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## THE LIFE CYCLE OF A MOBILE PHONE: MATERIAL CULTURES OF MANUFACTURING AND CONSUMPTION

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The fields of mobile communication and internet studies have increasingly pushed toward an examination of the material conditions that contextualize digital media use in general, and mobile phone use specifically (de Souza e Silva, 2006; Packer & Wiley, 2013; Sheller & Urry, 2006). As Hayles (1999) points out, the material interfaces used for communication influence the way messages are transmitted and received. Different communication interfaces also have different affordances (Gane & Beer, 2008). For example, cell phones allow users to exchange messages while on the go, facilitating micro-coordination (Ling & Yttri, 2002), but smartphones with GPS facilitate spatial coordination by allowing users to be location aware (Gordon & de Souza e Silva, 2011; Sutko & de Souza e Silva, 2011). While the affordances of different communication interfaces have been topics of scholarly exploration for a while, very few (if any) studies have investigated the material life cycle of the cell phone device itself, that is, the stages through which the devices go from manufacturing to consumption. Following Latour (2005), we suggest that the life cycle stages of a mobile phone are each a node in the larger network of how we understand mobile usage.

In this paper, we argue that to truly understand mobile culture, researchers must understand the transnational scope of how these devices come into users' hands in the first place and where they end up when they are sold, used, and discarded. To achieve this goal, we offer a representative case study of the life cycle of generic cell phones in the city of Rio de Janeiro, Brazil. Brazil is the fifth mobile phone market in the world in absolute numbers (ITU, 2014), and therefore significant as a case study. In addition, Brazil is well known for its mobile black market. Cell phones are among the most stolen items in Brazil, and these devices are either resold in the slums (de Souza e Silva, Sutko, Salis, & de Souza e Silva, 2011), or by street vendors downtown Rio. Re-selling and buying stolen cell phones is considered a crime according to the Brazilian Penal Code, and therefore it is extremely difficult to get both quantitative and qualitative data

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on this topic, since very rarely subjects acknowledge participating in the offense. Recently, after cloned cell phones cases decreased with the introduction of digital phones, generic phones became a big hit among lower income populations. Generic or “pirate” phones are phones which are not certified by the National Telecommunications Agency (Anatel), because they normally transmit a radio frequency that do not meet the safety standards of national cellular networks. These phones, as Anatel argues (personal communication), are dangerous not only for the consumers’ health, but also to the functioning of the cellular network. However, they are increasingly sold illegally, with cloned IMEIs (international mobile equipment identity), and enter the country through smuggling. Generic phones are also known as “xing-ling” because they are normally produced in China, at low costs and low quality, offering a cheap alternative to the low-income population to be connected.

In order to understand how these cell phones are produced, enter the country illegally, are sold (either in stores or illegally) and regulated, we conducted 15 in-depth interviews with five street vendors who sell generic cell phones, five consumers who use generic phones, and five agents of the Rio de Janeiro city police who represses the illegal commerce of these devices on the streets. By covering three different perspectives of cell phone use and circulation, we are able to discuss the materiality of the device itself and the materiality of the mobile network as critical actors (Latour, 2005) in the construction of mobile culture in Rio de Janeiro. Our findings are also applicable to understand other national situations similar to the Brazilian case, such as South Africa, Chile, and Argentina. Each of these countries have a lower middle class, high numbers of cell phone penetration, and difficulty in regulating cell phone use.

By looking at the material circulation of mobile devices in the city of Rio de Janeiro, we argue that a single device is the symbol of national and transnational mobility. As the network is made up of nodes such as laborers, global economic flows, and movement of data around the world, the cell phone represents not only our communication practices, but also our material realities. The cell phone trajectory remains an unacknowledged aspect of consumer culture. Building on the theories of Latour (2005) and Harman (2013), we argue that the “tool being” of a mobile device is one that functions through invisibility; when each stage is revealed to the next, there is a “break” in the system. This break, which echoes Heidegger’s (1962) move from ready-to-hand to present-at-hand, shifts the visible connections that make up the global nodes in the life of a mobile device. As such, drawing on our single case study of Brazilian pirate phone market as a springboard into broader explorations of transnational materialities of mobile media studies, we explores these breaks, the various modes of visibility possible, and the outcomes of such shifts in understanding in the life mobile devices.

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