Institution: University College London

Unit of Assessment: 22 – Anthropology and Development Studies

Title of case study: Using Digital Anthropology to Shape Digital Government

Period when the underpinning research was undertaken: 2012-2020

Details of staff conducting the underpinning research from the submitting unit:

Name(s):	**Role(s) (e.g. job title):**	**Period(s) employed by submitting HEI:**
Haidy Geismar	Professor of Anthropology	2012-present
Hannah Knox	Associate Professor of Anthropology	2014-present

Period when the claimed impact occurred: 2015-2020

Is this case study continued from a case study submitted in 2014? N

1. Summary of the impact (indicative maximum 100 words)

Geismar and Knox's cross-cultural and ethnographic research into the design and use of digital systems has reshaped approaches to the delivery of digital services to citizens by local and central government in the UK. It has transformed the approach that civil servants take to designing government digital interfaces in twelve government departments, including the Home Office, the Cabinet Office, DEFRA, and HMRC, benefitting both the internal research culture as well as the external experience of www.gov.uk. It has also deepened policy makers' understanding of the socio-technical implications of digital governance for citizens. It has directly informed the establishment of two new UK policy institutes: the UK Centre for Data Ethics and Innovation and the Ada Lovelace Institute. It continues to shape the Ada Lovelace Institute's ongoing work programme into data ethics and digital government.

2. Underpinning research (indicative maximum 500 words)

Since 2014, Dr Hannah Knox and Professor Haidy Geismar have worked together to establish the Centre for Digital Anthropology, and define the subfield of digital anthropology, convening what remains the first and only graduate programme in the field worldwide. Drawing on long term fieldwork in the UK (London and Manchester), Vanuatu, Peru and New Zealand, the underpinning research has developed a culturally comparative understanding of the social fields that produce and experience digital technologies. This new sub discipline has been developed from the following specific research.

Knox's work on communications infrastructures in Peru, Manchester and Europe **[R1-R3]** has shown that the relationship between publics, politics and governance is materially enacted through technical systems and socially embedded in practices of technological design **[R1]**. Through in-depth ethnographic research on topics such as the implementation of transnational road infrastructures **[R1]**, the development and use of climate models in urban government **[R2]**, and the challenges of a digitizing electricity grid **[R3]**, Knox has demonstrated how infrastructures become a material site through which questions of social responsibility, political agency, appropriate ownership, and ethical practice become established and challenged. In relation to data practices in projects of environmental change, Knox has shown how data-relations have created the conditions for emerging digital subjectivities. These have included attention to the category of the 'consenting user' as a subject position that is transformed and reinforced by the advent of legislation like GDPR, or that of the 'data owner', who emerges as a new social actor within debates about the possibilities of open, shared, or community-based data **[R4]**.

Tracing the emergence of new digital forms from social media archives to 3D printed museum collections, Geismar has developed three insights into digital media that have influenced both academic thinking and digital practices outside academia **[R5]**. First, that digital media is a continuum or remediation of external values and previous forms of knowledge management, building on existing conventions within visual and other representational domains **[R6]**. Second, that the digital needs to be understood as a locally inflected artefact and practice in which normative understandings of identity, citizenship, and ownership are encoded **[R7]**. Thirdly,

drawing on broader insights from material culture studies and museum studies, that there is a feedback between the structure and content of digital form and that each needs to be understood in relation to the other: viewing the digital as an artefact that is structured in relation to broader epistemologies and value systems is a helpful way to understand how digital systems work to both represent and constitute knowledge of the world **[R6]**. Thinking about government databases in terms of the questions raised in museum anthropology, such as the politics of representation, the form of the archive, and the technical work needed to make decisions about what is data and how data is valued, shifts attention away from the content of digital fields towards a more holistic understanding of data as knowledge.

Both Geismar and Knox have demonstrated how the core anthropological method of ethnography can be repurposed to better study technical systems through methodological innovations such as collections-based research **[R5]**, the phenomenology of digital experience **[R6]**, ethnography of digital infrastructure **[R4]**, and the linking of anthropological theory to professional practice. Knox and Geismar have brought together these research approaches in their project of defining the subfield of digital anthropology as a research domain linking conceptual frameworks and series of methodologies to professional practice and policy.

