



## **Extended Abstract**

### **iBorder: Bringing STS into Border Research**

**Holger Pötzsch**

Dept. of Culture and Literature, UiT Tromsø, 9037 Tromsø, Norway; E-mail: holger.potzsch@uit.no;  
Tel: ++47 – 776 45 380

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#### **Introduction**

The present contribution brings border research into dialogue with critical science and technology studies (STS), and scrutinizes the interrelation between information and communication technologies and processes of bordering. In particular, it addresses the ways through which biometrics, dataveillance, predictive analytics, and robotics enlist the human body, networks, and human-machine assemblages in practices of in/exclusion at the contemporary dis-located, and ‘smart’ border. Through a description of the socio-technical apparatuses underlying biometric, algorithmic, and automated border work, the contribution develops the term iBorder, and connects its specific affordances to an emergent late-modern regime of security. In introducing the notion of cultural technique, I argue that contemporary technologically facilitated practices of bordering co-constitute contingent, rather than simply process given, subjectivities and frames for practice.

My talk addresses the role of new technologies of identification, surveillance, and automation in processes of bordering. More precisely, I will develop the term iBorder to conceptually grasp how biometrics, dataveillance, predictive analytics, and robotics impact upon and change contemporary de-territorialised regimes and practices of in/exclusion.

### **Borders and technologies: Theoretical frames**

Current advances in network surveillance, biometric identification, robotics, and algorithmic analytics facilitate processes through which the border disperses and becomes independent of territorial confinement and topographical location. New mobile regimes of in/exclusion target individual bodies wherever they are, while algorithmically determined risks and threats increasingly inform and predispose human decision-making. I suggest here that the protocols, operations, and procedures that underlie the above-mentioned developments form the core of a fundamental cultural technique of bordering that not only processes given, but also actively co-constitutes contingent, identities and patterns of life.

Presently, borders have lost much of an earlier dependence on territoriality and physical impenetrability (Parker and Vaughan-Williams, 2009; Perkins and Rumford, 2013). Contemporary technologies afford new dynamics of transnationalization, privatization, and digitization (Bauman et.al., page 126) that rearticulate borders and blur distinctions between state and business, private and public, inside and outside, inclusion and exclusion. As Côté-Boucher, Infantino and Salter (2014) express it, “while modern borders have been taken to express the power of the nation-state [...], state power is nowadays exercised by delegating practices of state sovereignty to local, transnational and private actors outside the state apparatus and away from traditional state actors” (page 196).

Recently, the role of technology in processes of dis-locating and dispersing borders has attracted increasing attention. Vukov and Sheller (2013, page 225), for instance, note a transformation of borders toward “sophisticated, flexible, and mobile devices of tracking, filtration, and exclusion”. According to the authors, “new technologies of bio-informatic border security and remote surveillance” (page 226) lead to a paradigm shift that demands “sustained attention to the technocultural and communicative infrastructure of these bordering devices and technologies” (page 227). As such, a vernacularisation of border studies as the one called for by Perkins and Rumford

(2013) has to include a non-human dimension that critically addresses recent technological changes and their potential impacts. The term iBorder enables such a widened perspective in that it affords a systematic description of the changing technological environments within which emergent regimes of late-modern bordering operate. The concept opens for attention to non-human, machinic forms of agency and facilitates a critical investigation of their roles in contemporary cultural techniques of sorting, profiling, categorizing, predicting, and filtering.

### **Main findings**

In the following, I will specify the technologies behind the apparatus of iBorder along three different axis – biometrics, dataveillance, and robotics. Through a description of key technical advances and their specific affordances, two tendencies in the contemporary cultural technique of bordering will emerge: One consists of new technologies and operations that allow for an improved identification of specific individual subjects, while the other is based on the mining and subsequent analysis of data sets at population level with the aim of predicting and if necessary pre-empting abstracted patterns of life. Both tendencies are facilitated by the socio-technological apparatus of iBorder and constitute core elements of bordering as a cultural technique.

