Editorial: Design, Technology and Society

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The Design, Technology and Society track offers new critical perspectives and creative insights into the roles of technological systems and discourses in the design and production of our built environment. As computation, software, simulations, digital fabrication, robotics, ‘big data,’ artificial intelligence, and machine learning configure new imaginaries of designing and making across fields, this track approaches these subjects critically from enriched socio-material, technical, and historical perspectives — revealing how conceptions of creativity, materiality, and labor have shifted and continue to shift in conjunction with technological change.

The first two papers in the track examine the historical, socio-cultural roles of the ‘laboratory’ in shaping design education today. In “Olivetti’s New Canaan Electronic Laboratory: When Design Meets Computing”, João Rocha tells the story of the development of computing in Italy though the seminal work of the Olivetti company, best known for its typewriters. Through meticulous archival research, Rocha uncovers the company’s pioneering work at their US research laboratory in developing the precursor of today’s ‘personal computer’, and their unique attention to the aesthetics of their electronic products through alliances with leading architects and designers. In “The Design Laboratory: A Review of Five Design Education Programmes”, Gert Hasenhütl examines how the laboratory paradigm in the sciences was appropriated and repurposed in the history of studio education. He reviews five design education programmes from the early 20th century through to the present day, and observes how art, culture, and technology were integrated in these programmes through adaptations of a laboratory model. Highlighting both metaphorical and practical uses of the laboratory paradigm in these design programmes, Hasenhütl sheds light on a key trait of 20th century western design.

Histories of a different kind are the subject of the two following papers — the histories of data as designed artifacts situated in social and material contexts and evolving over time. In “Data Streams, Data Seams: Toward a Seamful Representation of Data Interoperability”, Sarah Inman and David Ribes challenge current data gathering and production practices which often obscure the socio-cultural and material choices embedded in the processing of data. Drawing from an ethnographic study of data creation in Alaska’s Salmon and People project, they propose a ‘seamful’ approach to data design that takes into account data’s constructed, contingent, and negotiated nature. In reflecting on data’s own materiality and historicity, they offer important insights for reflective and participatory practices of data creation, curation, and use. The complexities of data are examined, too, in “Digital Quantification Regimes of Cycling Mobility”. In this paper, Martin Tironi and Matias Valderrama question the increasing quantification of urban phenomena and social life that accompanies the ‘smart city’ project to achieve better, more efficient and participatory design and
planning through data. Like Inman and Ribes, they view data as neither neutral nor objective. They present two case studies of digital quantification strategies or ‘regimes’ for tracking and quantifying urban cycling patterns in Santiago de Chile. Through a rigorous analysis of the narratives and material technologies employed in the two regimes, the authors unveil the different assumptions, biases, political agendas, and legitimizing tactics that drive them. Their studies reveal that rather than increasing citizen participation, these quantification regimes can create more distance between people and policies.

The last two papers investigate technologies for creative practice through different and complementary methodological lenses. In “Scenes of Writing”, Anne Burdick innovatively deploys design fiction both as a method of historical inquiry into writing technologies, and as a medium to speculate into the design of new interfaces for digital scholarship. Through the eyes of a fictional character, the scholar-for-hire Trina, Burdick presents us with a not-so-distant future world where a new form of critical inquiry exists enabled by virtual reality environments. Interwoven with Trina’s story is a nuanced reflection on the history of writing interfaces, as well as a suggestive architecture for the future of digital humanities scholarship that evokes and reinterprets the spatiality of the archive. In “Digital, Analog, Discursive: Knowledge Practices and Sense-Making in Design-Build Architecture”, Claire Nicholas and Arlene Oak take us from the digital worlds of VR interfaces to the material world of architectural production, and from the speculative key of design fiction to the descriptive key of ethnographic observation and reflection. Nicholas and Oak follow a group of architectural students and faculty as they work across different media in the design and construction of an architectural structure. Placing analytical emphasis on their subjects’ engagement with different modes of design, from digital interfaces to drawings and physical models, they study moments of resistance and misalignment that challenge the notion of a seamless translation between digital representations and physical outcomes. In their detailed portrait, they examine the roles that representations, materials, and embodied skills play in design, and observe how the productive disjunctures of transmodal design may be key to both designing and learning.

Through rigorous historic, ethnographic, and design-fictional means, the six papers in this track offer valuable materials to rethink technology in design. They interrogate the influence of scientific paradigms on design education and the transatlantic social histories of modern technology design; they re-specify data as designed artifacts and challenge dominant approaches to their production; and, finally, they shed light on the connective tissues linking creative practices and contemporary socio-technical infrastructures.