3. References to the research (indicative maximum of six references)

R1. Knox, H. and Harvey P. (2015). *Roads: An Anthropology of Infrastructure and Expertise*. Ithaca: Cornell University Press. (Peer Reviewed Monograph)
R2. Knox, H (2020). *Thinking Like a Climate: Governing a City in Times of Environmental Change.* Durham: Duke University Press
R3. Knox, H. (2020). Digital Devices. In *Lineages and Advancements in Material Culture Theory.* London: Routledge. (Peer reviewed chapter in book). https://doi.org/10.4324/9781003085867 (Peer reviewed edited collection; Research funded by [i])
R4. Knox, H. and Nafus, D. (Eds) 2018. *Ethnography for a Data Saturated World*. Manchester: Manchester University Press. (Peer Reviewed Edited Collection)
R5. Geismar, H. (2018). *Museum Object Lessons for the Digital Age*. London: UCL Press. (downloaded 12,284 times in 125 different countries since publication, as of January 2020)
R6. Geismar, H. (2017). The Instant Archive. *The Routledge Companion to Digital Ethnography*. Edited by Larissa Hjorth, Heather Horst, Genevieve Bell and Anne Galloway.pp.331-342 (Peer reviewed chapter in book)
R7. Geismar H. (2012). Museum + Digital = ? Anthropology. In Horst and Miller. Digital Anthropology. London: Bloomsbury (Peer reviewed)

Grants
i. Knox, PI: 'Climate Change, Data and the Re-formation of Politics', British Academy Mid-Career Fellowship, Oct. 2017- Sept. 2018, GBP136,079.83.

4. Details of the impact (indicative maximum 750 words)

Geismar and Knox's research has impacted UK government approaches to digital governance by transforming the methods used by user-researchers in the civil service to assess the social impact of government IT systems, and by shaping UK policy-approaches to addressing broader societal implications of new public and private data systems.

Influencing professional development in UK government Digital Services and changing how user researchers design systems
As government services move on-line, the UK government has been investing in user design and research. Until recently, anthropology has not been significantly represented in this work but in part as a result of Geismar and Knox's work, the UK government now recognises digital anthropology as an important source of expertise in the design of digital government. On the basis of **[R5]**, and her work developing the Centre for Digital Anthropology, Geismar was invited

in 2015 to make several formal presentations about the value of digital anthropology to the Heads of User Research across the civil service, and from this the UK government commissioned a short course to bring these methods and insights into their practice. Geismar, in collaboration with UCL's Digital Anthropology research team (Geismar, Knox, Antonia Walford, Jerome Lewis, Shireen Walton, David Jeevendrampillai, and Ludovic Coupaye), developed a course, The Tech Taster, that allowed user researchers working within the civil service to understand how they could extend the social methods and remit of their practice by using theories and methods from UCL's material-culture inflected version of digital anthropology **[R3/R5]**. The course drew specifically on elements of Knox and Geismar's work, which has shown how digital systems are material and need to be understood as objects and images in the world, and that digital design needs to extend beyond the interface between user and system **[R5]**. The team delivered this course five times (in 2017, 2018 (twice), 2019, 2020), to more than 100 civil servants in HM Revenue and Customs, Home Office, the Driver Vehicle Licensing Agency, the Cabinet Office, and the Department for Work and Pensions, plus Government Digital Services, Companies House, Disclosure Scotland and the Department for Environment, Food, and Rural Affairs. These teams are responsible for both research into and design of UK digital government services (gov.uk). Between its launch in 2012 and 2015, gov.uk received 2,000,000,000 visits from users across the world. The Tech Taster transformed the approaches of user researchers by introducing research insights and methods: that digital systems are material and need to be understood as objects and images in the world **[R5]**; that digital design needs to extend beyond the interface between user and system to understand broader social and digital infrastructures **[R4]**; that cultural assumptions are regularly coded into digital platforms **[R6]**; the importance of the methods of ethnography, auto-ethnography, material and visual anthropology to digital research **[R4/R5]**.

