past and present landscapes, as well as, explaining interactions among their early populations. I am particularly drawn to his innovative methodologies, which combine ethnographic, historical, archaeological, and geo-spatial information, in his attempt to argue the participation of early peripheral communities in the Philippine archipelago to the larger transregional commerce.

Canilao is currently an Associate Professor at the Archaeological Studies Program (ASP) of the University of the Philippines Diliman. He earned his Doctor of Philosophy (PhD) degree in Anthropology from the University of Illinois in Chicago (UIC). We, at the archaeological community in the Philippines, fondly call him Migs, and have known him for his prolific research pursuits on early gold trade in northwestern Luzon Island. As a scholar who is also working on the same material in Philippine archaeology, I personally consider Canilao's works as an important corpus in the understanding of gold in the past in this part of the world. While I am exploring the materiality of gold in central and southern Philippines (Estrella 2016a, 2016b), Canilao has already been piecing together noteworthy puzzles in the north. Since 2009, he has studied the ethnographies, oral histories, and landscapes of Luzon highland and lowland communities, in search for the history of gold and gold mining (Canilao 2009, 2010, 2011a, 2011b, 2013a, 2013b, 2015). His recent researches employed Geographic Information System (GIS) to reconstruct gold trade networks from the 14th to the 20th centuries CE (Canilao 2017a, 2017b, 2017c, 2020a). The book being reviewed can serve as a synthesis to this body of work and as a compelling story of peoples who mined and traded gold in northern Philippines.

A Panorama

The book is divided into seven sections. In the first chapter, Canilao provides a summary of his study. He introduces the reader to the gold mining in the Philippine Cordilleras and the commodity production in nearby areas in the last millennium, as well as, the interdisciplinary and multiscalar ethnohistorical and archaeological approach he employed in reconstructing them. He brings us to these "small worlds" where key actors interacted through their knowledge of their landscapes (Canilao 2020b). He argues that peripheral gold-mining communities in the highlands of Luzon participated in the larger Indian Ocean-South China/West Philippine Sea trade, through evanescent market encounters. However, these evanescent markets transitioned into permanent markets when local communities lost control over gold procurement and transport.

The succeeding two chapters of the book critically review archaeological, historical, and ethnographic data. Canilao presents a dynamic conversation among ethnographic, historical, archaeological information. He offered a background on the political, economic, and social life of northwestern Luzon populations during the early historic and colonial periods. In doing so, he was able to recognise five trade networks which connected past highland and lowland communities in the area. Using GIS tools, he pin-pointed their probable locations today. These networks concentrated on markets which emerged in (1) Tonglo, in present-day Tuba, Benguet, (2) Gasweling, currently located in the barangay with the same name in Kapangan, Benguet, (3) Lepanto, in Mankayan, Benguet, (4) Angaqui, in today's Quirino, Ilocos Sur, and (5) Abra, presently located in the province having the same name. Common to these networks were the links among mining areas, bulking villages, markets and the movements of population because of the gold trade.

Canilao positions his work within the theoretical models on commodity production and trade. He dedicated chapter four to this review, as he looks for the applicability of World Systems, Social Network, Interaction Spheres, and Agency theories in different levels of his analysis. He used the World Systems theory to argue the negotiated peripherality of the northwestern Luzon gold trade networks and its participation to the Indian Ocean-South China Sea/West Philippine Sea commerce during the early historic period. To help him frame the "small worlds" interaction, he employed the trade diaspora and disparity parity models, suggesting alternatives to what the World Systems theory cannot expound. From these he was able to operationalise the concepts of evanescent and permanent markets. At the lowest level of Canilao's multiscalar analysis, he turns to the indigenous concept of *utang na loob*, or debt of gratitude, which either impaired or capacitated the actors in their participation in the exchanges. This smaller but complex interaction was able to influence control over, not only the production, but also the transportation of gold.

