Review of *An Anthropology of the Machine*

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An Anthropology of the Machine is an extraordinary study of Tokyo's overwhelming commuter train system. Rather than a conventional ethnography in which infrastructure might provide the context for examining the lives of commuters, drivers or engineers, Michael Fisch elaborates a *technography* that explores processes and tensions from within the train system. The aim is to escape the stranglehold of an imagination that posits people and machines as inherently other, the former imagined to invariably succumb to the demands of the latter. The machine theory that the book develops is premised on attentiveness to the margins of indeterminacy that emerge as commuters and trains become mutually entangled. Its question is how to find an enunciation point and vocabulary adequate to this situation.

The distinctiveness of this project can be indicated by way of contrast. In *Lines of the Nation* (2007), Laura Bear examined the new spaces and relations created by the Indian railway bureaucracy. She focused on the intimate experiences of Anglo-Indian railway workers, and this created a vantage point for thinking about nationalism and kinship. Such topics are practically absent from *An Anthropology of the Machine*, which instead foregrounds the technologies, diagrams, and practices that make up the Tokyo (occasionally Osaka) train system. Rather than grappling with epistemic violence, machine theory conceptualizes the conditions for ontological becoming.

Machinic terms proliferate: margin of indeterminacy, gaps, technicity, ensemble, intervals. Central to train operations is the principal train-traffic diagram, the *daiya*, which represents the ideal flow of trains. It is complemented by an operational *daiya* created in response to actually fluctuating circumstances. Making the train system run under extreme conditions requires working with the 'margin of indeterminacy' defined by the gap between these diagrams.

As the system has been pushed beyond capacity by increasing amounts of people, this margin has shrunk. Fisch depicts the evolution of tactics developed to 'finesse the interval'—making the infrastructure do what it rationally should not be able to—to be able to handle the situation. Finessing is a matter of "delicately orchestrating" an ensemble of relations. Commuters have learned to board rush-hour trains with extreme efficiency. Trains stop for only the briefest intervals. Distributed decision-making systems enable near instantaneous response to contingencies. Underground corridors and adjacent malls divert flows of people to prevent clogging of the platforms.

Inhabiting the super-crowded Chūō line, Fisch evokes bodies modulated by train rhythms. Nobody speaks but everybody remains quasi-alert. Salarymen, seemingly fast asleep, jump out at the last second as their station arrives. Others read newspapers or play *keitai* games— as long as it remains possible to move. Women learn to position themselves to minimize the chance of groping. Exploiting the gaps, commuters create, or maintain, a tiny surplus (yoyū) of action.

If the first chapters focus on the emergence of a system functioning beyond capacity, later ones examine the train as a media ecology: in its own right but also as re-mediated in films, games and advertisements. Train interiors are crammed with ads on posters and screens. The popular movie *densha otoko* (Train Man) depicts an unlikely train romance mediated by an anonymous online collective. Fisch argues that books and games thematizing the pressures facing the commuting salaryman offer 'simulations,' in which the margins and intervals of the system can be re-experienced in different performative registers. Some of these re-mediations may generate novel relations and perspectives. However, the media ecology can also fortify existing ones. Some commuters may disembark in search of a love hotel in which to act out groping fantasies in a room decorated exactly like a train car. The possibilities of re-mediation are indeed open-ended.

This is also indicated in the gory chapter five, which combines a study of commuter suicides, and the people who clean up after them, with a reading of *Suicide Club*, a 2001 movie which begins with the collective suicide of 54 schoolgirls at Shinjuku station. While the movie hardly offers any resolution, Fisch views it as gesturing to alternative ways of navigating life in a fully immersive techno-environment.

Such alternatives may be important, because more death awaits. The final chapter examines the 2005 Amagasaki train accident, which killed 107 commuters on the JR West railway in Osaka. The tragedy is analyzed as a consequence of an unforgiving system, where the margin of indeterminacy has been peeled away entirely. After the event, JP West sought to restore normalcy by formal apologies and reassurances, but this did not bring closure for the community. Fisch depicts their memorial ceremony as opening up for an interrogation of what trust in infrastructure might mean.

This story also clarifies the normative stakes of machine theory, which for Fisch entails nothing less than a general transformation of the relation between collective life and technology. Ethical relationality is not about absolute moral foundations but pertains rather to degree of technicity: it is evaluated in terms of the leeway and openness to becoming permitted by a system.

The meagre changes introduced by Japanese train companies and nuclear plant operators in response to recent disasters indicate that articulating technicity as an ethical precept is easier than giving it infrastructural shape. This is to be expected. The great merit of *An Anthropology of the Machine* is to have remained on the train long enough to outline the problem space in a new way. The book will be of great interest to anthropologists of science and technology, of infrastructure, and of Japan.