A survey of all course participants demonstrated how The Tech Taster influenced professional methods, ideas and ethics used in the design of government digital services, contributed to continuing personal and professional development, and changed the ways user researchers design systems. Feedback obtained at the end of the course highlighted that the research had influenced participants' learning and given them the tools to create better systems to support users. One commented that they "would like to try some of the digital anthropology methods in my role as a user researcher", while another said, "I'd feel more confident to include 'deeper' ethnographical research. Also, I can apply the techniques around object ethnographies to my work in digital" **[A]**. The Head of User Research in the Home Office confirms that "Through attending the Tech Taster course, our researchers now use ethnography as one of our key methodologies" **[B]**. This has changed their systems design: "This has led to the design of services that place the user's context and environment at the heart of the design of systems." For example, in developing an app for front-line police officers, "ethnography informed the researchers and technical teams that users often wear gloves […] which restricts the use of a touchscreen device. Changes were made to the design of the technology with this in mind" **[B]**. The training enabled participants to reconceptualise their work and recognise its relevance in a wider context. For example, the Head of User Research notes that this introduction to scholarly work has led to user researchers "actively engaging in these texts in their day to day work". User researchers now "incorporat[e] time for [academic desk research] into their project research plans, and mak[e] use of these learnings to inform their own research". Furthermore, the Head of User Research notes that this introduction to the theories and methods of digital anthropology led to "a reduction of duplicated research efforts, and helped user researchers to build more persuasive, evidence-based justification for their research findings" **[B]**.

Digital anthropology is now specifically highlighted as an essential qualification for the Home Office Digital Service internship program **[C]**. Interns trained in anthropology explained in a blog post for the Home Office Digital, Data and Technology blog (hodigital.blog.gov.uk) in 2016 that "our studies taught us to understand that everybody's experiences are different – even when many of the circumstances are the same – and the work we're doing at Home Office Digital gives us an opportunity to put this learning into practice" **[D]**. They explained that this is a 'core skill' for a user researcher because "inclusion is fundamental to the Home Office Digital's mission to aid the Home Office in becoming digital by default" **[D]**.

Influencing the development of UK policy approaches to the challenges of governing emerging forms of data

Knox was a core member of the Data Governance working group of the Royal Society and British Academy project on data governance and use. In 2017, the group produced a high-level policy report, *Data Management and Use: Governance in the 21st Century* (2017) to which Knox contributed. This has led to a change in the institutional landscape of data governance in the UK and shaped the focus and methods of evidence gathering to inform this ongoing area of public policy discussion. As a member of the working group, Knox drew on the underpinning research on digital systems in social life **[R2/R3]** to actively contribute to seven high-level round table meetings between October 2016 and May 2017 and to read, comment on and contribute to three drafts of the final report **[E]**. As a result, the report included key concerns emerging from Knox and Geismar's research, including the politics of consent **[R1]**, the differential effects of data infrastructures on diverse publics **[R3]**, and the cultural work done by key concepts like privacy and ownership **[R4]**. The section 'Consent in a digital age' **[E, pp. 36-37]** was written by Knox and built on her work on people's everyday engagement with infrastructures to highlight how consent must be understood to extend beyond box ticking **[R1]**. In addition, she advocated for a digital anthropology-informed approach to data governance that recognises the socially negotiated nature of data ownership, reconceived as a practice of exchange **[R4]**. This was reiterated in a presentation by Knox at a Royal Society event on Data Ownership which [Text redacted for publication] described as "a very well received presentation of different cultural notions of ownership" and "an important contribution to understanding the socially negotiated nature of data ownership" **[F]**.

The recommendations of *Data Management and Use*, and Knox's subsequent presentation to policymakers on an anthropological approach to data ownership, have contributed to a significant change in the public policy landscape. In 2017, the UK government committed GBP9,000,000 over 3 years to create a new Centre for Data Ethics and Innovation (CDEI) that would focus on enabling and ensuring safe and ethical innovation in AI and data-driven technologies. Consultation documents on the establishment of the CDEI highlights the *Data Management and Use* report and its recommendation that a new data-stewardship body be established as a key influence **[G]**. Moreover, [Text redacted for publication] corroborated the influence of the report in establishing the CDEI **[F]**, noting "The policy project has led to significant impact. The report's recommendation that a new body be established to steward the data governance landscape was welcomed by the then Minister the Rt Hon Matt Hancock MP, Minister of State for Digital [...who] publicly announced support for the body" in 2017 **[F]**.

