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Broadband Urbanism.
Keller Easterling

BROADBAND URBANISM

Posted on December 23, 2016 by Urban UrbanNext

Categories: africanCities, Essay, Keller Easterling, Territory and mobility

Tags: Active Public Spaces, Africa, africanCities, Data traveling, Essay, Future development, Network society, Next Urbanity, Notes towards a History of Urbanism, Reflection on African Cities, Soft Data, Soft infrastructures, Soft Urbanism, Spatial Ideologies, Telecommunications, Urban sprawl

Authorship: Essay by Keller Easterling, excerpted from CLOG : DATA SPACE, published by CLOG.

While telecommunication in Africa has recently been distinguished by deprivation, it is now often heralded for its explosive growth. A majority of the over five billion cell phones in the world are now in developing countries. Broadband is written into the platforms of national governments and into the development goals of international organizations like the World Bank and the United Nations. Access to mobile telephony—what te World Bank has called "the world's largest distribution platform"—is treated as a right, akin to the right to water or food. A swarm of telecoms from all over the world compete for market share in undeserved Africa. New entrepreneurs identify new multipliers and borrow crowd-sourcing techniques to penetrate the market, while resourceful populations develop tricks of their own to improvise uses for the technology.

New fields of study within informatics have been created to determine the relationship between Information and Communication Technologies (ICT) and development. While there is a growing expertise concerning ICT and its direct effects on development, that expertise is spoken in languages of business, technology and "econometrics", and there is no formalized field to study the interdependencies between ICT infrastructure and space. Yet the urban territory for this broadband, with some wireless capacity and some dependence on physical terrestrial fiber optics, is part of a complex game in the developing world. Architecture and urbanism will be a major determining factor of population concentrations, accessibility, resilience and disposition of networks.

While urbanists frequently analyze urban values and morphologies associated with physical infrastructures such as rail, highway, power and water utilities, the discipline is under-rehearsed in an analysis of the compound spatial dispositions attending broadband infrastructure. The advent of satellite during the 1960s and 1970s was seen as a means of leap-frogging the infrastructure monopolies and hierarchies of developed countries with an airborne network. Yet some of these futuristic projections foundered on other infrastructure realities related to fixed, linear, transportation or electricity that were necessary partners of the satellite signal. Fiber optic cables present yet another set of challenges. Fiber presents a linear topology that physically territorializes like a railroad or highway with limited access points. In a country where very little fiber has landed, the position of that fiber is hotly contested. It is not clear whether fiber will reinforce existing urban development, generate zone-like enclaves or penetrate rural areas to sponsor development and education. That same fiber also provides the necessary bandwidth for contemporary mobile telephony, a technology that promises to create a ubiquitous or atomized medium to link remote villages with educational resources as well as regional and global markets. Since a bottleneck can develop anywhere within these overlapping linear, diasporadic and clustered topologies, the architects might

extend their artistry to make time-released active forms of urban dispositions.