Enabling Transparency through Technology? Non-Governmental Satellite Imagery Analysis of North Korea

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Introduction

The first remote sensing satellites were launched in the 1960s by the U.S. and Soviet militaries as one central element of their space race during the cold war. The space-based surveillance systems helped to reduce the 'fog of war' and mitigate the risk of being surprised by the enemy's military capacity or an actual attack [1]. While geospatial intelligence still is a very important element of governmental security policy, the user group as well as the scope of application have extended well beyond the circles of intelligence and government agencies over the last decade. The privatization and advancement of satellite technology have led to novel implications for international politics. In the aftermath of 9/11, many states have further restricted information in the public domain and expanded their use of surveillance technology to control their citizens. At the same time, applications like Google Earth and commercial satellite technology also allow spaces to be seen that governments wanted to keep secret from civil society [2]. The increasing availability of commercial and open source satellite imagery has begun to challenge governments' interpretational sovereignty by opening up spaces for new expert groups to play an influential role in security discourses that is based on their "authoritative claim to policy-relevant knowledge" [3-5]. Indicative for this is the growing amount of international organizations, freelance experts and non-governmental organizations (NGO) that use commercial satellite imagery to augment assessments of global security and human rights issues.

Research Puzzle

Remote sensing is particularly valuable in situations of incertitude and when sites are inaccessible. Similarly, non-governmental expert networks' leverage to affect the definition of security problems, interests or policy responses is greatest when issues are characterized by political complexity and factual uncertainty [3, 6]. The case of North Korea possesses these characteristics as the development of its nuclear program as well as its human rights situation are heavily contested and the country is difficult to access due to government restrictions. Working around these difficulties, satellite imagery analysts closely observe North Korea's nuclear facilities, human rights situation and nuclear test sites and publicly report any development on the ground. By combining satellite imagery analysis with various communication channels, this expert network cannot only produce policy-relevant knowledge but also directly disseminate it globally. Against this background, the paper aims at assessing non-governmental satellite imagery analysis' potential and constraints to provide additional and alternative viewpoints and how it punctures state propaganda and affects public opinion on security and human rights issues in North Korea.

The paper understands knowledge and its context of origin to "play a crucial and complex role in the configuration of societal security" [7]. Therefore, it will focus on practices of security knowledge production and dissemination based on commercial satellite imagery. More precisely, we will ask: (1) How has the commercialization of remote sensing influenced the emergence of non-governmental satellite imagery analysts as an epistemic community? (2) How do non-state experts produce security knowledge about North Korea based on satellite imagery and what is the role of uncertainties in that process?

Theoretical Considerations

The paper is located at the intersection between International Relations (IR) and Science and Technology Studies (STS). Only recently research has started to bring together both disciplines on a theoretical and empirical level to investigate the interrelation of technology, power and security [8-13]. Moreover, only few studies have concentrated how non-state satellite imagery analysis is conducted [14] and how it affects discourses of international politics [15, 16]. Research on remote sensing in international politics can be grouped in two different realms, i.e. governmental and non-governmental. While the former focuses on the capabilities and application in a state security or intelligence context [17, 18], the latter mostly analyzes non-governmental usage and work in areas of human security and environmental issues [14-16, 19, 20]. Early on, scholars pointed to the difficulties of satellite imagery analysis and the potentially severe consequences of incorrect conclusions that are difficult to challenge by non-experts [1, 21]. Despite these early warnings, the knowledge practices of non-governmental satellite imagery analysts are still insufficiently understood and only very limited research has been done on the ways that non-governmental analysts deal with the challenges of analyzing and interpreting satellite imagery in a politically highly sensitive context and how they cope with uncertainties.

Main Arguments and Discussion

We outline different techno-political and epistemic conditions non-state actors face by taking into account not only their technical capabilities but also the political and historical context of remote sensing. This is necessary to build the underlying parameters to frame the modes of knowledge production and subsequent dissemination. We will make two major arguments: (1) The commercialization of space-based remote sensing has laid the foundation for the emergence of an expert group of analysts by increasing their epistemic capacity. (2) This network of non-governmental satellite imagery analysts shares particular norms and epistemic practices and experiences significant uncertainties when producing knowledge about North Korea.

The paper takes political decisions as rarely based on firm knowledge [22] and will contribute to a better understanding and assessment of expert groups' inherent uncertainties in the process of security knowledge production. In doing so, it attempts to foster a constructive and necessary debate on the legitimacy of knowledge claims in international security. Furthermore, it will offer theoretical considerations on the interrelation of technology, knowledge production and security discourses in IR and STS. Results will also be of interest to practitioners and researchers of development assistance, security policy and humanitarian aid.

References and Notes

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