

## An Anthropological Approach to a Seismographic Observatory in Turkey

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In this presentation I attempt to develop an anthropological description of a seismographic observatory in Turkey to reconsider the relationship between science and society.

Traditionally, anthropologists have conducted research on different customs, values, local knowledge and beliefs at mainly small-scale rural societies all over the world. Their research method, the so-called 'participant observation', is based on long-term fieldwork. They produce ethnographies (i.e. qualitative descriptions of cultural practices), which allow readers to put seemingly-strange behaviors into their cultural context and to comprehend them.

Recently, anthropologists have tried to apply their approach to localities in modern societies such as hospitals, workshops or laboratories and describe the social aspects of science and technology. They focus on process of scientific knowledge production as social practice, man-machine interactions, and learning processes of skill or know-how (i.e. tacit knowledge) among others. I share with them an interest in local knowledge and practical skill acquisition in scientific context.

It is well-known that in 1999, two great earthquakes hit the northwestern part of Turkey, causing a large number of casualties. After this calamity, scientific knowledge/information has been attracting much popular attention in Turkey. In Istanbul I selected UDIM (National Earthquake Observation Center) in KOERI (Kandilli Observatory and Earthquake Research Institute) as my research site and conducted field research there for one year (2004-2005).

KOERI was established in 1868 as a weather and planetary observatory of the Ottoman Empire, and became affiliated to a university in Istanbul in the 1980s. It is now UDIM, rather than public agencies, that provides early reports on earthquakes in Turkey. There was a staff of 22 in the institute. They observed changes of trembling lines appearing on computer screens 24 hours a day. Data were recorded by respective seismometers of about 110 stations all around Turkey, transmitted to the observatory by telephone line, satellite, broadband line or FM radio wave, processed through a computer program and analyzed by the staff. Information of strong quakes was sent immediately to the mass media and public institutions.

The study revealed that:

1) Staff members have 'local' skills to conduct observation and analysis. Seismographic observation is not an automatic process - at least not in Turkey. They have to reduce 'noise' from data to figure out more precise numbers of magnitude or the exact position of hypocenters. For this purpose, they mobilize a wide variety of skills and heterogeneous knowledge. I consider some of such knowledge/skills as local because they are unique to the current network situation.

2) Although no explicit training is provided at UDIM, newcomers acquire such knowledge/skills through everyday cooperation among the staff. UDIM succeeds in building a sense of community, which supports smooth communication and the distribution of know-how.

3) Such knowledge acquisition in UDIM has different effects on different levels. The acquisition of tacit knowledge helps members to identify themselves with UDIM. For lay people, such skills strengthen the authority of information produced by UDIM. For scientists outside of UDIM, such tacit knowledge and the specialization in observation is a sign that staff members of UDIM are not scientists but technicians.

4) This implies that 'science' have multiple meanings: a) objective and exact description (e.g. numbers) of 'nature', b) process of creation of knowledge from data, c) public statements of scientific authorities. When considering the relationship between science and society, such multiplicity has to be taken into account.