In chapter 5, Canilao demonstrates his GIS methodology. Since he has already pin-pointed the locations of the places involved in the gold trade networks, he proceeded with identifying the links that associate them with one another by sensing remotely vistas and paths within the network. Canilao argues that people from evanescent markets had surveillance capacities, in which locals were able to spot ships from their bulking villages. Thus, he employed the Viewshed analyses on latest high-resolution satellite imagery of Luzon. In order to locate old trails that served as transportation routes and infer way-finding among these early populations, Canilao made use of the Least Cost Path analysis. Other GIS operations, such as, aerial image enhancements, as well as, suitability, similarity and dissimilarity analyses, were used to propose models of "intra-village connections and relationships" (Canilao 2020b: 89).

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The last two sections are short chapters that discuss and conclude the weaving of data and arguments offered in this study. Canilao explains that using his interdisciplinary and multiscalar approach, he was able to tell a narrative of how market interactions changed in the identified five gold trade networks in northwestern Luzon in the last millennium CE. Tonglo, Gasweling, and the Apayao conduit of Lepanto network developed evanescent markets, or locally referred to as "*tabu-tabuan*", whereas, the other Lapanto (Danac) conduit and Abra networks, developed semi-permanent and permanent markets, respectively. The trade in these evanescent markets attracted migration to bulking villages, where the indigenous populations have exercised almost total control over their products and their flow. On the other hand, permanent markets attracted population movements to coastal communities, where locals had little to no control over their products. Towards the end of his book, he emphasises the "agentive flexibility" of local gold miners and producers of northwestern Luzon, as demonstrated by their interaction with other groups of people and by the changing nature of the markets in the five gold trade networks (Canilao 2020b: 109).

Some Hindsights

There is little to no information about mining in northwestern Luzon, Philippines from the archaeological record. A couple of anthropological studies, however, attempted to surmise a chronology. Caballero (1992, 1996) makes sense of the development of mining in the Philippines as pre-Chinese, Chinese, Spanish, and American period phases. The primary evidence she had for this claim is linguistics that she traced back to the 16th century. Canilao's (2020b) *Remote Sensing the Margins of the Gold Trade: Ethnohistorical archaeology and GIS analysis five gold trade networks in Luzon, Philippines, in the last millennium BP*, where he describes gold mining during the "Early Historic Period" (10th to 16th century CE), is a good opportunity to rethink these earlier assumptions.

Canilao demonstrated a good case study of small production units and their trade networks. While the organization of the production has been described, heavily relying on ethnohistorical sources, it would also be a great help for the readers if he had expounded more on the extent of these "small scale" mining. In terms, of commodity production, we only know of Tegengren's (1963:573) earlier estimation of around 22,000 kilograms of gold mined and traded to the Chinese from the 14th century to the 16th century CE. It was based on his review of Spanish colonial documents that recorded gold from the whole Philippine archipelago. I think, his book is also in a good position to assess these claims.

I am, personally, interested to read more about the larger Indian Ocean-South China Sea/West Philippine Sea trade, to grasp the bigger picture, to which Canilao's book aims to both contribute and critically engage. I also think that his Indian Ocean-South China Sea/West Philippine Sea (IO-SCS/WPS) construct is rather modernly political and at the same time ambiguous. Recent studies have argued for the region's reimagining away from the colonial and nationalist conceptions to a more geographical and environmental frame. For instance, Acri (2017:7) have proposed the constructs "Monsoon Asia and Maritime Asia as alternative paradigms to make justice to the complex dynamics of transregional interaction that shaped South and Southeast Asian societies". And, since the study draws from the World Systems theory, it is also applicable to either introduce the larger scale of interaction before zooming in on the dynamics the smaller levels of complexity, or the other way around. Situating the trade networks within the larger geographical, socio-economic sphere could have been done.

GIS and remote sensing proved to be a useful tool in analysing the landscape of the five gold trading networks in northwestern Luzon. Canilao demonstrated a good command of the operations, guided by the research questions he sought to answer. Ironically, however, I wish a map was developed to show also the peripherality or marginality of Luzon mining, in the context of the bigger Indian Ocean-South China Sea/West Philippine Sea commerce, or just a nicer and more informative map than what I have presented elsewhere (Figure 1).