The “hip, tricky little ‘i’” (Andrejevic, 2007, page 4) in iBorder points to a series of technologically afforded tendencies in contemporary bordering that interconnect subjects, operations, and machines in complex co-constitutive assemblages. Firstly, iBorder *informationalizes* the body and enables its virtual emergence as “data-doubles” (Muller 2008, page 128; Lyon 2014) in inter-operable databases. Secondly, iBorder *individualizes* the border. It attaches itself to mobile bodies by means of increasingly transparent technical interfaces and biological and behavioural markers. The body thus becomes “the carrier of the border” (Amoore, 2006, page 348) that moves along wherever subjects may go. Thirdly, iBorder *implicates* subjects in the bordering process in new ways. New technologies of ubiquitous surveillance and dataveillance in a “digital enclosure” (Andrejevic, 2007, page 2) record, and subsequently exploit, day-to-day practices to establish implicit norms against which potential

deviations can be measured. Fourthly, iBorder is *interactive* in that its constitutive technologies afford constant feedback loops that afford ever more sophisticated forms of “hypercoordination and microcoordination” (Thrift 2004, page 185). Fifthly, iBorder *infringes* upon personal rights and constitutively undermines the private sphere of citizens, and lastly, iBorder is *intimidating* in that its techniques and applications are justified with reference to allegedly pervasive threats and dangers creating the discursive basis for a “neurotic citizenship” (Ajana, 2013, page 143). As a consequence of these tendencies, borders as bounded topographical locations or zones recede and re-emerge as iBorder – an ephemeral, technologically afforded aura that attaches itself to the subject and that transforms Agamben’s (1998) overflowing spaces of the exception into a pervasive relational “banopticon” in the sense of Bigo (2007).

iBorder refers to a socio-technological apparatus that employs techniques of biometric and algorithmic bordering to validate, establish, and indeed produce, identities and patterns of life. The deployed practices enlist individual subjects as both target and source in bordering processes that disperse locally as well as across transnational space. In these processes, individuals become objects of governance to be analysed and assessed, but also serve as implicit contributors to the databases enabling algorithm-driven mappings of patterns of behaviour and association.

### **From ontologies to ontic operations: Practices of iBordering**

So far, I have conceptualized the socio-technical apparatus of iBorder to highlight the technological infrastructure implying a potential for pervasive transnational surveillance and control. However, as Walters (2011) aptly points out, researchers should avoid apocalyptic stances that take the pretensions of a global security apparatus composed of clandestinely operating state actors and private companies with vested economic interests at face value. Rather, Walters (2011) suggests, critical research should focus on “the fissure and limits” of socio-technical systems of control and show that these systems “are often not as purposeful and coherent as they might sometimes appear” (page 55).

Arguing in a similar direction, Bigo (2007, 2014) alerts to the fact that contemporary border research exhibits a “lack of attention to the dispositions of the agents and the contexts” of bordering processes (Bigo, 2014, page 211), and therefore often remains oblivious of the “microphysics” of power and of the capacities “of the weak [...] to subvert the illusory dream of total control” (Bigo 2007, page 12). As Raley (2013) points out, all “constellations of control are imbricated with constellations of expressive resistance” (page 131).

As an alternative methodological template, Walters (2011) proposes to direct empirical attention to what he terms “technological work” (page 58) – the mundane day-to-day activities and performances that “go into making technology function” (page 59) or that might compromise their outcomes (page 54). As such, articulating a similar criticism as Perkins and Rumford (2013) in their appeal for a vernacularisation of border research, also Walters (2011) asserts the significance of everyday practices for processes of bordering, but extends the scope into a highly technologized area of surveillance, management, and control.

## **Conclusion**

The concept of iBorder developed in this contribution highlights the socio-technical apparatus that affords the co-constitutive cultural technique of bordering in emergent control societies. Juridical and disciplinary aspects produce obedient and docile individuals through such mechanisms as biometric identification, ‘trusted’ traveller programmes, ubiquitous (self) surveillance, as well as the constant threat of decelerating searches, detention, and ultimately death. On the other hand, a technologically facilitated biopolitical component draws upon algorithm-based predictive analytics and robotics to regulate flows of categories by identifying implied norms against which suspicious deviations can be measured, thus not only predicting and potentially preventing the occurrence of threatening patterns and compensating for their effects, but also framing and predisposing the very performances through which such patterns are brought forth and made relevant in the first place.

Similar to the corals, pens, and fences becoming productive of species of domesticated animals referred to by Winthrop-Young (2013), I argue that contemporary technologies of identification, tracking, mapping, and mining that constitute the cultural technique of ibordering entail a biometric and algorithmic identity production that actively shapes the contingent bodies, subjectivities, data-doubles, and patterns of life it purports to merely identify and process.

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