

Between “Digital Divide” and “Data Colonialism”
Re-searching and Re-sourcing the Internet in Northern Uganda

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Current attempts to explore and critically engage with the present as well as future role and relevance of the internet seemingly oscillate between extreme versions and visions an increased connectedness could bring to the world. In order to discuss some of the implications the internet harbours for education, labour and the everyday in Africa countries, the project outlined here suggests approaching the issue by taking two probably exaggerated positions and bringing them together, namely the concept of "data colonialism" and the "digital divide". While the concept of “digital divide” has been around for some time, its central claim is about access/accessibility to the internet and the pervading disconnectedness of large parts of the world’s population (The World Bank 2016). Accordingly, the uneven distribution of digital infrastructures constitutes a new form of inequality that threatens to further amplify existing disparities and exclusionary practices. Contrary to the digital divide and its emphasis on under- and disconnectedness one might get the impression that the term “data colonialism” alludes to novel forms of “over-connectedness”. Similar to terms such as “data capital”, “datafication”, “data economy”, “data mining”, data colonialism drastically illustrates current and future effects not only in terms of an increase in connectivity but mainly in regards to the unprecedented depth and comprehensiveness in how corporate, capitalist and state actors permeate both private as well as social collectives (Couldry & Mejias 2018; Thatcher et al. 2016).

Highlighting the specific challenges the novel forms of (dis-)connectivity could bring to the everyday and to democracy, both concepts have been criticized for being overly simplistic and reductionist. The concept of digital divide for instance – and how it is prominently featured in policy and governance discourses – promotes access and accessibility to the internet as a form of “solutionism” usually ascribed to be part and parcel of the Silicon Valley ideologies. The inscribed uniformity in solving the world’s problems strongly resembles the “technical fixes” promoted by international development organisations such as World Bank or UNICEF in various forms since many decades. Although it has long been dismantled as technological naivety rather than foresight, the image of a digital world free from the inequalities of the offline world still looms large in development agendas (Selwyn 2004). Such a focus not only ignores important socio-technical, cultural and infrastructural presuppositions required for accessing the internet and fruitfully engaging with its knowledge and service capacities but also risks to exacerbate inequalities (largely in terms of education, work, production) that it promises to reduce (Bezuidenhout et al. 2017).

Data colonialism, on the other hand, by criticizing digital “modes of extraction” for instance through social media platforms (Facebook, Twitter) or big logistics like Amazon, and how the growing everydayness of such practices transform “human life”, risk to reify notions of “life” and the “self”. The flipside of this critique is that it implicitly stages prior forms of “life” and “self” as technologically unmediated. Such neo-marxist frameworks risk to fall behind the insights and the work that has been done in the interdisciplinary fora of science and technology studies (STS) – often in combination with the practice turn – emphasising that human-machine interactions are better understood as forms of co-construction of technology and society/subjectivities (Jasanoff 2007).

Against this background, this project takes these observations as an entry point in order to engage in an ongoing discussion concerning the *resource character* of the internet in an era that is considered to be primarily characterized by being digital. As outlined for the digital divide and data colonialism, both concepts, though differently, operate on the basis of an essentialized and reified notion of resources. In our project, we argue that these notions need to be defined differently in order to better capture the performative aspect of resource provision through access and connectivity. What will be called *resourcification* denotes the framing, infrastructural and normative work that needs to be done in order to engender the value of something that did not have value before and thereby to function as a resource. In our case this is about a constant de-valuation and re-valuation of information, knowledge and services, together with the suspense (or freezing) of value of e.g. data, stored and saved for future purposes and values not yet known. Linking and situating this debate in a post-colonial setting, namely to Northern Uganda, constitutes the empirical part of the project.

A brief look into the social science history quickly reveals that discussions on the role and relevance of resources can draw from a rich genealogy. Beginning with Lewis Mumford, a historian of technology, who first observed that changes in the allocation of material resources were often accompanied by shifts in technologies or media of distribution. In his book “The myth of machine” he makes the claim that in ancient Egypt the introduction of novel agricultural as well as storing technologies was paralleled by the invention of writing (Mumford 1967). Anthony Giddens, in an attempt to better locate the shifts observed by Mumford and to make them productive for more contemporary societies, distinguishes resources into allocative resources and authoritative resources (Giddens 1979). According to Giddens, allocative resources (e.g. food products, energy) become an existential part of a social system, only if they are hinged on structures and authorities that organize the storing and distribution of the material resources. Adapted to the structure and effects of the internet, however, it rather makes sense to think of every resource having both an allocative feature and an authoritative feature. How this exactly plays out will be part of the empirical research/intervention. The

analytical division and the dualism of allocative and authoritative features need to be transgressed in order to capture the two-pronged nature of engaging with the internet: People use the internet as a resource and by doing that simultaneously become a resource themselves. *This aspect seems to uniquely distinguish digital infrastructuring from the infrastructuring of other resources like for instance with regard to fossil fuels.*