The report also played a significant role in the establishment of a new deliberative policy-facing body, the GBP5,000,000 Nuffield Foundation funded Ada Lovelace Institute launched in 2018 **[H]**. The Ada Lovelace Institute's Policy Director directly credits the *Data Management and Use* report as influential in the establishment of the institute, writing that "we were influenced by the recommendations in the British Academy and Royal Society joint report on Data Governance which Dr Knox was a part of, and the recommendations. [...] The 2017 Data Governance report was directly referenced in our announcement and commitment to create a data ethics body" **[I]**. The announcement launching the Ada Lovelace Institute cited the *Data Management and Use* report as evidence that "momentum has been building" on the issue of the social and ethical implications of data that the institute was set up to address **[H]**. In addition the *Data Management and Use* report's influence in shaping the work of the Ada Lovelace Institute was further corroborated by the inclusion, in the announcement, of a quote from the Chief Executive of the Royal Society, who stated "The current framework for governing the management and use of data cannot keep pace with technological advances. A report the Royal Society published last year with the British Academy highlighted the need for careful stewardship to anticipate future challenges, and to ensure that new technologies can be developed in the way that the public want, that exemplifies good practice, and that will allow everyone to benefit. The Ada Lovelace Institute can play an important part in making that happen" **[H]**.

Knox's work has also been influential in shaping the work programme of the Ada Lovelace Institute. The Institute's Policy Director has confirmed that the "Nuffield Foundation Chief Executive and I attended the one-year-on event where Dr Knox spoke in 2018, and her comments were part of a catalyst for a cornerstone programme for The Ada Lovelace Institute, which was agreed that day, to convene diverse perspectives around the notion (or limitation) of data ownership". She confirmed that the 'Data Narratives' strand of the Ada Lovelace programme "can be directly traced back to Knox's speech on different interpretation of notions of 'ownership'" **[I]**.

Building on the Ada Lovelace's interest in Knox's anthropological approaches to data, in January 2020 Knox was invited by the Institute to advise on the use of digital ethnography to inform a policy project looking into the use of predictive data analytics in Local Government **[I/J]**. Knox sourced two ethnographic researchers for the project from the Centre for Digital Anthropology at UCL, drew on the methodological innovations outlined in underpinning research **[R4]** to advise on the design of the project's methods, helped identify emerging themes and participated in meetings to feed preliminary results back to a policy audience. The report has generated novel insights about the bottom up, everyday ethics of data and the gap between locally situated and national-policy based understandings of data-ethics. As The Ada Lovelace Institute's Policy Director puts it, "the research that Dr Knox has helped us design and put in place has the potential to alter the way that public services are delivered in a range of contexts, and thereby affect citizens' lives directly" **[I]**. These findings are in the process of being applied to local government and national policy settings but due to the impact of the COVID-19 pandemic the publication of the report has been delayed from October 2020 to March 2021.

In sum, Geismar and Knox's approach to digital anthropology informed their design of a professional 'Tech Taster' course offered to civil servants in UK government that changed the way user researchers design systems, and provided the basis for contributions to high-level UK policy discussions that have shaped emerging UK approaches to the governance of new forms of data.

5. Sources to corroborate the impact (indicative maximum of 10 references)

A. Feedback from Tech Taster course participants
B. Statement from Head of User Research, Home Office
C. Job specification for positions in user research in government explicitly highlighting digital anthropology as an essential qualification
D. Blog post by digital anthropologists from UCL who did home office internship https://bit.ly/38KWPX6
E. *Data Management and Use: Governance in the 21st Century* report
F. [Text redacted for publication]
G. Centre for Data Ethics and Innovation Consultation: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/715760/CDEI_consultation__1_.pdf
H. Announcement of establishment of Ada Lovelace Institute https://bit.ly/2NnzPGl
I. Statement from Policy Director, The Ada Lovelace Institute
J. Blog post including description of policy project https://bit.ly/3bRwd92