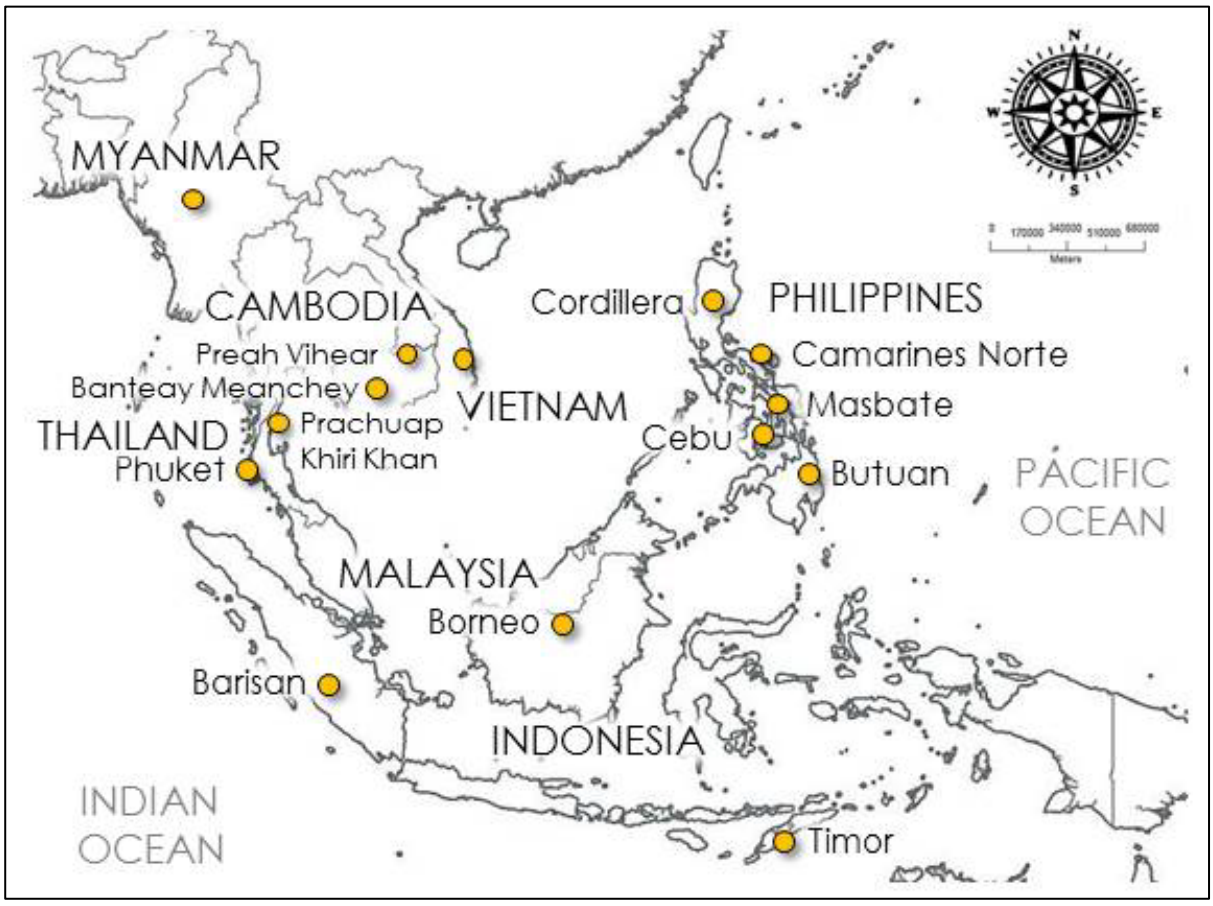

Fig. 1 Map of Southeast Asia showing places historically-documented as gold sources in the region (after Bennett 2009, Demandt 2015, and Estrella 2016c). Source: Estrella 2017: 26, Figure 2.7.

An elaboration on the temporal gap between the landscape described in ethnohostoric accounts and the landscape today is also desired, perhaps more than the short disclaimer that modelling considers "all things being equal" (Canilao 2020b:75). The readers should have been guided in looking at predictive modelling with caution since there might have been many changes that happened in northwestern Luzon's geography, in the last millennium. These changes were caused by both natural and cultural processes. More than physical entities also, the landscape might have meant differently to the indigenous peoples hundreds of years ago. What Canilao calls "small worlds" might be, in fact a landscape within what Morphy (1995: 199) refers to as, the "socio-centric grid".

