

Workshop Program Point Sud 2019

Translating the Square Kilometer Array: Talking to Methodological Challenges and Interdisciplinary Area Studies

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Ghana Space Science and Technology Institute, Accra

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Abstract

In September 2017, Ghana became the second African country to participate in a network of telescopes belonging to the African 'Very Long Baseline Interferometry' (VLBI) Network (AVN) and 'Square Kilometer Array' (SKA). In terms of scale, this network is comparable in size to the human genome project, and is represented as the "biggest science project in Africa" (Gastrow 2015). By 2030, the Ghana radio telescope - along with several other telescopes that have yet to be established on the continent - will contribute astronomical amounts of data to the SKA and VLBI network. Per day, this will reach approximately twice the amount of data that is currently circulated on the internet. This state of affairs represents a challenge for both the social and the natural sciences in terms of how data is captured and managed, not to mention the engineering feats and technical innovations that such a large-scale infrastructural project entails.

The goal of this workshop is to bring together people with training in the natural sciences, the social sciences and engineering to develop an interdisciplinary dialogue. How the object of research is constructed and made visible in this context is the main theme of this workshop, framed in terms of Methodological Challenges within Interdisciplinary Area Studies.

By investigating the "taken-for-granted" assumptions and epistemologies through which both natural and social scientists view and explain the world, insights into the processes of knowledge production can be gained. These insights proceed from the premise that doing interdisciplinary work consists in formulating objects and research questions in ways that are accessible to all participating disciplines: How does the telescope produce knowledge about the world in space and time and how is this knowledge to be interpreted? At the very basic level, therefore, we are interested in the 'translation' process in which scientists 'put the world into words' and the practices in which these 'words' materialize. In this sense, the context and practices through which (natural and social) scientists ask questions about objects needs to be translated across the boundaries of disciplines in order for them to become accessible to all participating members. Framed as Methodological Challenges in Interdisciplinary Area Studies, we advance an opportunity to 'look over each other's shoulders to jointly reflect on the theories, concepts, tools and methods through which the objects of research are constructed' in the social and natural sciences.

We probe at key questions, such as: How is disciplinary and interdisciplinary research accomplished? How is the telescope in Ghana as a scientific object made visible and how is its materialization conditioned on its form(ulation) as part of "science"? How are observations about the telescope and through the telescope turned into general phenomena and become "knowledge"? Which tools and instruments mediate access to the 'real world'? How are affects and materialities surrounding the telescope accomplished as objects of knowledge and which material textual productions accompany

the establishment of the telescope as an object for and of science?