

On autopilot: Towards a flat ontology of vehicular navigation.

“The map is not the territory” (Korzybski 1933), the semioticians’ famous maxim, inspired Baudrillard’s rallying claim of postmodernism on how “The territory no longer precedes the map, nor survives it.” (Baudrillard 1995, 1). Within the fields of geography and cartography, from which those totalising metaphors were taken, the weariness of straightforward map-territory translation has become the staple of critical inquiry (Crampton 2002). Such translations are dependent on historical discourses (Harley 1989), the divide between active and passive consumption of space (De Certeau 2011), the role of narratives and habits (Ingold 2000), hidden agendas of the powers that be (Wood 2010) and, perhaps more than anything else, the ever-changing fluid emergent properties of various maps in various contexts (Dodge, Kitchin, and Perkins 2009). While many of those critical approaches follow Del Casino and Hanna’s (2006) reproach of the tendencies for reductive binaries between makers and readers, qualitative and quantitative and the like, one stable distinction remains in the heart of the cartographic inquiry: the ontological divide between the map and its territory.

In this chapter we wish to challenge this rupture and suggest a flat ontology (Bryant 2010) of vehicular navigation. Moving beyond the map/territory distinction we propose examining the entwined roles of maps in making the world through navigation and the feedback loops emerging between the two (November, Camacho-Hübner, and Latour 2010). Specifically, we are interested in recent technological developments of a highly mediated world, where computerised interfaces constitute transformative effects (Galloway 2012) that mediate not only the informational intake of individuals, but their phenomenological reception of the actions that make or break such worlds (Ash 2012). What happens when the map actively subverts one’s attempts to transfix the territory it as a fixed point (or *flat inscription* (Latour 1987)) in space-time, and instead actively works with (or against) such users through notions of crowdsourced data, personalised predictive user interfaces such as Google Now or Apple’s Siri, gamified/ludic modes of engagement and many more.

We exemplify such flat ontologies with recent technologies of automotive navigation. Following Thrift, we examine how through inclusion of the various actors mentioned above, driving is continuously slipping deeper into the collective ‘technological unconscious’ (Thrift 2004). In other words, how a heady array of technological ‘systems’ ranging from touchscreen satellite navigation platforms and automated parking sensors to hybrid engine vehicle drivetrains are fast becoming the automotive norm. Although much of this technology has been around for the last 10 years or so only in the last 5 have we witnessed such an integration of these functions into the vehicle as a whole rather than ‘options’ or ‘add-ons’. Specifically, then, we focus on two major trends: social navigation, and automatic driving.

Not long ago, The New York Times suggested that the convergence of cars with self-learning and driving robots will ultimately remove the notion of navigation as we know it: “When cars drive themselves, the map will have been fully absorbed into the machine” (Fisher 2013). While we are more skeptical of such claims, the case study of Waze, a self-proclaimed “social driving” app illustrates how the machine may end up being absorbed into the maps. With Waze, users share their daily commutes and actively participate in the making and unmaking of the collective map simply by driving. Moreover, through a

simplified user interface they are easily able to enact more drastic changes - from reporting map errors and traffic hazards to “paving” new roads and helping predict upcoming changes to traffic flow.

At the same time, global companies compete in a new gold-rush for acquiring geospatial data for novel types of maps. Companies such as Google (Fisher 2013), Nokia (Miller 2014) and Tesla Motors (Perkins 2015) are hurrying to build maps no longer intended for direct human consumption, but instead aimed at integrating with various kinds of sensors and machine-learning algorithms that constitute the cars – and importantly, roads – of tomorrow. Yet these maps require a heretofore unimaginable level and computation of detail. Never before have such intensive cartographic efforts been necessary or even possible. What is critical to note in these instances is that it is a new breed of digital rather than automotive company that is literally driving this innovation – representing a landmark moment for the industry as a whole. Moreover, associated professions – such as the legal and insurance industries – require radical overhaul in response to such marked changes in driver responsibility and liability. Such processes, however, further black-box the map to non-specialised users, effectively further deleting the map/territory ontological distinction: if the map is the world in the eyes of the car, while being obfuscated for you, than the map and the world are one and the same. For the first time in history it matters not where the driver is going but only where the machine is.

- Ash, James. 2012. “Technology, Technicity, and Emerging Practices of Temporal Sensitivity in Videogames.” *Environment and Planning A* 44 (1): 187–203. doi:10.1068/a44171.
- Baudrillard, Jean. 1995. *Simulacra and Simulation*. First Edition, 17th Printing edition. Ann Arbor: University of Michigan Press.
- Bryant, Levi R. 2010. “Flat Ontology.” *Larval Subjects*. February 24. <https://larvalsubjects.wordpress.com/2010/02/24/flat-ontology-2/>.
- Crampton, Jeremy W. 2002. “Thinking Philosophically in Cartography: Toward A Critical Politics of Mapping.” *Cartographic Perspectives* 12: 12–32.
- De Certeau, Michel. 2011. *The Practice of Everyday Life*. Reprint. Berkeley: University of California Press.
- Del Casino, V., and S. P. Hanna. 2006. “Beyond the ‘binaries’: A Methodological Intervention for Interrogating Maps as Representational Practices.” *ACME: An International E-Journal for Critical Geographies* 4 (1): 34–56.
- Dodge, Martin, Rob Kitchin, and Chris Perkins. 2009. “Mapping Modes, Methods and Moments: A Manifesto for Map Studies.” In *Rethinking Maps: New Frontiers in Cartographic Theory*, edited by Martin Dodge, Rob Kitchin, and Chris Perkins, 1 edition, 220–43. New York: Routledge.
- Fisher, Adam. 2013. “Google’s Road Map to Global Domination.” *The New York Times*, December 11, sec. Magazine. <http://www.nytimes.com/2013/12/15/magazine/googles-plan-for-global-domination-dont-ask-why-ask-where.html>.
- Galloway, Alexander R. 2012. *The Interface Effect*. Cambridge, UK; Malden, MA: Polity.
- Harley, J. B. 1989. “Deconstructing the Map.” *Cartographica: The International Journal for Geographic Information and Geovisualization* 26 (2): 1–20. doi:10.3138/E635-7827-1757-9T53.
- Ingold, Tim. 2000. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. Reissue edition. London ; New York: Routledge.
- Korzybski, Alfred. 1933. “A Non-Aristotelian System and Its Necessity for Rigour in Mathematics and Physics.” *Science and Sanity* 1: 747–61.
- Latour, Bruno. 1987. *Science in Action*. Cambridge, MA: Harvard University Press.

- Miller, Greg. 2014. "Autonomous Cars Will Require a Totally New Kind of Map." *WIRED*. December 15. <http://www.wired.com/2014/12/nokia-here-autonomous-car-maps/>.
- November, Valérie, Eduardo Camacho-Hübner, and Bruno Latour. 2010. "Entering a Risky Territory: Space in the Age of Digital Navigation." *Environment and Planning D: Society and Space* 28 (4): 581–99. doi:10.1068/d10409.
- Perkins, Chris. 2015. "Tesla Is Mapping out Every Lane on Earth to Guide Self-Driving Cars." *Mashable*, October 15. <http://mashable.com/2015/10/14/tesla-high-precision-digital-maps/>.
- Thrift, Nigel. 2004. "Driving in the City." *Theory, Culture & Society* 21 (4-5): 41–59. doi:10.1177/0263276404046060.
- Wood, Denis. 2010. *Rethinking the Power of Maps*. 1st ed. New York, London: The Guilford Press.