Moreover, I also look forward to read and see, perhaps in Canilao's future publications, how he confirms his predictive models through archaeological pursuits. He admits in this book that he needed more indications from the ground to support his geo-spatial analyses. It would be enriching to see material evidences of mining settlements, bulk villages, the evanescent and permanent

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markets, as well as, the viewing points and trails identified in the book. Documentation of actual trails and paths will also augment his arguments for transportation routes.

Lastly, the readers would benefit more from a clearer organization of the book. Reviews of the background of the study, as well as, the theories and methods used can be improved. The review of the theories can be presented earlier than Chapter 4 to introduce to the readers the notions of peripherality, evanescent markets, embedded procurement, bulk goods networks, and trade diaspora head on. The identification of the location of the five trade networks in Chapter 3 and the predictive modelling of transportation routes in Chapter 5 can also be in one discussion. In reviewing historical sources, it is also nice to consider the chronological sequence of the sources, as not to confuse accounts recorded in the 13th and 14th centuries CE, as well as those recorded during Spanish and American colonial periods in the Philippines.

Landscape Archaeology and Geo-Spatial Technology

The focus on landscape in anthropology and archaeology has always been primarily the work of the eyes. Landscape has always been used to "frame" society and culture (Hirsch 1995:1). It is, therefore, visualised, bringing the viewer and the viewed to the forefront of discussions. The images and representations they make from these landscapes became among the areas of concentration in studying them. Cosgrove (1984:1) refers to this practice as the act of "representing and symbolizing the surroundings". After all, the totality of the landscape is translated to what the human mind can only understand.

The use of spatial technologies in anthropological and archaeological research came in the 1970s (Wheatley and Gillings 2005). It was, perhaps, a product of landscape studies' early tendencies to follow what Hirsch (1995:17) calls the "Cartesian" or the Western way of locating "absolute positionality". Scholars also used them to determine distribution and boundaries of cultures or "culture zones' (Clarke 1977:2; Gosden 1999:70). As maps became important in understanding the setting of the human story, they became more rigid and exact. However, Gell (1985:278) contends that landscape can be both "non-indexical" or non-subject-dependent and absolute, as well as, "indexical" or subject-dependent, relative, and sensory form of knowledge. After a couple of years, landscape anthropology and archaeology went beyond positionality and started to consider people's sensory experiences as stimulated by their environment (Bender 1993; Bradley 2000; Tilley 1994). From a mere location and "neutral space" (Wheatley and Gillings 2005:5), landscape is now seen as a cultural process of sensing the world (Ingold 1994).

More than a study of gold, Canilao's book also contributes to the growing field of landscape anthropology/archaeology in the Philippines. He draws our attention to the relationships between the indigenous peoples as well as the lands within and outside their communities, using a multiplicity of data and the tools offered by geo-spatial technology. His book illustrates the recent development in the field by relating the "Cartesian" way of looking at landscapes with the "small world" way of seeing their environment. Beyond positionality, Canilao managed to delve deeper into the local perspective by looking into the early population's vista, way-finding, mobility, and navigation, the local "landscape as it is culturally conceived" (Morphy 1995:197).

Conclusion: The Many Ways of Seeing

To conclude my review of *Remote Sensing the Margins of the Gold Trade: Ethnohistorical archaeology and GIS analysis five gold trade networks in Luzon, Philippines, in the last millennium BP*, I wish to lead your gaze to the many levels of visualization which Canilao has demonstrated.

The first level pertains to how the early indigenous populations in northwestern Luzon looked at and experienced their own landscape. We have observed this in their capacity to spot ships and survey from afar, and, to find ways around curves and groves. How Spanish and American colonizers viewed the population and their environment is the second level of visualization. The third level involves the modern researcher looking at the landscape, the sources, such as documents and maps, as well as, their past and present interactions. The book, therefore, invites as to engage in an interdisciplinary and multiscalar way of viewing landscapes. It encourages us to see through the near, the far, the big, and the small, so that we will never look at "worlds" around us the same way again.

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