On a broader conceptual level, the project thus aims to make use of the epistemological as well as methodological shifts proposed in scholarly debates on the role of infrastructures. Asking “when is an infrastructure” instead of “what is an infrastructure” promises to do more justice to the relational properties of infrastructures (Star & Ruhleder 1996). Adjusting the question to “when is a resource” will not only reduce the risk of essentializing and naturalizing the term but also underscore its immanent relationality. Moreover, it also draws attention to the interplay of places, temporalities, materials and actors that need to be involved in processes of resourcification. This suggestion resonates with Anna Tsing’s perspective on natural resource extraction. Resource extraction not only involves substance coercion from the earth but also includes the logistics of transporting, storing, sorting and grading. This perspective questions the ascribed naturalness to resources by unearthing the practices that help to render for instance coal or oil into a commodity (Tsing 2005, Calkins & Rottenburg 2016). This relational approach – that takes the co-construction of infrastructuring and resourcification as starting points – is also at the centre of more recent work that attempts to extend the understanding of resources by going beyond the literal meaning of extraction (Mezzadra & Neilson 2017), and it resonates with Achille Mbembe’s argument to understand slave trade and forced labour during colonial times in extractive terms, stating that “African people are transformed into living minerals from which metal is extracted” (Mbembe 2013, 67).

1. Leaking resources - Digital off-line archive: The first project component has a strong interventionist dimension with the ultimate aim to improve teaching and learning experiences starting with computer science and medical anthropology students. In this part of the project we take the resource aspect of the internet serious, particularly with recent changes in the provision of e-learning platforms (e.g. EdX or Coursea) and the rise of massive open online courses (MOOCs). In this context the word “open” means a form of free of charge use and usability of the content of hundreds of courses. Using freely available courses on computer language and programming (e.g. java or python programming courses) as well as courses on global health, humanitarianism and infectious diseases can be made part of a blended learning experience starting with computer science and medical anthropology as both subjects are already prominently featured on many e-learning platforms. Inserting parts of the courses into existing modules promises beneficial outcomes in at least two directions: A first major aim is to make available and provide access to course materials, tutorials, to novel pedagogies and forms of learning that offer both a richer and more individual learning experience to students.

Secondly, the active engagement of lecturers into the accessing of e-learning platforms as well as the selection and re-working of the courses will provide a fruitful ground for forms of horizontal learning. Horizontal learning denotes a form of advanced training and an opportunity to update and enhance knowledge and teaching standards in the particular fields of expertise/teaching. From an infrastructural perspective, this project component will engage in the provision of wireless routers and install these in order to provide a free on-campus WiFi network. The WiFi network together with a mobile app will allow students to download as well as stream course content (videos, tutorials, images, PDFs, PowerPoints) free of charge as the data will be stored on the university servers. For the pilot phase, the project will primarily be located at the University of Gulu (Uganda).

2. Impact Sourcing: Building on these interventions, the second project component will use the engagement with both lecturers, students and graduates in order to interrogate some of the underlying motivations, perspectives, and experiences that drive people into studying computer sciences. Current STS-inspired engagements on the role and relevance of digital humanities in the Global South tend to focus on the effects of broadband internet access in major cities and the emergence of “cyberhubs”, “fablabs” and “incubators” at large universities. Changes in smaller towns and peri-urban settings are hardly mentioned in the discussion around digitalization of higher education, assuming that both digital as well as academic infrastructures tend to be less available in remote regions. Taking Gulu University once again as an example, the project aims to examine the motivations, experiences, the learning quality and the (job) opportunities for computer science students, graduates as well as lecturers. This component of the project will critically explore regional employment opportunities of graduates by investigating the impact of crowdsourcing and digital factories in the region. What is called “impact sourcing”, refers to an arm of business process outsourcing (BPO) industry that employs socioeconomically disadvantaged individuals. As part of corporate social responsibility, the impact sourcing sector focuses on utilizing workers from poor and vulnerable communities to perform functions with lower and moderate skill requirements such as scanning documents, data entry work, data verification and cleaning, video tagging, and microwork. Here the project takes the conceptual assumption serious that an increase in access to ICT infrastructures primarily prepares the way to incorporate humans and their comparative cheaper labor as resources for digital modes of production that are designed from elsewhere.

3. Resourcification - Fab Lab Gulu: The third component of the project again builds on its being integrated into campus life and learning experiences of computer science students. Its aim is to explore sustainable social innovation and engage with local makers and practitioners that largely operate and work outside campus. Taking inspiration from experiences and set-up of Fab Labs in other African countries (e.g. in Ghana, cf. Osseo-Asare & Abas 2015) the aim of this component will be to bring computer science knowledge, the advantages of programming and

new forms of digitalization to other societal realms that are often disconnected, with no or unreliable access to digital knowledge and services. Such a Fab Lab would be collaborative in nature and also serve as a model for ICT development that seeks to empower people – students and makers alike – to design and build locally a knowledge database and a set of tools that relates local (informal) craftsmanship with other (digital) sectors.

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