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Creating order in the ceaseless flow:
The discursive constitution of the radio spectrum

Zita Joyce

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Abstract

The concept of ‘radio spectrum’ was created to organise the electromagnetic waves used by communicative technologies. It signifies an ordered sequence of radio frequencies and the delineation of blocks of those frequencies for allocation to uses and users. This thesis examines the development of the concept of the radio spectrum, and the way in which it is constituted by discourses that generate and reflect particular relations of power. The thesis reframes histories of broadcasting and telecommunications in New Zealand to draw attention to the role of radio spectrum in the regulation of access to wireless communications. New Zealand serves as the primary case study of the constitution of radio spectrum due to the particular forms of power the New Zealand state has exercised over the and through the radio spectrum. The thesis argues that legislative moves have framed the New Zealand radio spectrum first as a vulnerable dimension of national territory in need of protection, and more recently as an object of trade in a global market, a part of the ‘flows’ of the informational, ‘network society’ analysed by Manuel Castells. While these are the primary discourses that frame the radio spectrum, the power of the state to define and control radio spectrum in New Zealand and other countries is challenged by a range of resistant practices articulated through the discourses of tactical media, media art, and the ‘spectrum commons’. These discourses challenge the constitution of radio spectrum into allocative blocks, and the way this structure can be used by the state and by corporate interests to control access to radio communications. The thesis discusses this range of discourses and the ways in which they reflect and generate particular forms of power in relation to radio spectrum. This traces a movement identified by Michel Foucault from a juridico-political discourse that views all power as concentrated in and exercised by the state, to a more strategical approach that acknowledges that power operates through a mobile field of relations and is not simply a descending and repressive force. This thesis argues that through changes in discourse and power in relation to radio spectrum the allocative structure that was invented as a tool of state power is being refigured as a fluid zone of interconnection, a site of diffuse and multiple modulations of power.
Acknowledgements

This thesis has its roots at a workshop in the forests of Western Latvia, at a radio telescope built and abandoned by the Soviet military. The Riga-based center for new media culture, RIXC, convened a workshop there in August 2001, inviting artists and writers to explore the possibilities of this 32 metre radio dish for creative uses. In response to the experience I began to write an article about the military, scientific, and commercial dimensions of radio spectrum in relation to New Zealand’s spectrum auctions. However I quickly realised that it would take more than 2,000 words to explore the issue in sufficient depth. In 2003 when I was finally assembling a proposal for this thesis I returned to Latvia for a workshop in using GPS and other ‘locative media’ radio devices for tactical art practices, and I was invited back in 2006 to present a paper at the RIXC symposium ‘Waves: Electromagnetic waves as material and medium for arts’. I would like to acknowledge the fundamental role in the development of this thesis played by RIXC: the center for new media art and culture, without which the research literally would not have begun, in particular Rasa Smite, Raitis Smits, Ieva Auzina, and Signe Pucena.

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